

**Tolerance in Intergroup Relations: Cognitive
Representations Reducing Ingroup Projection**

by

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ABSTRACT

The Ingroup Projection Model (IPM) states that groups evaluate each other according to how prototypical they are of the superordinate category, the category that includes subgroups. The Ingroup Projection Model predicts that members of the ingroup tends to project their own characteristics onto the superordinate category, and thus see themselves as more prototypical of the superordinate category than the outgroup, which increases the likelihood for intergroup discrimination. Research has shown that this tendency of projection appears to be greater in high-status groups. The phenomenon of ingroup projection is hypothesized to be reduced by undefined cognitive representations of the superordinate category such as a complex representation of the superordinate category and a small-scope prototype. A complex representation of the superordinate category is one that has many distinctive characteristics that are seen as equally prototypical, whereas a small-scope representation includes a few prescriptive norms. The present study tested the reduction effects of complexity and small-scope prototype on ingroup projection using a 2 (Number of dimensions: few vs. many) x 2 (Relatedness of dimensions: orthogonal/independent vs. correlated/related) x 2 (Group: Psychology students vs. Law students) factorial design. The results support the Ingroup Projection Model and related assumptions. However, the results also indicate the importance of the specific characteristics of the intergroup situation.

INTRODUCTION

Intergroup relations are often characterised by intergroup conflict. Intergroup conflict has been for a long time of interest to social scientists as it continues to be a major international social problem. Research in the area of intergroup relations has found that outgroups are often evaluated and treated in a less favourable manner when compared with ingroups (Waldzus & Mummendey, 2004). Traditional intergroup research has mainly emphasised negative aspects of intergroup relations such as stereotypes, prejudice and discrimination, with a focus on the dynamics of intergroup conflict rather than positive aspects of intergroup relations, such as intergroup tolerance (Mummendey & Wenzel, 1999). More contemporary intergroup research has begun to focus on intergroup tolerance and the dynamics that are at play in intergroup settings that are not characterised by intergroup conflict. In line with this new approach, the present study aimed to contribute to the understanding of intergroup tolerance and the related dynamics.

Social psychological research on intergroup relations can be divided into two broad approaches: (1) the intergroup approach that aims to explain the conditions and psychological processes that lead to intergroup conflicts; and (2) the intergroup approach that aims to explain the conditions and psychological processes that increase intergroup tolerance. Mummendey and Wenzel (1999) provide a concise overview of the major social psychological approaches that have addressed intergroup conflict. A major theoretical contribution to the arena of intergroup conflict, according to Mummendey and Wenzel (1999), was provided by Sherif's Realistic Conflict Theory (1967), which proposed a functional perspective for understanding intergroup behaviour. Sherif's Realistic Conflict Theory (1967, as cited in Mummendey & Wenzel, 1999), states that the quality of the

relationship between groups is based on the perception of the goal interdependence of the two groups. Negative interdependence between the groups, exists when one group is only able to reach their goal to the disadvantage of the other group. It is assumed that negative goal interdependence increases the likelihood of negative attitudes and hostility towards the outgroup. On the other hand, if both groups have a common goal, or if both groups achieve their respective goals simultaneously, a positive interdependence might be established which leads to positive behaviours and attitudes between the two groups (Mummendey & Wenzel, 1999).

Following this, the second important theoretical contribution in the field of intergroup conflict according to Mummendey and Wenzel (1999) was the contribution of Tajfel, Billig, Bundy and Flament (1971) and Billig and Tajfel (1973). These authors conducted studies based on the minimal group paradigm, which suggested that the minimal condition needed for ingroup favouritism was the mere act of social categorization (Mummendey & Wenzel, 1999). These studies concluded that the negative interdependence with regard to material goals and resources was not necessary for the occurrence of social discrimination (Mummendey & Wenzel, 1999, p. 159). These findings led to the development of Social Identity Theory (Tajfel & Turner, 1986), which proposed the assumption that individuals develop their social identity through belonging to social categories. This theory further postulates that as individuals are motivated to evaluate themselves in a positive light, so are they motivated to evaluate themselves in such a way that they maintain a positive social identity (Mummendey & Wenzel, 1999). According to the Social Identity Theory, this evaluation, in an effort to maintain positive social identity, is based on social comparisons with a relevant outgroup, on dimensions that are valued for comparison (Mummendey & Wenzel, 1999, p. 159). As highlighted by Mummendey and Wenzel (1999), according to

Social Identity Theory, no realistic group conflict as proposed by Sherif (1967) is necessary for social discrimination to arise; instead social competition for one's own group to be positively distinct is fundamental aspect of intergroup conflict.

Following these approaches addressing intergroup conflict, social psychologists aimed to understand and conceptualize intergroup tolerance. One prominent theory that addresses intergroup tolerance is the contact hypotheses as introduced by Allport (1954). The contact hypotheses states that intergroup contact increases positive intergroup attitudes in both adults and children, hence decreasing intergroup prejudice (Cameron, Rutland & Brown, 2007). However, intergroup relationships characterised by less prejudice are assumed to exist only when the contact occurs under certain conditions such as equal status between groups, cooperative intergroup interactions, support of authorities, law or custom and the opportunities for acquaintance with members of the outgroup (Pettigrew & Tropp, 2000). According to Dovidio, Validzic and Gaertner (1998), the contact hypothesis proposes a process of decategorisation in order to provide a setting for positive group relations. Another approach that focuses on decategorisation was introduced by Brewer and Miller (1984) as Decategorisation Model. This model predicts optimal intergroup contact given the conditions of minimized salience of group membership and group boundaries.

Alternatively to the approaches of decategorisation, the approach of recategorization was introduced which also states the positive function of the superordinate category. This positive function of the superordinate category has been known since the famous summer camp studies of Sherif and Sherif (1969, cited in Chrysochoou, 2000). The results of these famous summer camp studies indicated that if individuals are able to recognize themselves as belonging to a superordinate group, that being a more inclusive group including various

subgroups (these subgroups including both ingroup and outgroup) within it, then intergroup bias and prejudice would decrease (see Chrysochoou, 2000, p. 269). One of the best-known recategorization approaches is the Common Ingroup Identity Model (CIIM, Gaertner & Dovidio, 2000; Gaertner, Dovidio, Anastasio, Bachman & Rust, 1993). The Common Ingroup Identity Model emphasizes the positive effects that the superordinate category may have when considering intergroup relations. According to Crisp, Walsh and Hewstone (2006), this model predicts that through a process of recategorization, by inducing the subgroups to perceive themselves as an inclusive superordinate group, an arena is created in which ingroup favouritism (ingroup bias) may extend to the “new” ingroup. Ingroup bias is the tendency to favour ones ingroup over the outgroup in both evaluations and behaviours (Tajfel & Turner, 1986). According to the Common Ingroup Identity Model, if the subgroups are redefined, one may be able to reroute the cognitive and motivational processes in a more positive manner as opposed to the route that initially contributed to intergroup bias (Dovidio et. al., 1998, p. 109.). For instance, Germans (ingroup) and French (outgroup), when included in the superordinate category of Europeans, the Common Ingroup Identity Model would predict that the ingroup (for instance Germans) would evaluate the outgroup (for instance French) in more favourable manner, as they are perceived as sharing common attributes.

Hornsey and Hogg (2000) explained the above phenomena in terms of assimilation. If a superordinate category is to reduce intergroup conflict, the focus should be directed at creating this more inclusive category, directing attention away from subgroups. It is proposed that with time, a new homogenous group will form as the subgroup identities dissipate resulting in subgroups assimilating and thus encouraging individuals to relate on an intragroup level as apposed to an intergroup level (Hornsey & Hogg, 2000, p. 242).

However recent studies conducted by Waldzus and Mummendey (2004), Waldzus, Mummendey, Wenzel and Weber (2003) and Waldzus, Mummendey and Wenzel (2005) have found that an inclusive category can lead to increased social discrimination, which has been conceptualized in the Ingroup Projection Model (IPM, Mummendey & Wenzel, 1999). Waldzus and Mummendey (2004) showed for instance that German's attitudes towards Poles were negatively correlated with the relative prototypicality of Germans when "Europe" (including Poles), but not when "West-Europe" (excluding Poles) was the superordinate category. In other words, the evaluation of the outgroup was negative when both the outgroup and ingroup are included in the superordinate category. This negative evaluation of the Poles (outgroup) was not found when the outgroup was excluded from the superordinate category, West-Europe (Waldzus & Mummendey, 2004). In another study, Waldzus and Mummendey (2004) replicated the results of the former, by showing that "relative outgroup similarity and inclusion moderated each others effects on out-group attitudes involving a relevant evaluative dimension" (p. 471). It was found that when the single parenting men (outgroup) were included in the inclusive superordinate category (single parents), the single parenting women's (ingroup) attitude worsened towards the single parenting men (outgroup), however this was not found when single parenting men were not included in the exclusive superordinate category (mothers) (Waldzus & Mummendey, 2004, p. 474). The study also found that the negative evaluation of the outgroup (single parenting men) increased when relative ingroup similarity was high. In the conditions when irrelevant dimensions (e.g. attractiveness) were presented, attitudes towards the outgroup were not affected by inclusion or related to relative similarity of the ingroup.

Hornsey and Hogg (1999) also challenged the idea that the superordinate category reduces ingroup bias. Hornsey and Hogg (2000) linked the concept of multiculturalism with the

negative effects that a superordinate category may have on intergroup relations. They proposed that individuals have a strong desire to maintain their cultural and group identities, and by trying to assimilate these identities, one may enhance ingroup loyalty of subgroups and thus create a situation where ingroup bias becomes more evident (Hornsey & Hogg, 2000). Multiculturalism is closely linked to Social Identity Theory in that both of these theories acknowledge that the presence of a superordinate category may increase intergroup conflict if subgroup identities and “positive distinctiveness” are lost (Dovidio, Gaertner & Kawakami, 2003, p. 12). Both of these theories propose that a common superordinate group may however be conducive to positive intergroup relations but only if the identities of the subgroups are simultaneously preserved (Hornsey & Hogg, 2000, p. 243).

According to Hornsey and Hogg (2000) the Mutual Intergroup Differentiation Model (MIDM, Hewstone, 1996; Hewstone & Brown, 1986), is similar to the ideas of the Common Ingroup Projection Model and multiculturalism, in that it proposes that group identities should be structured in a way that they are not endangered. This theory thus highlights the notion that a superordinate category may create the conditions required for intergroup tolerance, however emphasis is placed on the simultaneous awareness of subgroup awareness as well as superordinate belonging (Hornsey & Hogg, 2000, p.243). Hewstone and Brown (1996) (cited in Hornsey & Hogg 2000, p. 243) recommend that social settings should be ordered in such a way that group identities are not threatened.

Like the Common Ingroup Identity Model, Multiculturalism and the Mutual Intergroup Differentiation Model, the Ingroup Projection Model (IPM, Mummendey & Wenzel, 1999) addresses the concept of a superordinate category when considering intergroup tolerance, however it specifically looks at the role the representation or prototype of the superordinate

category may have in reducing intergroup conflict. The Ingroup Projection Model is based on the assumptions of Self-Categorization Theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), that the evaluation of the outgroup is based on inter-group comparison with regard to the superordinate category (see Waldzus & Mummendey 2004, p. 466). Central to this model is the inclination for the ingroup to perceive themselves, relative to the outgroup, as more prototypical of the superordinate category (van Leeuwen, van Knippenberg & Ellemers, 2003). The superordinate category provides criteria (norms and values) for intergroup comparisons, allowing groups to be evaluated positively depending on how prototypical they are when compared with the superordinate category that is perceived to include both groups (Mummendey & Wenzel, 1999). The norms and values, which are used as criteria for evaluation, are derived from the prototype or representation of the superordinate category. According to the Ingroup Projection Model, if individuals are seen as deviating from the superordinate category, they are evaluated negatively and consequently they are considered as undesirable or inappropriate. The superordinate category can thus be seen as providing criteria for intergroup comparison as it creates norms and standards, allowing for the ingroup to see themselves as more prototypical of the inclusive category – thus maintaining and at times even exacerbating outgroup antagonism (Waldzus & Mummendey, 2004, p. 467). This assumption is in line with Self-Categorization Theory which hypothesises that “...ethnocentrism, attraction to one’s own group as a whole, depends on the perceived prototypicality of the ingroup in comparison with the relevant outgroup (relative prototypicality) in terms of the valued superordinate category” (Turner et al., 1987, p. 61, cited in Waldzus & Mummendey, 2004, p. 467).

The Ingroup Projection Model predicts that under the condition of inclusion, when both the ingroup and outgroup are included in the superordinate category, the less prototypical the outgroup is perceived, when compared to the superordinate category, the more likely the outgroup will be evaluated in a negative manner. The consequence of this ethnocentric attribute projection may lead to intergroup conflict.

Waldzus and Mummendey (2004) illustrated the Ingroup Projection Model with the example of the superordinate category of Christians. The superordinate category Christian can be described as consisting of two subgroups, for instance Catholics being the ingroup and Protestants being the outgroup. As superordinate categories are another form of an ingroup, they are generally evaluated in a positive manner. According to the Ingroup Projection Model, within the superordinate category of Christians, Catholics, as ingroup will project more of their attributes onto the superordinate category “Christians” (ingroup projection), resulting in an overlap between the description of the superordinate category attributes and the description of the ingroup attributes, resulting in ingroup bias which may lead to outgroup discrimination (Waldzus & Mummendey, 2004).

Waldzus et al. (2005) found that the attributes that the ingroup projects onto the superordinate category are most likely to be the attributes that emphasize the difference between the outgroup and the superordinate category. Waldzus et al. (2005) further found that the attributes that were projected onto the superordinate category by the ingroup were context dependent, that is to say, the projected characteristics changed when a different outgroup was introduced into the superordinate category. Waldzus et al. (2005), introduced Germans (ingroup) to either Italians or British as an outgroup. The results indicated that the Germans projected different attributes onto the superordinate category depending on which outgroup

was presented. For example, Europeans were described as “orderly”, but only when German’s compared themselves with “less orderly” Europeans such as Italians, however when German’s were asked to describe Europeans, with British in the inclusive category, Europeans were then described as in a different manner. Waldzus et al. (2005) concluded that by altering the attributes projected onto the superordinate category the distance between the outgroup and superordinate category was increased, allowing the ingroup to be more prototypical at all times. Ingroup projection creates the sense that the ingroup is more prototypical, therefore more valuable and this provides the ingroup with a legitimate reason to take the position of a high-status group, allowing for entitlement and superior treatment. Due to the ingroup’s high-status they are able to justify the privileges and legitimise the discrimination against the outgroup (de Meireles, 2007).

There are two main explanations for ingroup projection: the cognitive account and tactical motivation. The cognitive account for ingroup projection refers to the accessibility of information regarding the ingroup and outgroup. Members of the ingroup are likely to have more information that is readily available about their own group than about the outgroup, and thus involuntarily use this information to describe the superordinate category. According to Otten and Wentura (2001) this act of prescribing one’s own attributes to the superordinate category may be considered as a cognitive anchor. Moscovici (1998, cited in Otten and Wentura, 2001) proposed that “domestication”, the process of making sense of new and unfamiliar situations occurs through the process of domestic anchoring; this anchoring is when these new situations become part of one’s current existence. According to Cadinu and Rothbart (1996, see Otten and Wentura, 2001), this cognitive anchor functions as a cognitive heuristic that allows group members to understand the new and unfamiliar intragroup setting. Otten and Wentura (2001) conducted a study in which they concluded that the ingroup is

constructed so as to be similar to the self. Just as the self, through self-anchoring, tends to be evaluated in a positive manner, so is the ingroup. Clement and Krueger (2001, p. 219) conducted a study which supported this anchoring hypothesis "...according to which projection is selectively engaged whenever a target group includes the self". Tactical motivations, on the other hand, contribute to an increase in the ingroup's relative prototypicality and thus relative status. This idea, that individuals tend to evaluate themselves or their group in a more favourable manner, draws on Social Identity Theory (Tajfel & Turner, 1979) and the Self-Categorization Theory (Turner et al., 1987).

The cognitive representation of the superordinate category is a key component when discussing intergroup tolerance according to the Ingroup Projection Model. The superordinate category can be represented as either a defined or an undefined prototype. According to Mummendey and Wenzel (1999) the presentation of the superordinate category in an undefined manner is assumed to reduce outgroup discrimination. Mummendey and Wenzel (1999) proposed that there are four structural properties that determine the prototype's degree of definition. Structural properties that are said to result in an undefined representation of the superordinate category include a vague prototype, a broad prototype, complex prototype and small-scope prototype. The outlined properties that determine the undefined cognitive representations were defined as follows by Mummendey and Wenzel (1999, p. 167 -168):

- A *vague prototype* exists when there is a weak representation of the prototype. The result of this being that there may be increased tolerance as there is no clear evaluative standards are in place.
- The existence of a *broad prototype* may increase tolerance as this allows for greater movement away from the normative position.

- A *complex representation* of the superordinate category (i.e. complex prototype), which is one of the focus areas of the present study, exists when many unrelated dimensions are considered as representative of the superordinate category (e.g. friendly, hardworking, love music). Such a representation allows for the superordinate category to include a diverse range of characteristics, possession of some and not all characteristics is valued and deviations are not viewed negatively; various positions are seen as normative.
- A *small-scope prototype*, the second aspect that will be looked at in this study, has only a few prescriptive dimensions (e.g. open-minded), creating criteria that are easily met, as opposed to a large-scope prototype, which has many prescriptive dimensions, which may create criteria that are more difficult to meet.

According to the Ingroup Projection Model, the undefined cognitive representations presented above which have been found to reduce ingroup projection, lessen the tendency for ingroup projection mainly for high-status groups, that is the group that is more prototypical when the prototype is defined (Mummendey & Wenzel, 1999). Waldzus et al (2003) predicted that while high-status members perceive the ingroup as less prototypical when the representation of the superordinate category is less defined, members of the low-status group perceive their ingroup as more prototypical for the superordinate category. According to Tajfel and Turner (1986) social status is not considered merely on a materialistic attribute such as scarce resources or commodities, but rather it reflects the groups relative position on some evaluative dimensions of comparison.

Waldzus et al. (2003) suggest that under certain circumstances, when looking at the term complexity, it is important to first understand what this term means in the context of Social Psychology. Much research has been done on the construct of complexity within the domain of Individual Psychology, and although the definition of complexity in Individual Psychology differs from that of Social Psychology, it is important to acknowledge that this research has contributed to the construction of the term complexity in Social Psychology (de Meireles, 2007 p. 89). Mental representations of complexity are defined by social psychologists as having contextual and situational features of knowledge (Zajonc, 1960, cited in de Meireles, 2007, p. 8). Literature on intergroup perception and intergroup processes has focused on the situational characteristics of social cognitions. An assumption of the present research project is that knowledge about people and social groups includes schemata to describe the target population and also beliefs about correlations between these attributes represented in the schemata (e.g. personality theories and stereotypes). A review of literature done by Ryan, Judd and Park (1996) highlighted a study by Linville (1982) which revealed two studies related to cognitive complexity in relation to intergroup relations. Linville (1982) confirmed that the more complex an individual's subjective view of the outgroup, the less extreme are the judgements concerning the outgroup, made by that particular individual.

These knowledge structures or schemata are said to consist of two main properties: the number of attribute dimensions and the average correlation between the dimensions (Judd & Lusk, 1984, see de Meireles, 2007 p. 10). The number of correlated or unrelated dimensions which are needed to cognitively represent the category defines complexity of knowledge about a group. A *complex representation* includes several orthogonal (independent) dimensions, whereas a *simple representation* consists of a few correlated (related) dimensions

or a number of highly correlated dimensions (Judd & Lusk, 1984, see de Meireles, 2007, p. 11).

The tolerance-promoting effect of a complex representation of the superordinate category has been empirically proven; however, it is not yet clear how complexity reduces ingroup projection, lending itself to greater intergroup tolerance (Mummendey & Wenzel 2005; Waldzus, Mummendey, Wenzel & Weber, 2003). In a study conducted by de Meireles (2007) the effects of a complex representation of the superordinate category were systematically explored, as well as how complex representation impacts on ingroup projection and the relative prototypicality of subgroups within the superordinate category.

De Meireles (2007), in a study of 106 University students, investigated the effects of complexity on ingroup projection, as well as looked at ways of reducing the trend of ingroup projection in order to promote intergroup tolerance. The aim of de Meireles' (2007) study was to validate the definition of the term *complex representation* of the superordinate category as one composed of various independent dimensions. To test these predictions de Meireles designed an experimental study in which the number of dimensions of the superordinate category (few vs. many) and the relatedness of the dimensions of the superordinate category (correlated vs. independent) were manipulated in terms of cognitive schemata. The priming task that de Meireles used to manipulate these cognitive schemata took on the following form: the priming task was presented as a pre-test for a future study about age stereotypes related to names and traits. De Meireles constructed a priming task that consisted of four different conditions: few isolated attributes, few correlated attributes, many isolated attributes and many correlated attributes. In each condition there was a 6 text-field with a collection of male or female names, each followed by a description of hypothetical

people (man, woman, young man, young woman etc.) with three attributes or 7 attributes respectively (few vs. many attributes). Depending on the orthogonality condition, the attributes appeared isolated, one in each line of the table, or in clusters, starting with one attribute and successively increasing in numbers of attributes in each line (independent vs. correlated attributes). Participants were asked to identify which name from the text field that fitted most with the person described in each line. Since participants were asked to complete this task a couple of times it was assumed that different cognitive “complexity” schemata were activated. After the priming task, the participants were asked to fill in a questionnaire for an allegedly separate study. Furthermore, de Meireles tested for a second aspect of the definition of the prototype of the Superordinate category, namely the scope of the prototype, specifically what effect a small scope-prototype has on projection. De Meireles (2007) also controlled for group status as it has been found to be an important moderator. In this regard, it has been found that high-status majority groups are often more prejudiced towards ethnic outgroup members (Islam & Hewstone, 1993b; Verkuyten, 1996, cited in Liebkind, Nystrom, Honkanummi & Lang, 2004). However, some research reports contradictory findings, and example of this was reported by Mummendey, Simon, Dietze, Grunet, Haeger, Kessler, Lattgen, and Schaferhoff, (1992, cited in Liebkind et al., 2004). In an experiment done by Mummendey et al. (1992), it was found that members from low-status groups showed higher levels of ingroup discrimination compared to members of high-status groups. Although inconsistencies have been found in past studies concerning the effect of status on ingroup bias, it has been found consistently that status does in some way impact on this phenomenon.

De Meireles (2007) found that the relationship between dimensions and the number of dimensions had interactive effects on the projection of the ingroups attributes onto the superordinate category. These results indicate that complex representation of the

superordinate category, defined as many independent dimensions, as well as small-scope prototype, defined as few dimensions, were found to decrease ingroup projection (de Meireles, 2007). Supporting Mummendey and Wenzel (1999), this research found that complexity and small-scope prototype, both defined by Mummendey and Wenzel (1999) as undefined representations of the superordinate category, decrease the inclination for the ingroup to project their attributes onto the superordinate category (de Meireles, 2007). De Meireles' (2007) results also showed that the effect of decreased ingroup projection due to the undefined representation of the superordinate category was only found for high-status group members. Based on these results de Meireles (2007) concluded that status appears to be a moderating factor in ingroup projection, predominantly for high-status groups.

Using the experimental design of de Meireles' (2007) study, the present study aimed to replicate the findings, yet within a different intergroup setting and within a different societal context. The present study hypothesised that an increased number of dimensions increases ingroup projection, specifically in the condition where the dimensions are correlated (Hypothesis 1). It is therefore predicted that in the case of a large scope prototype, (many correlated dimensions), ingroup projection will be high. However in the conditions of complex representation (many independent dimensions) and small scope prototype (few dimensions), it is predicted that ingroup projection will be lower.

Relative status of the groups that are included in the superordinate category has been identified to have different effects on the type of representation of the superordinate category as proposed by the Ingroup Projection Model as well as found in the results of de Meireles (2007). Thus hypothesis 2 in the present study, as in the study of de Meireles (2007), states that the definition of the prototype is expected to enhance ingroup projection for the high-

status group and not for the low -status groups. Hence, hypothesis 1 should have weaker implications for low -status groups and only be true for high-status groups.

De Meireles (2007) predicted, based on the assumptions of the Ingroup Projection Model, that relative ingroup prototypicality is negatively related to attitudes toward the outgroup. Consequently, hypotheses 3 in the present study predicts that relative ingroup prototypicality increases the likelihood of negative attitudes towards the outgroup.

METHOD

To test the three hypotheses an experiment was conducted which took the form of a 2 (number of dimensions: few vs. many dimensions) x 2 (relatedness of dimensions: orthogonal/independent vs. correlated/related dimensions) x 2 (group: Psychology students vs. Law students) factorial design. The independent variables – the number of dimensions and orthogonality (relatedness) of the dimensions were manipulated by the use of a priming task (see Appendices C – F). After the priming task, the intergroup context was introduced and the dependent variables prototypicality, intergroup attitudes (which indicated ingroup projection) and other variables such as identification with the ingroup and within the superordinate category as well as relative social status and relative status within the superordinate category were then measured (see Appendices G & H)

Sample

One hundred and eighty first year students from the University of Fort Hare participated in the experiment. One hundred and eleven were female (61.7%) and sixty-nine were male (38.3%). The majority of the participants were Xhosa speaking (86) followed by English

(50). The other participants' first language was one of the nine remaining official languages in South Africa.

The study was conducted as a between-subject experimental design. Participants were randomly assigned to the four experimental conditions: few related attributes (Law: 26 participants; Psychology: 21 participants), few independent attributes (small-scope prototype) (Law: 27 participants; Psychology: 20 participants), many related attributes (large-scope prototype) (Law: 23 participants; Psychology: 21 participants) and many independent attributes (complex prototype) (Law: 24 participants; Psychology: 18 participants). Participants from the Law department were approached in the lecture venue and the Psychology students were approached in the tutorials to participate in the study.

Procedure

The priming task was introduced as the first of apparently two separate studies. It was introduced as a pre-test for a future study. The reason given for the pre-test was to see if specific names were somehow associated with specific characteristics, in order to control for these effects when constructing the questionnaire in the future.

The priming material (see Appendices C – F) consisted of 6 text-fields with a collection of male / female names, each followed by a table with hypothetical descriptions of people (e.g. English speaking women, Xhosa speaking women etc.) with either three or seven characteristics (few vs. many characteristics). Depending on the orthogonality (relatedness) condition, the attributes appeared isolated, one in each line of the table, or in clusters, starting with one attribute and successively increasing the numbers of characteristics in each line (isolated vs. joint characteristics). The intention was to prime the use of less vs. more

dimensions in judgements about people (conditions few vs. many) and whether these dimensions were used independently or in combination, (conditions isolated vs. joint). For each description provided, participants had to write down the name they felt best suited the characteristics described in each line.

Figure 1.1 and 1.2 illustrate examples of the priming task taken from the condition few joint attributes and from the condition many isolated attributes, respectively.

Please read the descriptions of various English-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Mary	Claire	Sarah	Candice	Ann
	Lauren		Melissa	Susan
Angela	Jean	Michelle		Beth

Description	Name
A woman that is likeable	
A woman that is likeable and bright	
A woman that is likeable, bright and determined	

Figure 1.1: Illustration of a list of descriptions from the priming task in the condition few joint attributes.

Please read the descriptions of various Afrikaans-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Hendrik	Kobus	Johanes	Morne	Pieter
	Koos		Hennie	Dirk
Stephan		Gerhaard	Koen	Riaan

Description	Name
A man that is cheerful	
A man that is informed	
A man that is realistic	
A man that is dynamic	
A man that is cooperative	
A man that is interested	
A man that is sincere	

Figure 1.2: Example of a list of descriptions from the priming task in the condition many isolated attributes.

After the priming task the intergroup context was introduced as a supposedly unrelated study. This questionnaire (see Appendices G & H), started with an introduction of the ingroup and outgroup (Psychology vs. Law students) in the superordinate category of students in general (University of Fort Hare Students). Following this explanation, a manipulation check for the priming task was conducted. This was done by counting the number of dimensions participants choose when describing the superordinate category. The manipulation check was followed by three prototypicality measures: a profile similarity measure, a pictorial measure and a scale measure. Attitudes towards outgroup, attitudes towards the ingroup, identification with the ingroup, identification with the superordinate category, relative social status and

relative status within the superordinate category were then measured. Participants were asked for demographic details and allowed an opportunity to comment on the questionnaire.

Debriefing was provided in the form of a notice on the Psychology board containing an explanation of the study and its purpose. The researcher went back to both groups once the study was completed in order to inform participants on the results of the study. This method of delayed briefing was deemed suitable. Deception was minimal (the only deception was the given reason for the pre-test) and it avoided the spread of the debriefing information amongst students who were yet to participate in the research. The researchers contact details were provided, however no correspondence was made by any of the participants.

Measures

The manipulation for the number of dimensions was checked by counting the number of characteristics identified as relevant to university students in general. The characteristics had been collected in a pre-test (see Appendices A & B) in which 8 students from the Law and Psychology department identified attributes describing Law and Psychology students. Law students were described as materialistic, objective, analytical, hardworking, dedicated, and ambitious, while Psychology students were described as social, friendly, caring and emotional. The manipulation check required participants to choose the characteristics that they considered most important when thinking of a typical “University of Fort Hare student” (a student that is representative of the group as a whole). The instructions did not indicate the number of characteristics to be chosen. It was expected that participants who were primed to use more dimensions would choose more characteristics (condition many attributes) than those who were primed to use less dimensions (condition few attributes).

Manipulation check for orthogonality was done using factorial analysis. Two separate factorial analyses were conducted, one for the conditions with independent characteristics and one for the conditions with related characteristics.

Relative prototypicality was assessed by three measures. Two of these measures, *the profile similarity measure* and *pictorial measure*, measured the ingroup's and the outgroup's prototypicality separately.

1) *A profile similarity measure* was administered which used the 10 previously selected characteristics that had been used in the manipulation check for the number of dimensions. Participants were asked to indicate how applicable they felt each characteristic was for the respective groups on a 7point scale (1 = does not apply at all to 7 = applies totally). The larger the value, the higher the degree of relative prototypicality.

2) *A pictorial measure* which was made up of two pictures consisting of horizontal lines with two circles on each line. A small circle represented the ingroup/outgroup and a large circle represented the superordinate category. The circles appeared far apart on the first line, and successively got closer to each other, until in picture number seven the smaller circle was included in the larger circle. Participants were asked to choose the line that best represented the similarity between the ingroup/outgroup and the superordinate category. The larger the values the more similarity between the ingroup/outgroup and the superordinate category.

3) *A scale measure* which consisted of six blatant statements contrasting the ingroup and outgroup's prototypicality. (e.g., "In order to describe university students in general, I would choose as an example" 1 = *definitely the [ingroup]* to 7 = *definitely the [outgroup]*). De Meireles reported a scale reliability of .81. In the present study, the reliability analysis revealed that only 5 out of the six items showed satisfactory corrected item-total correlation

larger than .3, with a Cronbach's Alpha of .67. Lower scores of the measure refer to more relative prototypicality.

Intergroup attitudes were measured by assessing attitudes towards the ingroup and outgroup. Ingroup and outgroup attitudes were measured by 8 items (identical for the ingroup and outgroup). In line with de Meireles (2007), and consistent with scales used in previous research on ingroup projection, the items covered four aspects of attitudes towards groups: sympathy (e.g. "I would demonstrate against a Law that put [ingroup / outgroup] at a disadvantage."), desirability of contact (e.g., "I like to interact with [ingroup / outgroup]."), positive behavioral intentions (e.g. "If I heard the [ingroup / outgroup] being severely criticized, I would defend them."), and positive evaluation of differences or tolerance (e.g. "I believe that the specific characteristics of the [ingroup / outgroup] add value to the group of university students."). A 7-point Likert scale was used ranging from 1 = *I totally disagree* to 7 = *I totally agree*. The measure for attitudes towards ingroup and outgroup showed sufficient reliability, $\alpha = .69$ and $\alpha = .67$, respectively.

Identification with the ingroup and with the superordinate category were measured using two scales with the same 5 items (e.g. Belonging to the [ingroup / superordinate category] is important to me", 1 = *I totally disagree* to 7 = *I totally agree*). Scale scores were obtained by averaging the responses across the 5 items. The scales proved to be reliable for both ingroup ($\alpha = .74$) and the superordinate category ($\alpha = .63$).

Relative status. Perceived relative status in general and perceived relative status within the superordinate category were assessed by the following two items: "(Ingroup) students have a social status that is ..." (1 = *much lower than outgroup* to 7 = *much higher than outgroup*)

(item for perceived relative status in general) and “Within the group of university students (superordinate category), (ingroup) students have a social status that is...” ($I = \text{much lower than outgroup to } 7 = \text{much higher than outgroup}$) (Item for perceived relative status within the super ordinate category).

RESULTS

Preliminary results

Manipulation checks

The manipulation check that was conducted for *number of dimensions* pointed in the direction that was expected, however the findings were not statistically significant. It was found that in the condition “many dimension” the participants chose more dimensions as being important in prototypicality judgements ($M = 10.31, SD = 3.64$) than in the condition “few dimensions” ($M = 9.44, SD = 3.63$). However, the independent samples t-test revealed no significant differences, $t(178) = 1.12, p = \text{ns}$.

The present study replicated de Meireles’ findings of the two factor analyses that were applied to measure the *manipulation of relatedness*. The manipulation of orthogonality worked, but in the opposite direction than predicted. It was predicted that the priming with isolated attributes would stimulate participants to use the dimensions to describe the superordinate category more independently, that is, with less inter-correlation, than those primed with joint attributes. However, the factor analysis of the ratings of the superordinate category revealed more data reduction in the condition of orthogonal attribute priming (according to the scree plot analysis and the Kaiser criterion: 2 factors with 24.7% of the variance explained by the first factor) than in the condition with correlated attribute priming

(2 factors with 32.00% of variance explained by the first factor). Consequently, the hypotheses were adapted to this revised effect of the manipulation. The concept of orthogonal dimensions refers to the condition where attributes in the priming task were presented jointly, while the concept of correlated dimensions refers to the condition in which attributes were presented in an isolated manner (see de Meireles, 2007, p. 45).

Prototypicality of the groups and relative prototypicality

Law students perceived their ingroup as less prototypical and the outgroup as more prototypical of the superordinate category, “University of Fort Hare students”, than did the Psychology students, as shown in Table 1.1. Comparing the ingroup’s and outgroup’s prototypicality measures (*profile similarity measure, pictorial measure and scale measure*), Law students systematically considered their ingroup as less prototypical of University of Fort Hare Student than the outgroup (Psychology students) and the Psychology students considered their ingroup as more prototypical of “University of Fort Hare student” than the outgroup (Law students).

		Psychology Students			Law Students			Independent Samples t-test statistics
	Relative ingroup prototypicality	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	
Relative similarity measure	<i>Distance ingroup- SC</i>	1.30	0.54	79	1.39	0.53	95	$t(172)=-1.12, p=ns$
	<i>Distance outgroup - SC</i>	1.72	0.83	75	1.55	0.65	94	$t(167)=1.51, p=ns$
	Relative ingroup prototypicality	0.42	0.77	75	0.14	0.56	94	$t(167)=2.73, p<.01$
Pictorial measure	<i>Proximity ingroup- SC</i>	4.26	1.93	79	3.66	2.01	93	$t(170)=1.98, p<.05$
	<i>Proximity outgroup - SC</i>	3.79	1.98	79	4.51	2.02	89	$t(166)=-1.99, p<.05$
	Relative ingroup proximity	.46	2.29	79	-.76	2.01	89	$t(166)=3.71, p<.001$
Scale measure	Scale measure	3.99	0.88	80	5.04	0.77	99	$t(177)=-8.48, p<.001$

Table 1.1: Means and SD’s of prototypicality measures by groups and mean difference between groups

Group identification and relative status

Law students' identification with their ingroup ($M = 5.72$, $SD = .92$) was significantly stronger relative to Psychology students' ingroup identification ($M = 5.22$, $SD = .92$), $t(178) = -3.62$, $p < .001$. The two groups did not differ in their identification with the superordinate category "University of Fort Hare Student" (Law students: $M = 5.51$, $SD = 0.82$; Psychology students: $M = 5.31$, $SD = .88$), $t(175) = -1.52$, $p > .05$.

One assumption of the present study was that Law students perceive their group as high-status relative to Psychology students (in general and within the superordinate category) and that Psychology students perceive their group as low-status relative to Law students (in general and within the superordinate category). Although, Law students perceive their ingroup's status as slightly higher in general ($M = 4.70$, $SD = 1.66$) and within the superordinate category ($M = 4.67$, $SD = 1.59$) relative to Psychology students (general: $M = 4.51$, $SD = 1.22$; within SC: $M = 4.43$, $SD = 1.40$), the results revealed no significant differences, $t(177) = -.874$, $p = ns$ and $t(176) = -1.03$, $p = ns$, respectively.

Since no perceived status differences were found, hypothesis 2, which stated that the definition of the prototype is expected to enhance ingroup projection for the high-status group and not for the low-status groups, could not be tested in the present study. However, group membership (Psychology students vs. Law students) was controlled for in the further analysis.

Main Analysis

Hypothesis 1 predicted that the effect of the number of dimensions on projection should depend on the relation between the dimensions. More precisely it was stated that the number of dimensions should only *increase prototypicality (ingroup projection)* if these dimensions are correlated **but not** if they are independent. To test this hypothesis a customized contrast analysis was conducted in a 2 (Number of dimensions: few vs. many) x 2 (Independence of dimensions: orthogonal vs. correlated) x 2 (Groups: Psychology students vs. Law students) Analysis of Variance with each prototypicality measure as the dependent variable: *profile similarity measure, pictorial measure, and scale measure*. In line with Hypothesis 1, the contrast tested whether ingroup projection was higher in the condition large-scope prototype (many correlated dimensions) compared to all the other conditions for both Psychology and Law students (Contrast 1, Psychology students: -1 -1 -1 +7 -1 -1 -1 -1; Contrast 2, Law students: -1 -1 -1 -1 -1 -1 -1 +7). The results revealed a significant contrast on the profile similarity measure for the Psychology students (-1 -1 -1 +7 -1 -1 -1 -1), $t(157) = 2.337$, $p < .05$, indicating that the projection was higher for Psychology students when a large scope prototype (many correlated attributes) was present compared to when complex (many independent attributes) and small scope (few dimensions) were present (see figure 1.3). For an interpretation of the contrast, 6 more orthogonal contrasts were tested in order to check for eventually remaining between-group differences. None of the 6 possible contrasts were found to be significant.

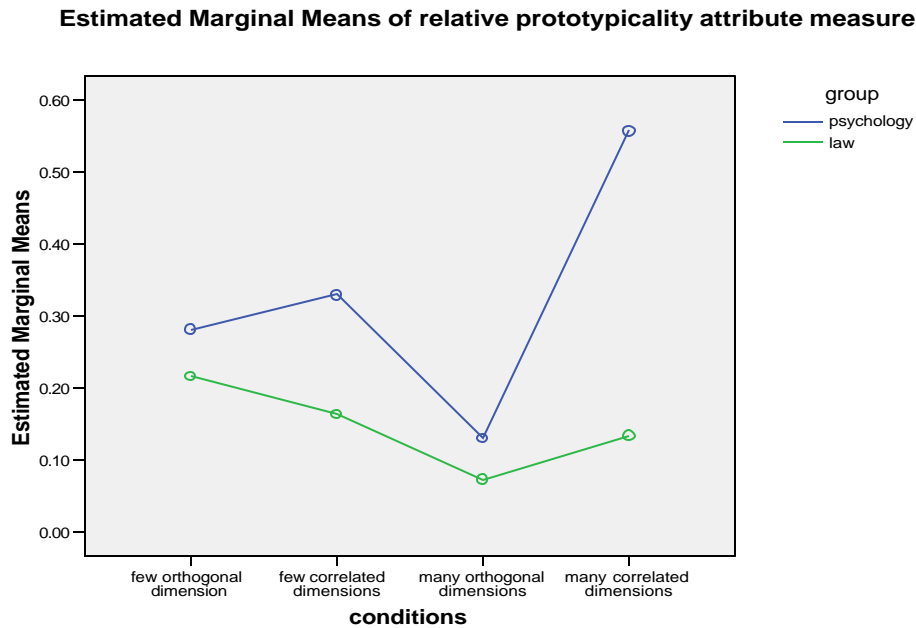


Figure 1.3: Means of relative ingroup prototypicality (profile similarity measure) in different experimental conditions

There were no significant differences between the experimental conditions on the other two measures (scale measure and pictorial measure).

Hypothesis 3 predicted that relative ingroup prototypicality is negatively related to attitudes towards the outgroup. The results of the preliminary analysis to test hypothesis 3 showed clear ingroup favouritism on average. Attitudes towards the ingroup ($M = 5.55$, $SD = .843$) were significantly more positive than attitudes towards the outgroup ($M = 4.7$, $SD = .763$), $t(358) = 8.941$, $p < .001$. With Psychology students, ingroup favouritism was positively associated with identification with the ingroup ($r = .41$, $p < .001$), ingroup status relative to outgroup ($r = .46$, $p < .001$) and ingroup status within the superordinate category ($r = .38$, $p < .001$). The results indicate that the likelihood for ingroup favouritism increases for Psychology students the more they identify with their ingroup (Psychology students), the

more they perceive to have a higher status relative to Law students and within the superordinate category (Fort Hare students), and vice versa.

With the Law students it was also found that ingroup favouritism correlated positively with identification with the ingroup ($r = .28, p < .01$). However with the Law students it was also found that ingroup favouritism was negatively correlated with ingroup status relative to the outgroup ($r = -.23, p < .05$) and with ingroup status relative to the superordinate category ($r = -.23, p < .05$).

To test Hypothesis 3 regression analyses were conducted. Intergroup attitudes were regressed on the prototypicality measures. The results as summarised in table 1.2, indicate that hypothesis 3 could not be confirmed for either the Psychology or Law students. Interestingly, with the Law students a negative relationship between prototypicality and attitudes towards the ingroup / ingroup favouritism was found. The latter means that the less Law students perceive themselves as prototypical for “University of Fort Hare” students, the more they show positive attitudes towards the ingroup and the more they show ingroup favouritism.

	Attitudes towards ingroup		Attitudes towards outgroup		Ingroup favouritism	
	Psychology students	Law students	Psychology students	Law students	Psychology students	Law students
Profile similarity measure	...	$\beta = -.038$	...	...	...	$\beta = .003$
Pictorial measure	...	$\beta = .000$	...	...	...	$\beta = .135$
Scale measure	...	$\beta = -.309^{**}$	...	...	...	$\beta = .358^{***}$
ANOVA	F (3, 70) = 2.308, $p > .05$	F (3, 82) = 2.926, $p < .01$ (explained variance = 9.7%)	F (3, 70) = .286, $p > .01$	F (3, 82) = 1.5, $p > .05$	F (3, 70) = 2.308, $p > .05$	F (3, 82) = 4.799, $p < .01$

Table 1.2: Regressions of attitudes on prototypicality measures.

DISCUSSION

Overall, the findings support the main assumption of the present study, that there is in fact an interactive effect between the number of dimensions and the relationship between the dimensions, which impacts on the degree of ingroup projection. The interplay between the number of dimensions and the relationship between the dimensions, according to de Meireles (2007), are the two factors that determine whether the superordinate category is presented in a defined or undefined manner. Hypothesis 1 stated that if many dimensions are used to represent the superordinate category ingroup projection is likely to be high, specifically in the conditions when many correlated dimensions (large-scope prototype) are used to cognitively represent the superordinate category. A large scope - prototype (many correlated dimensions) is an instance of a defined representation of the superordinate category. However, in the conditions of a complex representation of the superordinate category (many independent dimensions) and a small scope prototype (few dimensions), both instances of an undefined representation of the superordinate category, ingroup projection was predicted to be lower. As predicted, ingroup projection was significantly higher when a large scope prototype (many correlated dimensions) was present relative to the conditions when the superordinate category was complex (many independent dimensions) or had small scope (few dimensions), where ingroup projection was low. However, these results were only found for the Psychology group and not the Law students.

De Meireles (2007) aimed to clarify the conceptualisation of a complex representation of the superordinate category, an instance of an undefined representation of the superordinate category, as one consisting of many independent dimensions. The findings from the present study are in line with de Meireles' (2007) findings, and thus further validate the conceptualisation of a complex representation of superordinate category as one defined by

many independent dimensions. De Meireles (2007) also aimed to clarify the conceptualisation of a large-scope prototype of the superordinate category, an instance of a defined representation of the superordinate category, as one consisting of many correlated dimensions. The results of the present study also support the conceptualisation of a large-scope prototype as having many correlated dimensions.

Hypothesis 2 stated that a defined prototype, for example a large-scope prototype (many correlated dimensions), is expected to enhance ingroup projection for high-status groups but not for low-status groups. This hypothesis could not be tested in the present study as no perceived status differences between Psychology and Law students were found, indicating that neither Psychology nor Law students perceive their ingroup as being a high-status group relative to the outgroup. However, the inference that could be made from the results obtained when discussing hypothesis 1 is that Psychology students appear to behave / respond in a way that is expected from a high-status group within the superordinate category of University of Fort Hare students.

Hypothesis 3 predicted that relative ingroup prototypicality is negatively related to attitudes towards the outgroup. Overall, this hypothesis could not be confirmed for either Psychology or Law students in the present study. In the preliminary analysis, on average clear ingroup favouritism was found for both groups. Interestingly, with Law students, the results revealed an opposite effect to what was predicted. It was found that ingroup favouritism was negatively correlated with ingroup status relative to the outgroup in general, and ingroup status relative to the outgroup within the superordinate category. These results indicate that the less Law students perceive themselves as being of high-status compared to Psychology students in general, as well as compared to Psychology students within the superordinate

category of “University of Fort Hare students” the more they show ingroup favouritism. Furthermore, a negative relationship was found between prototypicality and attitudes towards the ingroup, which indicates that the less Law students perceive themselves as prototypical for “University of Fort Hare students”, the more they show positive attitudes towards the ingroup.

A possible post-hoc explanation for these findings may be the current as well as historical context of the University of Fort Hare. The University of Fort Hare, due to its history, may not be seen as a high-status university when compared with other universities in South Africa. For this reason, Law students may not feel that it is desirable to be prototypical of the superordinate category “University of Fort Hare students”. The given post-hoc explanation indicates that social categories are embedded in a concrete historical and social context that determines both the relevance as well as the desirability of the social categories. Future studies that use existing social identities (as in the present study) should therefore assess the perceptions of the social categories that are to be used before conducting experiments on cognitive complexity of superordinate categories. Consequently, not only must the researcher insure that the dimensions used to describe each group are relevant, but it is also important to ensure that both groups participating in the study attach similar importance / desirability to belong to the superordinate category being presented.

The primary goal of this study was to replicate the findings of de Meireles (2007), which tested and confirmed predictions of the Ingroup Projection Model, and by doing so add to the body of knowledge concerning possible strategies for promoting intergroup tolerance. The component of the Ingroup Projection Model that was of interest in the current study was the cognitive representations of the superordinate category, specifically looking at the effects of

cognitively representing the superordinate category as an undefined prototype, which is thought to promote intergroup tolerance. The effect of the number of dimensions and their interrelations were tested, as it was assumed that these two dimensions underlie the concepts of the scope of the prototype and the complexity of the representation of the superordinate category. The results from the present study confirm that a complex representation of the superordinate category (many independent dimensions) and a small-scope prototype (few dimensions), both instances of an undefined representation of the superordinate category, reduce the likelihood of ingroup projection. A large-scope prototype (many related dimensions) was found to relate to more ingroup projection. In line with the Ingroup Projection Model (Mummendey & Wenzel, 1999), de Meireles (2007) as well as the present study indicate that recategorization seems to play an important role in promoting intergroup tolerance. Specifically, when cognitively recategorising the superordinate category, it is important that the superordinate category consists of dimensions that are perceived as being relevant to both groups. It is also important that the superordinate category being presented is represented in such a way that it meets the criteria of an undefined representation of the superordinate category (i.e. a complex representation of the superordinate category or a small-scope prototype).

Looking at the practical implication of this study, related to the South African context, these findings might be most relevant since the country is currently in the process of “nation building”. South Africa, a diverse country made up of people from many different races, cultures, and religions and with 11 official languages, may greatly benefit from theories that propose recategorization strategies for enhancing intergroup tolerance. The finding from the current study, and in line with the Ingroup Projection Model, suggest that when defining the superordinate category, “South Africans”, in order to decrease ingroup projection, the

superordinate category needs to be presented in an undefined manner. The presentation of a small-scope prototype or a complex representation of the superordinate category are both instances of undefined representations of the superordinate category. Politicians, media and education institutions are all influential role players that provide information that subgroups use when cognitively defining the superordinate category “South Africans”. The findings from this research would recommend that the dimensions presented by these role players either be presented in such a way that they meet the criteria of a complex representation of the superordinate category (many independent dimensions), or a small-scope prototype (few dimensions). With regard to the representation of the superordinate category, “South Africans”, with a small-scope prototype (few dimensions), this may be impractical considering the great diversity of the population that constitutes the superordinate group of “South Africans”. It may be more practical in the South African context to provide a complex representation of the superordinate category (many independent dimensions). The cognitive representation of the superordinate category “South Africans” needs to be in such a way that is desirable to belong to this superordinate group. This research also suggests that the dimensions used to represent the superordinate category be equally relevant to the subgroups to be included in the superordinate category. It may be most beneficial for further research to investigate what dimensions are seen as relevant by all subgroups being included in the superordinate category “South Africans”. By cognitively representing the superordinate category “South Africans” in a complex manner (many independent dimensions), an instance of an undefined representation of the superordinate category, with dimensions that are seen as relevant and desirable to all subgroups, the current intergroup tension that exists in South Africa may be reduced.

To test the hypothesis 1, which predicted that a large-scope prototype (many correlated dimensions) would lead to increased ingroup projection compared to when complex representation of the superordinate category (many independent dimensions) or small-scope-prototype (few dimension) were presented, a priming task was used. The priming task aimed to manipulate the cognitive representations of the relation between dimensions as well as the number of dimensions. The method used to manipulate the number and relatedness between dimensions was done by presenting the participants with an allegedly separate study, which was said to be a pre-test for a future study about age stereotypes (see Appendices C -F). It was found in the current study, as well as in de Meireles 2007, that this priming task worked but in the opposite direction to what was predicted. It was predicted that the presentation of joint attributes (see Appendices D & F) would stimulate participants to use correlated dimensions when describing the superordinate category. However, this manipulation resulted in participants using dimensions more independently. When presented with isolated attributes (see Appendices C & E), it was predicted that this would stimulate the participants to make use of independent dimensions when describing the superordinate category. It was found that this priming task resulted in the use of correlated dimensions when describing the superordinate category. A post-hoc explanation provided by de Meireles (2007) for this phenomenon is that in the condition where many attributes were presented in isolation (priming for many independent dimensions), participants may have been stimulated to cluster the dimensions in order to reduce the information and make the task less cognitively complicated. Thus, when presented with a list of independent attributes to describe the superordinate category, due to the cognitive processing that appears to have occurred in the priming task, participants may have been primed to reduce the information they were presented with, and thus cognitively summarised (correlated) the dimensions when describing the superordinate category. Participants presented with the priming task that consisted of

correlated dimensions may have also experienced a cognitive overload that led them to simplify cognitively information. It appears that the way in which this simplification was done is that the participants reduced the information provided to them by separating it, and thus instead of thinking of dimensions in a correlated manner, they appear to have used independent dimensions when representing the superordinate category.

The priming task that was conducted in both de Meireles' study (2007) and the present study were both found to have the same effect on prescribing attributes to cognitively represent the superordinate category. However, in the current study, the effect of the priming task was not as strong as in the study of de Meireles (2007). A post-hoc explanation that may explain this occurrence is the fact that in the present study, the priming task presented participants with tasks that included more categories than did de Meireles (2007). De Meireles (2007) presented the participants with categories related to age and gender, whereas in the current study the participants were presented with categories related to age, gender and race. It can be assumed that in presenting an additional category, the priming exercise became somewhat more complex and thus was not as effective as it was found to be in the study of de Meireles (2007).

From the present study, it is clear that the cognitive process involved in the representation of the superordinate category do in fact play a large role in ingroup projection, whether it be an increase or decrease in ingroup projection. However, it is not yet clear exactly what cognitive processes occur when cognitively representing the superordinate category. In order to further this concept of how cognitive representations of the superordinate category may promote intergroup tolerance, further research is needed in the area of cognitive processing of information with regard to the representation of the superordinate category.

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APPENDIX A

People have general ideas about the typical features of the groups they belong to and of other groups, such as the students of certain courses. Even if you don't personally know anyone from other courses, please write the adjectives you would use to describe each of the following groups in general:

1. When compared with law students, how would you describe psychology students:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

2. When compared with psychology students, how would you describe law students:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

3. Thinking about law and psychology students, what features do you think both groups have:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

4. Thinking about law and psychology students, what features do you think these groups do not have:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Please write the following after each adjective; a (+) if you consider that feature a positive one, (-) if you consider that feature a negative one and a (0) if you consider that feature a neutral one. Write one of these symbols next to all the adjectives that you wrote in the previous questions.

Thanks for your cooperation!

APPENDEX B

People have general ideas about the typical features of the groups they belong to and of other groups, such as the students of certain courses. Even if you don't personally know anyone from other courses, please write the adjectives you would use to describe each of the following groups in general:

3. When compared with psychology students, how would you describe law students:

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____

4. When compared with law students, how would you describe psychology students:

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____

3. Thinking about psychology and law students, what features do you think both groups have:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

4. Thinking about psychology and law students, what features do you think these groups do not have:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Please write the following after each adjective; a (+) if you consider that feature a positive one, (-) if you consider that feature a negative one and a (0) if you consider that feature a neutral one. Write one of these symbols next to all the adjectives that you wrote in the previous questions

Thanks for your cooperation.

APPENDIX C

This questionnaire aims at assessing the ideas that people associate with names. We are testing the effects of using these names before using them in a questionnaire about stereotypes that we plan to do in the future.

Thanks for your cooperation.

Please read the descriptions of various English-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Mary	Claire	Sarah	Candice	Ann
	Lauren		Melissa	Susan
Angela		Jean	Michelle	Beth

Description	Name
A woman that is likeable	
A woman that is bright	
A woman that is determined	

Please read the descriptions of various English-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

John	Mark	James	Luke	Daniel
	Michael		Matthew	Steven
Kyle		Andrew	Robert	Shane

Description	Name
A man that is creative	
A man that is honest	
A man that is sociable	

Please read the descriptions of various Xhosa-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Chuma	Bulelwa	Zoleka	Okuhle	Buhle
	Nosipho		Asamagla	Lusanda
Khanya		Sibongile	Zinzi	Nwabisa

Description	Name
A woman that is active	
A woman that is confident	
A woman that is tolerant	

Please read the descriptions of various Xhosa speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Abonga	Simphiwe	Chulumange	Vuyisa	Chumile
	Letitha	Thembakile	Siphamandla	
	Manduluvu	Lungisa	Lazola	Vuyo

Description	Name
A man that is reflexive	
A man that is emotional	
A man that is responsible	

Please read the descriptions of various Afrikaans -speaking women on the left. For each woman, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Marisa	Hanlie	Sarie	Adel	Marie
Anrie		Anchen		Adele
Petra	Zelda	Wimpie		Kobi

Description	Name
A lady that is friendly	
A lady that is intuitive	
A lady that is talented	

Please read the descriptions of various Afrikaans -men on the left. For each man chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Hendrik	Kobus	Johanes	Morne	Pieter
Koos		Hennie	Dirk	
Stephan	Gerhaard		Koen	Riaan

Description	Name
A man that is cheerful	
A man that is informed	
A man that is realistic	

APPENDIX D

This questionnaire aims at assessing the ideas that people associate with names. We are testing the effects of using these names before using them in a questionnaire about stereotypes that we plan to do in the future.

Thanks for your cooperation.

Please read the descriptions of various English-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Mary	Claire	Sarah	Candice	Ann
	Lauren		Melissa	Susan
Angela	Jean	Michelle		Beth

Description	Name
A woman that is likeable	
<i>A woman that is likeable and bright</i>	
A woman that is likeable, bright and determined	

Please read the descriptions of various English-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

John	Mark	James	Luke	Daniel
	Michael		Matthew	Steven
Kyle	Andrew	Robert		Shane

Description	Name
A man that is creative	
A man that is creative and honest	
A man that is creative, honest and sociable	

Please read the descriptions of various Xhosa-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Chuma	Bulelwa	Zoleka	Okuhle	Buhle
Nosipho		Asamagla		Lusanda
Khanya	Sibongile	Zinzi		Nwabisa

Description	Name
A woman that is active	
A woman that is active and confident	
A woman that is active, confident and tolerant	

Please read the descriptions of various Xhosa-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Abonga	Simphiwe	Chulumange	Vuyisa	Chumile
	Letitha	Thembakile	Siphamandla	
	Mandulvi	Lungisa	Lazola	Vuyo

Description	Name
A man that is reflexive	
A man that is reflexive and emotional	
A man that is reflexive, emotional and responsible	

Please read the descriptions of various Afrikaans-speaking women on the left. For each woman, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Marisa	Hanlie	Sarie	Adel	Marie
Anrie		Anchen		Adele
	Petra	Zelda	Wimpie	Kobi

Description	Name
A lady that is friendly	
A lady that is friendly and intuitive	
A lady that is friendly, intuitive and talented	

Please read the descriptions of various Afrikaans-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Hendrik	Kobus	Johanes	Morne	Pieter
	Koos		Hennie	Dirk
Stephan		Gerhaard	Koen	Riaan

Description	Name
A man that is cheerful	
A man that is cheerful and informed	
A man that is cheerful, informed and realistic	

APPENDIX E

This questionnaire aims at assessing the ideas that people associate with names. We are testing the effects of using these names before using them in a questionnaire about stereotypes that we plan to do in the future.

Thanks for your cooperation.

Please read the descriptions of various English-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Mary	Claire	Sarah	Candice	Ann
	Lauren		Melissa	Susan
Angela	Jean		Michelle	Beth

Description	Name
A woman that is likeable	
A woman that is bright	
A woman that is determined	
A woman that is concrete	
A woman that is hard-working	
A woman that is amusing	
A woman that is trustworthy	

Please read the descriptions of various English-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

John	Mark	James	Luke	Daniel
	Michael		Matthew	Steven
Kyle	Andrew		Robert	Shane

Description	Name
A man that is creative	
A man that is honest	
A man that is sociable	
A man that is organised	
A man that is practical	
A man that is optimistic	
A man that is independent	

Please read the descriptions of various Xhosa-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Chuma	Bulelwa	Zoleka	Okuhle	Buhle
Nosipho		Asamagla		Lusanda
Khanya	Sibongile		Zinzi	Nwabisa

Description	Name
A woman that is active	
A woman that is confident	
A woman that is tolerant	
A woman that is informal	
A woman that is imaginative	
A woman that is competent	
A woman that is generous	

Please read the descriptions of various Xhosa-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Abonga	Simphiwe	Chulumange	Vuyisa	Chumile
Letitha		Thembakile		Siphamandla
Mandulvi	Lungisa		Lazola	Vuyo

Description	Name
A man that is reflexive	
A man that is emotional	
A man that is responsible	
A man that is helpful	
A man that is lively	
A man that is perspicacious	
A man that is efficient	

Please read the descriptions of various Afrikaans-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Marisa	Hanlie	Sarie	Adel	Marie
Anrie		Anchen		Adele
Petra	Zelda	Wimpie		Kobi

Description	Name
A lady that is friendly	
A lady that is intuitive	
A lady that is talented	
A lady that is knowledgeable	
A lady that is communicative	
A lady that is motivated	
A lady that is relaxed	

Please read the descriptions of various Afrikaans-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Hendrik	Kobus	Johanes	Morne	Pieter
Koos		Hennie	Dirk	
Stephan	Gerhaard		Koen	Riaan

Description	Name
A man that is cheerful	
A man that is informed	
A man that is realistic	
A man that is dynamic	
A man that is cooperative	
A man that is interested	
A man that is sincere	

APPENDIX F

This questionnaire aims at assessing the ideas that people associate with names. We are testing the effects of using these names before using them in a questionnaire about stereotypes that we plan to do in the future.

Thanks for your cooperation.

Please read the descriptions of various English-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Mary	Claire	Sarah	Candice	Ann
	Lauren		Melissa	Susan
Angela	Jean	Michelle		Beth

Description	Name
A woman that is likeable	
A woman that is likeable and bright	
A woman that is likeable, bright and determined	
A woman that is likeable, bright, determined and concrete	
A woman that is likeable, bright, determined, concrete and hard-working	
A woman that is likeable, bright, determined, concrete, hard-working and amusing	
A woman that is likeable, bright, determined, concrete, hard-working, amusing and trustworthy	

Please read the descriptions of various English-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

John	Mark	James	Luke	Daniel
	Michael		Matthew	Steven
Kyle	Andrew	Robert		Shane

Description	Name
A man that is creative	
A man that is creative and honest	
A man that is creative, honest and sociable	
A man that is creative, honest, sociable and organised	
A man that is creative, honest, sociable, organised and practical	
A man that is creative, honest, sociable, organised, practical and optimistic	
A man that is creative, honest, sociable, organised, practical, optimistic and independent	

Please read the descriptions of various Xhosa-speaking women on the left. For each woman, chose one of the female names that you think applies to the description and write it in the column on the right. The names should all be different.

Chuma	Bulelwa	Zoleka	Okuhle	Buhle
Nosipho		Asamagla		Lusanda
Khanya	Sibongile	Zinzi		Nwabisa

Description	Name
A woman that is active	
A woman that is active and confident	
A woman that is active, confident and tolerant	
A woman that is active, confident, tolerant and informal	
A woman that is active, confident, tolerant, informal and imaginative	
A woman that is active, confident, tolerant, informal, imaginative and competent	
A woman that is active, confident, tolerant, informal, imaginative, competent and generous	

Please read the descriptions of various Xhosa-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Abonga	Simphiwe	Chulumange	Vuyisa	Chumile
Letitha		Thembakile		Siphamandla
Mandulvi	Lungisa		Lazola	Vuyo

Description	Name
A man that is reflexive	
A man that is reflexive and emotional	
A man that is reflexive, emotional and responsible	
A man that is reflexive, emotional, responsible and helpful	
A man that is reflexive, emotional, responsible, helpful and lively	
A man that is reflexive, emotional, responsible, helpful, lively and perspicacious	
A man that is reflexive, emotional, responsible, helpful, lively, perspicacious and efficient	

Please read the descriptions of various Afrikaans-speaking women on the left. For each woman, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Marisa	Hanlie	Sarie	Adel	Marie
Anrie		Anchen		Adele
Petra	Zelda	Wimpie		Kobi

Description	Name
A lady that is friendly	
A lady that is friendly and intuitive	
A lady that is friendly, intuitive and talented	
A lady that is friendly, intuitive, talented and knowledgeable	
A lady that is friendly, intuitive, talented, knowledgeable and communicative	
A lady that is friendly, intuitive, talented, knowledgeable, communicative and motivated	
A lady that is friendly, intuitive, talented, knowledgeable, communicative, motivated and relaxed	

Please read the descriptions of various Afrikaans-speaking men on the left. For each man, chose one of the male names that you think applies to the description and write it in the column on the right. The names should all be different.

Hendrik	Kobus	Johanes	Morne	Pieter
	Koos		Hennie	Dirk
Stephan		Gerhaard	Koen	Riaan

Description	Name
A man that is cheerful	
A man that is cheerful and informed	
A man that is cheerful, informed and realistic	
A man that is cheerful, informed and realistic and dynamic	
A man that is cheerful, informed and realistic, dynamic and cooperative	
A man that is cheerful, informed and realistic, dynamic, cooperative and interested	
A man that is cheerful, informed and realistic, dynamic, cooperative, interested and sincere	

APPENDIX G

This questionnaire is part of a study about groups. Please read the following instructions carefully and make sure that you understand what is asked. Always answer according to what you think and feel, there are no right or wrong answers, nor good or bad answers. We are interested in your honest opinion. Since the questionnaire is anonymous your identity will not be revealed.

Thank you for your co-operation.

Instructions

Psychology students (independent of the institution they attend) belong to the group of university students. The group of university students also includes law students as well as students from other courses such as accounting, sociology and management.

Please think about the group of university students in general. Although there is great variability in this group, people generally have an idea about what “true” university students are like. People often have ideas about students that are more typical or that better represent the group of university students. To consider a university student as typical or representative, one must consider some characteristics as more important and others as less important when thinking about university students.

From the following characteristics, please choose those that you think are the most important when considering a student that is typical or representative of university students in general [mark your option(s) with an X].

to be analytical		to be realistic	to be gentle	to be caring
to be creative		to be emotional	to be confident	to be dedicated
to be materialistic		to be nurturing	to be authoritarian	to be objective
to be hardworking		to be conventional	to be independent	to be friendly
to be ambitious		to be logical	to be social	to be patient

2) Using the scale provided, please indicate how much you think each characteristic applies to the indicated group (mark your choice with an X):

Applicability to **psychology students**

	Does not apply at all	Applies very little	Applies a little	Unsure	Applies slightly	Applies a lot	Applies totally
Caring	1	2	3	4	5	6	7
Objective	1	2	3	4	5	6	7
Friendly	1	2	3	4	5	6	7
Hardworking	1	2	3	4	5	6	7
Analytical	1	2	3	4	5	6	7
Materialistic	1	2	3	4	5	6	7
Educated	1	2	3	4	5	6	7
Emotional	1	2	3	4	5	6	7
Ambitious	1	2	3	4	5	6	7
Creative	1	2	3	4	5	6	7

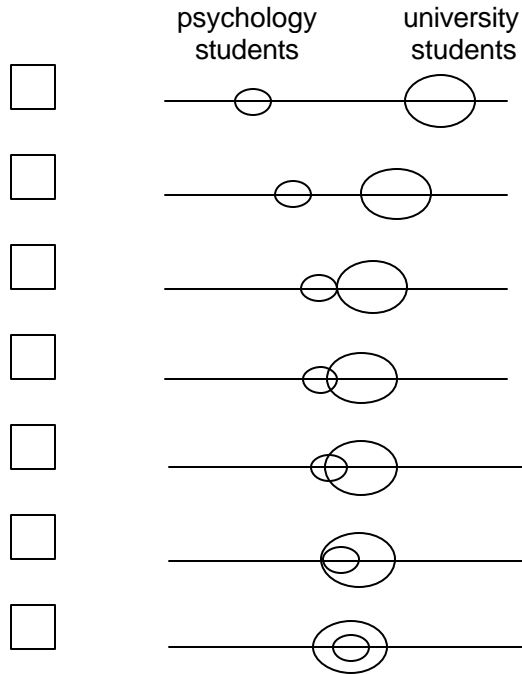
Applicability to **law students**

	Does not apply at all	Applies very little	Applies a little	Unsure	Applies slightly	Applies a lot	Applies totally
Caring	1	2	3	4	5	6	7
Objective	1	2	3	4	5	6	7
Friendly	1	2	3	4	5	6	7
Hardworking	1	2	3	4	5	6	7
Analytical	1	2	3	4	5	6	7
Materialistic	1	2	3	4	5	6	7
Educated	1	2	3	4	5	6	7
Emotional	1	2	3	4	5	6	7
Ambitious	1	2	3	4	5	6	7
Creative	1	2	3	4	5	6	7

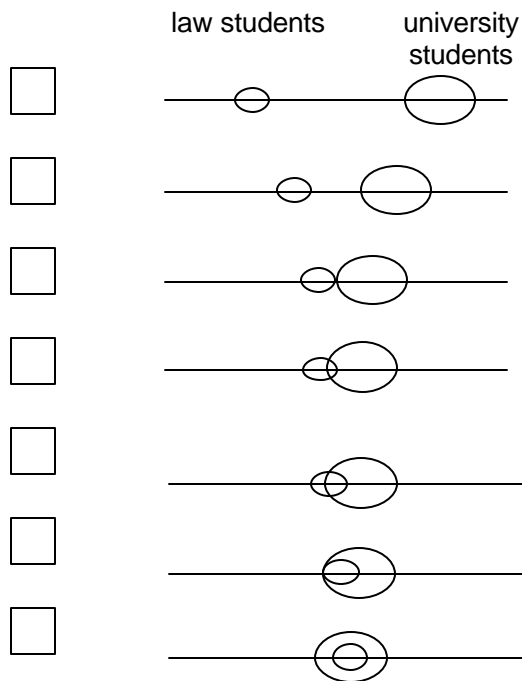
Applicability to **university students**

	Does not apply at all	Applies very little	Applies a little	Unsure	Applies slightly	Applies a lot	Applies totally
Caring	1	2	3	4	5	6	7
Objective	1	2	3	4	5	6	7
Friendly	1	2	3	4	5	6	7
Hardworking	1	2	3	4	5	6	7
Analytical	1	2	3	4	5	6	7
Materialistic	1	2	3	4	5	6	7
Educated	1	2	3	4	5	6	7
Emotional	1	2	3	4	5	6	7
Ambitious	1	2	3	4	5	6	7
Creative	1	2	3	4	5	6	7

In the following pictures the small circle represents PSYCHOLOGY students and the bigger circle represents University students in general. Please mark with an X the picture that best represents your opinion about how similar psychology students are to university students in general (the closer the circle the more similar the groups are).



In the following pictures the small circle represents LAW students and the bigger circle represents University students in general. Please mark with an X the picture that best represents your opinion about how similar law students are to university students in general (the closer the circles the more similar the groups are).



Please complete the following sentences by marking your option with an X.

When I think about university students, I first think about:

1	2	3	4	5	6	7
always about law students	mostly about law students	more likely about law students than about psychology students	sometimes about law students, sometimes about psychology students	more likely about psychology students than about law students	mostly about psychology students	always about psychology students

When comparing students law and psychology students in terms of being typical or representative of university students in general, I believe that:

1	2	3	4	5	6	7
psychology students are the most typical	psychology students are much more typical than law students	psychology students are slightly more typical than law students	psychology and law students are equally typical	law students are slightly more typical than psychology students	law students are much more typical than psychology students	law students are the most typical

Within the group of university students, the least representative of what "true" university students are is:

1	2	3	4	5	6	7
definitely law students	much more likely law students than psychology students	more likely law students than psychology students	equally likely law students and psychology students	more likely psychology students than law students	much more likely psychology students than law students	definitely psychology students

In order to describe university students in general, I would chose as an example.

1	2	3	4	5	6	7
definitely law students and not psychology students	much more likely law students than psychology students	more likely law students than psychology students	equally likely law students and psychology students	more likely psychology students than law students	much more likely psychology students than law students	definitely psychology students and not law students

When thinking about university students in general, the majority of the people first think

1	2	3	4	5	6	7
always about psychology students	mostly about psychology students	more likely about psychology students than about law students	sometimes about psychology students, sometimes about law students	more likely about law studentsthan about psychology students	mostly about law students	always about law students

The more "typical" university students are:

1	2	3	4	5	6	7
definitely law students	much more likely law students than psychology students	more likely law students than psychology students	equally law students and psychology students	more likely psychology students than law students	much more likely psychology students than law students	definitely psychology students

Please indicate the level of personal contact you have with law students (mark your option with an X):

1	2	3	4	5	6	7
I have no contact	I have very little contact	I have little contact	I have some contact	I have occasional contact	I have frequent contact	I have a lot of contact

Using the scale provided, please indicate how much you agree with the following sentences (mark your option with an X):

“I would demonstrate against a law that put law students at a disadvantage”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I hold a negative opinion about law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I like to interact with law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I would rather not interact with law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I enjoy spending time with law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“There are several features of law students that I do not appreciate”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“If I heard someone severely criticizing law students, I would defend them”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I believe that the specific characteristics of law students add value to the group of university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

Using the scale provided, please indicate how much you agree with the following sentences (mark your option with an X):

“I enjoy spending time with psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I would demonstrate against a law that put psychology students at a disadvantage”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I hold a negative opinion about psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“If I heard someone severely criticizing psychology students, I would defend them”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I like to interact with psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I would rather not interact with psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I believe the specific characteristics of psychology students adds value to the group of university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“There are several features of psychology students that I do not appreciate”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

Using the scale provided, please indicate how much you agree with the following sentences (mark your option with an X):

“Belonging to the group of psychology students is an important part of my identity”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I have negative attitudes towards psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I feel that I belong to the group of psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I like being part of the psychology group of psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I feel I have little in common with psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

Using the scale provided, please indicate how much you agree with the following sentences (mark your option with an X):

“Belonging to the group of university students is an important part of my identity”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I have negative attitudes towards university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I feel I belong to the group of university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I like being part of university students group”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I feel I have little in common with university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

Please complete the following sentences by marking your option with an X.

All university students are to/from each other

1	2	3	4	5	6	7
extremely similar	very similar	slightly similar	neither similar nor different	slightly different	very different	extremely different

The group of university students in general is...

1	2	3	4	5	6	7
not diverse at all	not very diverse	slightly diverse	more or less diverse	diverse	very diverse	extremely diverse

Between various university students there are:

1	2	3	4	5	6	7
A lot of differences	many differences	some differences	some differences and some similarities	some similarities	many similarities	A lot of similarities

Please indicate your opinion on the social status of psychology students when compared with law students (mark your option with an X).

Psychology students have a social status that is:

1	2	3	4	5	6	7
much lower than law students	lower than law students	slightly lower than law students	equal to law students	slightly higher than law students	higher than law students	much higher than law students

Please indicate your opinion on the social status of psychology students within the group of university students when compared with law students (mark your option with an X).

- Within the group of university students, psychology students have a social status that is:

1	2	3	4	5	6	7
much lower than law students	lower than law students	slightly lower than law students	equal to law students	slightly higher than law students	higher than law students	much higher than law students

Please indicate your opinion on how the group of university students should ideally be in terms of similarities and differences (mark your option with an X).

- The ideal would be that all university students are:

1	2	3	4	5	6	7
extremely similar	very similar	slightly similar	some similarities and some differences	slightly different	very different	extremely different

Personal data:

Home language _____

Gender: Male Female

Year of course: ____

Have you ever registered for another tertiary education course? Y N Which one?

The questionnaire is over. If you wish, write comments in the space below:

Thank you for your co-operation. In order to gain more information about the aims of this study please read the notice board in the Psychology Department. If you have any questions or comments please send an e-mail to clodaghmarie@yahoo.co.uk

Researchers :
Clodagh O'Sullivan
Kitty Dumont

APPENDIX H

This questionnaire is part of a study about groups. Please read the following instructions carefully and make sure that you understand what is asked. Always answer according to what you think and feel, there are no right or wrong answers, nor good or bad answers. We are interested in your honest opinion. Since the questionnaire is anonymous your identity will not be revealed.

Thank you for your co-operation.

Instructions

Law students (independent of the institution they attend) belong to the group of university students. The group of university students also includes psychology students as well as students from other courses such as accounting, sociology and management.

Please think about the group of university students in general. Although there is great variability in this group, people generally have an idea about what “true” university students are like. People often have ideas about students that are more typical or that better represent the group of university students. To consider a university student as typical or representative, one must consider some characteristics as more important and others as less important when thinking about university students.

From the following characteristics, please choose those that you think are the most important when considering a student that is typical or representative of university students in general [mark your option(s) with an X].

	to be analytical		to be realistic		to be gentle		to be caring
	to be creative		to be emotional		to be confident		to be dedicated
	to be materialistic		to be nurturing		to be authoritarian		to be objective
	to be hardworking		to be conventional		to be independent		to be friendly
	to be ambitious		to be logical		to be social		to be patient

2) Using the scale provided, please indicate how much you think each characteristic applies to the indicated group (mark your choice with an X):

Applicability to **law students**

	Does not apply at all	Applies very little	Applies a little	Unsure	Applies slightly	Applies a lot	Applies totally
Caring	1	2	3	4	5	6	7
Objective	1	2	3	4	5	6	7
Friendly	1	2	3	4	5	6	7
Hardworking	1	2	3	4	5	6	7
Analytical	1	2	3	4	5	6	7
Materialistic	1	2	3	4	5	6	7
Educated	1	2	3	4	5	6	7
Emotional	1	2	3	4	5	6	7
Ambitious	1	2	3	4	5	6	7
Creative	1	2	3	4	5	6	7

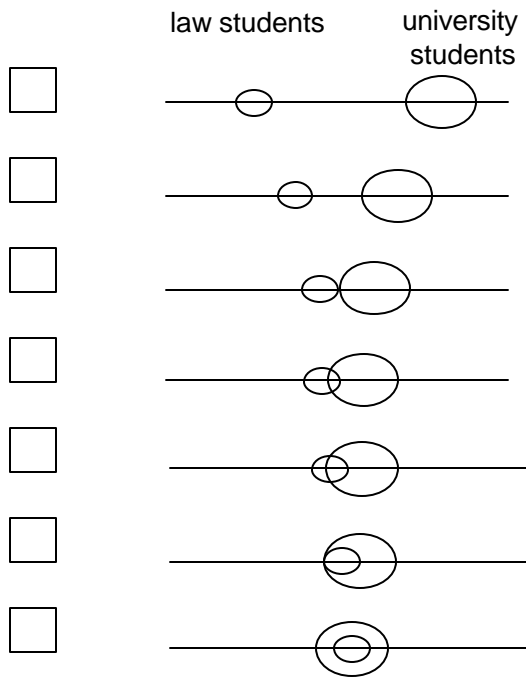
Applicability to **psychology students**

	Does not apply at all	Applies very little	Applies a little	Unsure	Applies slightly	Applies a lot	Applies totally
Caring	1	2	3	4	5	6	7
Objective	1	2	3	4	5	6	7
Friendly	1	2	3	4	5	6	7
Hardworking	1	2	3	4	5	6	7
Analytical	1	2	3	4	5	6	7
Materialistic	1	2	3	4	5	6	7
Educated	1	2	3	4	5	6	7
Emotional	1	2	3	4	5	6	7
Ambitious	1	2	3	4	5	6	7
Creative	1	2	3	4	5	6	7

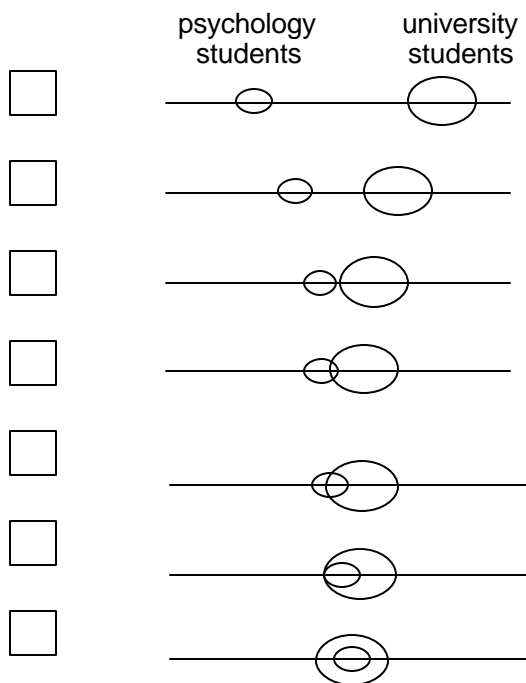
Applicability to **university students**

	Does not apply at all	Applies very little	Applies a little	Unsure	Applies slightly	Applies a lot	Applies totally
Caring	1	2	3	4	5	6	7
Objective	1	2	3	4	5	6	7
Friendly	1	2	3	4	5	6	7
Hardworking	1	2	3	4	5	6	7
Analytical	1	2	3	4	5	6	7
Materialistic	1	2	3	4	5	6	7
Educated	1	2	3	4	5	6	7
Emotional	1	2	3	4	5	6	7
Ambitious	1	2	3	4	5	6	7
Creative	1	2	3	4	5	6	7

In the following pictures the small circle represents LAW students and the bigger circle represents University students in general. Please mark with an X the picture that best represents your opinion about how similar law students are to university students in general (the closer the circle the more similar the groups are).



In the following pictures the small circle represents PSYCHOLOGY students and the bigger circle represents University students in general. Please mark with an X the picture that best represents your opinion about how similar psychology students are to university students in general (the closer the circles the more similar the groups are).



Please complete the following sentences by marking your option with an X.

When I think about university students, I first think about:

1	2	3	4	5	6	7
always about psychology students	mostly about psychology students	more likely about psychology students than about law students	sometimes about psychology students, sometimes about law students	more likely about law students than about psychology students	mostly about law students	always about law students

When comparing psychology students and law students in terms of being typical or representative of university students in general, I believe that:

1	2	3	4	5	6	7
law students are the most typical	law students are much more typical than psychology students	law students are slightly more typical than psychology students	law and psychology students are equally typical	psychology students are slightly more typical than law students	psychology students are much more typical than law students	psychology students are the most typical

Within the group of university students, the least representative of what "true" university students are is:

1	2	3	4	5	6	7
definitely psychology students	much more likely psychology students than law students	more likely psychology students than law students	equally likely psychology students and law students	more likely law students than psychology students	much more likely law students than psychology students	definitely law students

In order to describe university students in general, I would chose as an example.

1	2	3	4	5	6	7
definitely psychology students and not law students	much more likely psychology students than law students	more likely psychology students than law students	equally likely psychology students and law students	more likely law students than psychology students	much more likely law students than psychology students	definitely law students and not psychology students

When thinking about university students in general, the majority of the people first think

1	2	3	4	5	6	7
always about law students	mostly about law students	more likely about law students than about psychology students	sometimes about law students, sometimes about psychology students	more likely about psychology students than about law students	mostly about psychology students	always about psychology students

The more "typical" university students are:

1	2	3	4	5	6	7
definitely psychology students	much more likely psychology students than law students	more likely psychology students than law students	equally psychology students and law students	more likely law students than psychology students	much more likely law students than psychology students	definitely law students

Please indicate the level of personal contact you have with psychology students (mark your option with an X):

1	2	3	4	5	6	7
I have no contact	I have very little contact	I have little contact	I have some contact	I have occasional contact	I have frequent contact	I have a lot of contact

Using the scale provided, please indicate how much you agree with the following sentences (mark your option with an X):

“I would demonstrate against a law that put psychology students at a disadvantage”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I hold a negative opinion about psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I like to interact with psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I would rather not interact with psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I enjoy spending time with psychology students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“There are several features of psychology students that I do not appreciate”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“If I heard someone severely criticizing psychology students, I would defend them”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I believe that the specific characteristics of psychology students add value to the group of university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

Using the scale provided, please indicate how much you agree with the following sentences (mark your option with an X):

“I enjoy spending time with law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I would demonstrate against a law that put law students at a disadvantage”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I hold a negative opinion about law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“If I heard someone severely criticizing law students, I would defend them”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I like to interact with law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I would rather not interact with law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I believe the specific characteristics of law students adds value to the group of university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“There are several features of law students that I do not appreciate”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

Using the scale provided, please indicate how much you agree with the following sentences (mark your option with an X):

“Belonging to the group of law students is an important part of my identity”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I have negative attitudes towards law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I feel that I belong to the group of law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I like being part of the law group of law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I feel I have little in common with law students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

Using the scale provided, please indicate how much you agree with the following sentences (mark your option with an X):

“Belonging to the group of university students is an important part of my identity”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I have negative attitudes towards university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I feel I belong to the group of university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I like being part of university students group”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

“I feel I have little in common with university students”

1	2	3	4	5	6	7
I totally disagree	Strongly disagree	I disagree	Unsure	I agree	Strongly agree	I totally agree

Please complete the following sentences by marking your option with an X.

All university students are to/from each other

1	2	3	4	5	6	7
extremely similar	very similar	slightly similar	neither similar nor different	slightly different	very different	extremely different

The group of university students i general is...

1	2	3	4	5	6	7
not diverse at all	not very diverse	slightly diverse	more or less diverse	diverse	very diverse	extremely diverse

Between various university students there are:

1	2	3	4	5	6	7
A lot of differences	many differences	some differences	some differences and some similarities	some similarities	many similarities	A lot of similarities

Please indicate your opinion on the social status of law students when compared with psychology students (mark your option with an X).

Law students have a social status that is:

1	2	3	4	5	6	7
much lower than psychology students	lower than psychology students	slightly lower than psychology students	equal to psychology students	slightly higher than psychology students	higher than psychology students	much higher than psychology students

Please indicate your opinion on the social status of law students within the group of university students when compared with psychology students (mark your option with an X).

- Within the group of university students, law students have a social status that is:

1	2	3	4	5	6	7
much lower than psychology students	lower than psychology students	slightly lower than psychology students	equal to psychology students	slightly higher than psychology students	higher than psychology students	much higher than psychology students

Please indicate your opinion on how the group of university students should ideally be in terms of similarities and differences (mark your option with an X).

- The ideal would be that all university students are:

1	2	3	4	5	6	7
extremely similar	very similar	slightly similar	some similarities and some differences	slightly different	very different	extremely different

Personal data:

Home language _____

Gender: Male Female

Year of course: ____

Have you ever registered for another tertiary education course? Y N Which one? _____

The questionnaire is over. If you wish, write comments in the space below:

Thank you for your co-operation. In order to gain more information about the aims of this study please read the notice board in the Psychology Department. If you have any questions or comments please send an e-mail to clodaghmarie@yahoo.co.uk

Researchers:
Clodagh O’Sullivan
Kitty Dumont