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Comparisons and Perceived Deprivation in Ethnic Minority Settings

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Abstract

Two studies investigated comparison choices among ethnic minorities and majorities. The perceived status of the self vis-à-vis these targets was also assessed. Antecedents and consequences of comparisons and relative deprivation were examined. Predictions were derived from Social Comparison, Stigma, Social Identity, and Relative Deprivation research. Two surveys were conducted: in London with mainly Asian participants ($N = 235$), and in Germany with Turkish and Aussiedler participants ($N = 166$) and German majority members ($N = 351$). Participants preferred intragroup and temporal comparisons (with other ingroup members, and with the self in the past) over various types of cross-group comparisons (with outgroup members). Perceived similarity and contact with a target positively predicted comparison interest, and perceived higher status of the target was a negative predictor. Some evidence was found that feelings of deprivation depend on comparison choices. Deprivation negatively predicted self-esteem and life-satisfaction. Deprivation and group-identification were negatively correlated.

Keywords: ethnic minority, social comparison, temporal comparison, relative deprivation

Comparisons and Perceived Deprivation in Ethnic Minority Settings

In the last century, the world has witnessed some enormous migration movements. Examples are the migration of Asians from former colonies to the UK, the migration of 'guest workers' to Germany, the repatriation of German 'Aussiedler', and the migration of refugees from war-torn areas to European countries. These developments have brought very different ethnic[1] groups – some of whom might not even have been aware of each other's existence formerly - into close proximity, and have thus multiplied the kinds of comparisons people might make. These developments have also increased the potential for feelings of group-based deprivation and intergroup tensions (Esses, Jackson, & Armstrong, 1998; Pettigrew, 1998). The recent violent conflicts among Muslim and English youth in England's north are but one example of this (BBC, 2002).

In the light of this, an investigation of comparison choices and perceived deprivation of members of ethnic groups seems both timely and important. To date, studies focussing on comparison and deprivation processes in naturalistic settings have been scarce (Ellemers, 2002; Locke & Nekich, 2000). The present research was designed to redress this, focussing on ethnic minority and majority members. It should be noted that within the psychological literature the terms 'minority' and 'majority' are sometimes used referring to numerical relations (Leonardelli & Brewer, 2001) and sometimes referring to power/status relations (Tajfel, 1981). Those definitions coincide in the groups of interest here. We shall therefore not concern ourselves further with this distinction. The paper explores which comparison referents (out of a wealth of possibilities) members of ethnic groups choose in order to assess their economic situation. Perceived 'status' relative to the comparison targets and perceived 'deprivation' were also examined. Finally, antecedents and consequences of

comparisons and perceived deprivation were assessed. Three lines of enquiry guided this work:

1. What predicts comparison target preference? Specific factors investigated were the effects of perceived similarity to the comparison target, perceived frequency of contact with the target, and perceived status of the target relative to the self.

2. Do comparison preferences predict feelings of deprivation?

3. What is the relationship between perceived deprivation and self-esteem, life-satisfaction, and group identification?

The review of the literature below will be structured along those three lines of enquiry. Before embarking on this, however, a brief discussion of the types of comparisons the present research focuses on seems in order. Taxonomies of comparisons are readily available (Haeger, Mummendey, Mielke, Blanz, & Kanning, 1996; Levine & Moreland, 1987). Among others, comparisons can be classified along the following dimensions: comparison *subject* (e.g. the self as an individual person, the self as a group member, the whole ingroup), comparison *target* (e.g. other individuals while group memberships are not salient, other individual (in- or out-) group members while group memberships are salient, or other groups), and comparison *direction* (e.g. upward, with higher status targets, or downward, with lower status targets). A further dimension of importance is that of *time* (Albert, 1977). For instance, people might compare their present self to the self in a point in the past: They might think about how things used to be, and thus engage in *temporal* comparisons. These, of course, are just examples; other comparisons are theoretically possible (e.g. comparing the ingroup in the past with some outgroup in the past).

To date, little research has been concerned with temporal comparisons, although recently it has been suggested that their importance has been underestimated

and that this neglect should be rectified (Brown & Haeger, 1999; Guimond &

Dambrun, 2002; Wilson & Ross, 2000). Even less research has simultaneously

focussed on both social comparisons (with other people or groups) and temporal ones

(e.g. with the self or ingroup at another point in time), (Ellemers, 2002; Tyler &

Smith, 1998). Such a dual focus – as adopted by the present research - is necessary to

determine the *relative* importance of these different types of comparisons. For all

comparisons investigated here, the subject referent was held constant as 'you' (not

'your ethnic group'). At the same time, group memberships were salient. Participants

were asked whether they compared themselves to other ingroup members, to members

of various outgroups, and to their self in the past. These are labelled *intragroup*,

cross-group, and *temporal* comparisons, respectively. We now briefly review the

literatures relevant to each of the three lines of enquiry outlined above.

1. Predicting Comparison Target Preference: The Influence of Similarity, Contact, and Status

The social psychological literature provides several - sometimes contradictory -

predictions about factors that instigate comparisons. Three variables that seem

particularly important are similarity, contact, and status of the target.

     Similarity. In his seminal paper on social comparison, Festinger (1954) argued

that people often evaluate their opinions and abilities by comparing with others,

particularly similar others (e.g. those with similar opinions and abilities). This

hypothesis was later refined by Goethals and Darley (1977), who argued that it is not

similarity of outcomes, but similarity of 'related attributes' that is the decisive factor

that makes comparisons likely. The hypothesis that similarity fosters comparisons has

been largely supported by research in the interpersonal domain, that is by laboratory

studies in which group memberships were irrelevant (Wheeler, 1966; Wheeler,

Koestner, & Diver, 1982). However, Crocker and Major (1989) have proposed that similarity also plays a role in situations where group memberships are salient. They argue that members of (stigmatised) groups are more likely to compare themselves with fellow ingroup members than with outgroup members because the perceived similarity of the self to ingroup members is often higher (cf. also Crosby 1982).

Contact. Proximity and contact have also been suggested to lead to comparisons (Major, 1994; Runciman, 1966). Crocker and Major (1989) point out that contact with other ingroup members – particularly but not exclusively for stigmatised groups – is often more frequent than contact with outgroup members. Hence, the authors argue that this is another reason why people should have a tendency to compare with ingroup members rather than with outgroup members. Some evidence for contact stimulating comparisons has been found for handicapped participants. For instance, Deaux and Martin (2001) showed that deaf children who went to integrated schools rather than to specialist schools, and who consequently had more contact with non-disabled children, compared themselves more with non-disabled children.

Status. Another important factor proposed to influence comparisons is the status of the comparison target relative to the self. Several theories suggest that people are motivated to see themselves in a positive light (self-enhancement). People might selectively seek out information that makes them look good (or at least better than the comparison target), and avoid information that makes them look bad. This has been noted for comparisons between individuals (e.g. Downward Comparison Theory, Wills, 1981; see also Buunk & Oldersma, 2001; Gibbons & Gerrard, 1991; Wood & Giordano-Beech, 1999) and between groups (e.g. Social Identity Theory, Tajfel & Turner, 1986; see also Mullen, Brown, & Smith, 1992). The mechanism might also

influence cross-group comparisons: Crocker and Major (1989) suggest that members of low status (stigmatised) groups show a preference for comparisons with ingroup members rather than outgroup members for self-protective reasons, because ingroup members are less likely than outgroup members to be of higher status than the self. In sum, several theories propose that upward comparisons with higher status targets are often avoided, because they are not conducive to a favourable self-image.

However, this proposition should be qualified. Firstly, it might not always be possible to avoid upward comparisons (Gilbert, Giesler, & Morris, 1995). Also, the avoidance of upward comparisons presupposes an initial comparison to establish *that* this comparison is upward. So, 'avoidance' means the avoidance of *repetition* of a certain type of comparison, it does not pertain to novel, 'first-ever' comparisons. Secondly, self-enhancement or protection might not always be the most prevalent motives; there might be others which in contrast foster comparisons with high status targets. Self-evaluation (Festinger, 1954) and equity/justice concerns (Haeger et al., 1996) are examples for other motives. Thirdly, depending on the prevalent motives and other circumstantial factors, upward comparisons can have positive effects, and downward comparisons can have negative effects. Examples are inspiration following upward comparisons, or guilt following downward comparisons (Buunk, Collins, Taylor, VanYperen, & Dakof, 1990; Branscombe & Doosje, in press; Doosje, Branscombe, Spears, & Manstead, 1998; Iyer, Leach, & Crosby, 2003). However, those effects are not of focal interest here, and space limitations preclude a more detailed discussion. Suffice it to say that comparisons with high status targets will be avoided if this is possible (i.e. if they are not inevitable) and if self-enhancement and protection are the most prevalent motives. These conditions are thought to be fulfilled for ethnic group members' evaluations of their lot (c.f. Crocker & Major, 1989).

Another complication is the fact that people's *perceptions* of the relative status of comparison targets need not necessarily match the *real* status. Perceptions of status might be inaccurate. Recently, McFarland & Alvaro (2000) have demonstrated how people can arrive at a perception of personal improvement over time, through distorted perceptions of the temporal past referent. Hence, rather than being random, cognitive distortions follow self-protective and enhancing patterns which lead to favourable comparative outcomes. We would argue that such self-serving distortions are more easily achieved for temporal comparisons with the self in the past than for comparisons with social targets (other people or groups). With social targets, it will often be harder to 'ignore reality' than with temporal targets. The latter only exist in and through memory, and can thus be changed without these alterations clashing with the 'hard facts'. Hence, we expected self-serving distortions to be more prevalent for temporal than for social comparisons; and we consequently expected temporal comparisons to be downward more frequently than social - particularly cross-group - comparisons.

Before moving on to a discussion of the second line of enquiry, the hypotheses for factors influencing comparison target preferences can be summarised. The hypotheses can be expressed both in terms of comparisons of mean levels and in correlational terms. Unless specified otherwise, hypotheses pertain to both members of ethnic minorities and majorities.

*H*1. Following Crocker & Major (1989), it was predicted that perceived *similarity* of the self to ingroup members (intragroup targets) will be higher than perceived similarity to outgroup members (cross-group targets).

H2. Following Crocker & Major (1989), it was predicted that perceived frequency of *contact* will be higher with ingroup members than with outgroup members.

H3. Two predictions were made for *status*. Following Crocker & Major (1989), it was predicted that, for minority members only, ingroup members are less likely than (majority) outgroup members to be perceived to be of higher status than the self (*H3a*). Building on the findings of McFarland and Alvaro (2000), it was expected that the self in the past is perceived to be of lower status than the present self more frequently than social - particularly cross-group – comparison targets (because temporal comparisons are more self-servingly malleable, *H3b*).

H4. Speaking in correlational terms, all three variables (similarity, contact, and relative status) were expected to influence interest in comparing with a given target. Perceived similarity with the target was predicted to have a positive effect (*H4a*), perceived frequency of contact with the target was predicted to have a positive effect (*H4b*), and perceived higher status of the target relative to the self was predicted to have a negative effect (due to self-protective mechanisms, *H4c*).

H5. It follows from the predictions about mean levels and correlations above that, overall, interest in intragroup and temporal comparisons will be higher than interest in cross-group comparisons (c.f. Crocker & Major, 1989).

2. Predicting Relative Deprivation: The Influence of Comparison Target Preference

Relative Deprivation Theory (RDT; Runciman, 1966; Walker & Smith, 2002) posits that levels of perceived deprivation depend on the choice of comparison referents, rather than on objective prosperity – perceived deprivation is relative, not absolute. To date, most deprivation research has been concerned with the effects of perceived deprivation on variables such as intergroup attitudes (Vanneman & Pettigrew, 1972)

and collective action (Hinkle, Fox-Cardamone, Haseleu, Brown, & Irwin, 1996). In spite of the theoretical centrality of the assumption that comparisons affect perceived deprivation, little research has tested this directly (Ellemers, 2002; although see Kessler, Mummendey, & Leisse, 2000). The current research aimed to redress this.

Just as different types of comparisons can be distinguished, so too can different types of deprivation be differentiated. An important distinction is between individual and group deprivation - deprivation of the self vis-à-vis other people, and deprivation of the ingroup vis-à-vis outgroups (Crosby, 1976; Runciman, 1966). Other types of deprivation also exist - for instance temporal deprivation (Gurr, 1970) - but brevity forbids an extended review. The present research focussed on two types: what we label *personal deprivation* (an overall assessment of how deprived the individual self is, albeit under conditions under which group memberships are salient), and *group deprivation* (an overall assessment of how deprived the ingroup is).

There has been considerable debate about how best to define different types of deprivation (cf. Walker & Smith, 2002). Minimally, deprivation consists of a cognitive and an affective component: a factual assessment of one's situation, and how angry/satisfied one feels about it (Tropp & Wright, 1999). It should be noted that the cognitive component of deprivation is not all that different from the relative 'status' variable previously discussed. Hence, whereas the self-protective approaches outlined above propose that 'status' affects comparison preferences (such that upward comparisons with higher status targets are avoided), RDT proposes that comparison preferences affect the perceived overall status of the self, along with other components of relative deprivation. We return to this interesting reversal of proposed causality later. Before turning to the third line of enquiry, the hypothesis regarding the

effects of comparisons on deprivation is outlined. As we saw above, it was assumed that on average intragroup and temporal comparisons are unlikely to be upward and more likely to be downward. In addition, for minority members, cross-group comparisons (with majority members), insofar as they occur, are likely to be upward because of the usual status differences between ethnic minority and majority groups. From this, the following prediction regarding the effects on deprivation was derived:

H6. Interest in intragroup comparisons (with ingroup members) and temporal comparisons (with the self in the past) will negatively affect perceived deprivation. Furthermore, for minority members, interest in cross-group comparisons with majority members will positively affect perceived deprivation.

3. The Relationship between Perceived Deprivation and Self-Esteem, Life-Satisfaction, and Group Identification

The Influence of Deprivation on Self-esteem and Life-satisfaction. As we saw above, much research has examined the effects of perceived deprivation on intergroup attitudes and collective action endorsement, rather than on psychological health outcomes. Nonetheless, some predictions about effects on psychological and health outcomes can be found in the literature. Crosby (1976) proposes that deprivation can result in psychosomatic stress symptoms (for some empirical support for at least the effects of personal deprivation, see Walker & Mann, 1987). Crocker and Major (1989) hypothesise that being a member of a low status (deprived) group has adverse effects on self-esteem (if group members are unable to engage in avoidance and compensation strategies, see also Crocker, Major, & Steele, 1998).[2] Further, Branscombe, Schmitt, and Harvey (1999) found a negative effect of perceived discrimination/ethnic prejudice on well-being/self-esteem (see also Schmitt, Branscombe, & Postmes, 2003). Although not the same as perceived discrimination,

the anger/resentment component of deprivation often presupposes some evaluation of unfairness and systematic discrimination. Therefore, we were interested to test whether the finding of Branscombe and colleagues could be replicated for perceived deprivation. Concretely, it was tested whether perceived deprivation is negatively related to indices of personal self-esteem and life-satisfaction. However, this research not only tested the independent effects of personal and group deprivation on self-esteem and life-satisfaction; it also explored how they interacted or combined, because such joint effects have been found for other outcome measures (Foster & Matheson, 1995; Vanneman & Pettigrew, 1972).

The concept of personal self-esteem is well known (Rosenberg & Simmons, 1972). Life-satisfaction, on the other hand, not only captures content with 'the self' and the self's agency in the social world, but with 'life as a whole' (Tatarkiewicz, 1976). The construct – which is considerably more global and all-comprising than that of self-esteem - systematically co-varies with a number of personality indices (Diener, Emmons, Larsen, & Griffin, 1985). In short, then, the following prediction was made:

H7. Perceived deprivation is negatively related to self-esteem and life-satisfaction.

The Deprivation-Identification Relationship. Tropp and Wright (1999) have hypothesised that highly identified group members should report greater perceived group deprivation than low identifiers. This should be so because high identifiers are more committed, and desire more for their group. This prediction was supported in their study among Latinos and African-Americans. Positive correlations between identification and deprivation (or its proxies) were also found among East Germans, African Americans, Dutch shopkeepers (vis-à-vis immigrant shopkeepers), Italian immigrants, and Scottish people (Abrams, 1990; Branscombe et al., 1999; Ellemers &

Bos, 1987; Mummendey, Kessler, Klink, & Mielke, 1999; Petta & Walker, 1992).

However, contradictory evidence also exists. *Zero-correlations* between deprivation

and identification were found for women and immigrants (Lalonde & Cameron, 1993;

Tougas & Veilleux, 1988). Moreover, *negative* correlations were found between

identification and self-outgroup deprivation and between anticipated deprivation and

identification (Abrams, 1990; Abrams, Hinkle, & Tomlins, 1999).

Of course, the direction of causality remains indeterminate from these

correlational studies. Indeed, some element of bi-causality might be present (c.f.

Major, Quinton, & McCoy, 2002; Petta & Walker, 1992; Tougas & Beaton, 2002).

The uncertainty about both the valence and direction of the effects between

identification and deprivation has recently led to calls to attempt to disentangle the

underlying processes (Tougas & Beaton, 2002). Although some inconsistencies

among empirical findings might be due to different operationalisations and measures

employed across studies, it seems likely that more theoretical moderators may account

for some of the variance (e.g. Petta & Walker, 1992; Tougas & Beaton, 2002).

However, because the current state of the science as yet provides little guidance as to

what those moderators might be, the present study focussed on the identification-

deprivation relationship only in an exploratory manner.

Method

Two questionnaire studies were conducted. The first focussed on a sample of

adolescent minority group members in London, and was designed with an emphasis

on the potential consequences of relative deprivation. The second focussed on a

sample of adolescent minority and majority members in Germany, and was designed

with an emphasis on the potential antecedents of comparisons. Participants of both

studies were given a detailed, simply-worded oral briefing before answering the

questionnaire. It was explained to them that 'in this country there are many different

groups, such as people from different countries, cultures, religions, or ethnic groups.

Some examples are Turkish people, Indian people, British people, Hindus, and so on.

Some of the people you know might also belong to different groups'. Participants

were invited to think about which groups they themselves belong to, and which of

those groups is *most* important to them. It was explained how some people are better

off than others economically. Further, it was explained how people can compare

themselves to other people (ingroup or outgroup members) or to their past selves

when they want to assess how they are doing. The order of examples was

counterbalanced between sessions. The instructions were modelled on those of

Wilson and Ross (2000). Participants were invited to think about their own situation

relative to different comparison targets. They were familiarised with Likert-scales,

and given the opportunity to ask questions about anything that was not clear.

The London study

Two hundred and thirty-five secondary school students (12-15 years of age; 107

females; 128 males) filled out questionnaires during classes. Data were collected in an

area of West London where the (particularly Asian) minority population is very large.

Most of the participants were second or third generation immigrants, whose parents or

grandparents had migrated to Britain. According to the participants' self-

classification, 96 were Sikh, 72 were Indian, 21 were Pakistani, 15 were Somali, 11

were Hindu, 6 were Afghan, 5 were Afro-Carribean, and 9 belonged to a variety of

other groups. Note that one of the options was to self-identify as 'English'.

Interestingly, no participant opted for this. Note further that some of the self-

classification options were not mutually exclusive. We included national as well as

ethnic and religious categories, in order to not artificially limit participants' options, and to allow them to choose the subjectively most important category.

First, *Comparison Interest (CI)* in various targets was assessed. Respondents read the following text:

> Please think about success in life. As you know, some people
>
> have it hard in life and others have it easy. Some people find
>
> good jobs easily and have a lot of money. They live in nice
>
> houses and can buy many things, while others cannot do that. If
>
> you want to know how well off you and your family are, how
>
> important is it for you to compare with each of the following in
>
> order to see how well you are doing?

Then, participants' interest in comparing with five targets was measured (1 = not at all to 5 = very, single-item measures per target). The targets were: 'members of your own group' (intragroup CI); 'your own situation in the past' (temporal CI); 'members of another minority group in England' (minority CI); 'English people' (majority CI); and 'people that are important to you, and it does not matter which group they belong to' (interpersonal CI). The order of items was randomised across respondents.

After this, respondents made a *Categorical Comparison Choice*. They indicated which one of the above options they would find *most* important to compare with if they were allowed to choose only one.

To measure perceived *Status relative to each target*, participants then indicated how they were doing compared to each of the targets (1 = much better to 5 = much worse).

To measure perceived *Personal Deprivation*, we used the measures described by Tropp and Wright (1999). Participants indicated how well off they felt overall (1 =

very to 5 = not at all), and how angry or satisfied they were with their situation (1 = very satisfied to 5 = very angry). These two items were combined with the five 'status' items to form a scale of 'personal deprivation'. As outlined above, 'status' can be understood as the cognitive component of relative deprivation, and the combination was undertaken in order to yield a more reliable index of relative deprivation (7-item scale, Cronbach's alpha (α) = .77).

Perceived *Group Deprivation* was measured by the respondents indicating whether they thought that the situation of their group is worse than that of the English, whether they thought that members of their group have it harder than English people, and how satisfied or angry they were with the situation of their group (3- item scale, 1 = low deprivation, 5 = high deprivation, α = .55).

Note that for practical reasons (the need to remain within time limits imposed by the schools and within the students' attention span) we were not able to have a larger number of items for each construct. Consequently, some of the reliability indices might appear lower than ideal. However, because lowered reliabilities due to random measurement errors lead to more conservative testing, through decreasing the probability of finding existing effects (Schmidt & Hunter, 1996), this should give any significant results even more weight.

The *Group Identification* scale consisted of a combination of six items adapted from Brown, Condor, Matthews, Wade, and Williams (1986), and Ellemers, Kortekaas, and Ouwerkerk (1999). The measure comprised both cognitive and affective items. Examples are 'I see myself as a member of my group'; and 'I am proud of my group' (1 = low identification, 5 = high identification, α = .66).

To measure personal *Self-Esteem*, five items were adapted from Rosenberg and Simmons (1972). Examples are 'At times, I think I am not good at all', and 'I am

able to do things as well as most other people' (1 = low self-esteem, 5 = high self-esteem, α = .64).

Life-Satisfaction was measured using three items from Diener et al. (1985): 'I am satisfied with my life'; 'The conditions of my life are excellent'; 'So far, I have achieved most of the important things I want in life' (1 = disagree to 5 = agree, α = .75).

Additionally, participants indicated their age, sex, country of birth, how long they had been living in England, and the group membership of their mother and father. For both the London and German sample, we tested for potential effects (correlations, and interactions) of these demographic variables in the analyses reported below. None of them had any notable effects.[3]

The Germany study

Five hundred seventeen secondary school students (351 majority members; 166 minority members; 13–17 years of age; 236 females; 281 males) filled out questionnaires during classes. Data were collected in the industrial area of Germany (Ruhrgebiet), in which the minority population, especially of Turks and Aussiedler, is very large. Most of the minority participants in the study were second or third generation immigrants. According to the participants' self-classification, among the minority members were 79 Turks, 21 Aussiedler, 19 Polish students, and 9 Russians. The remaining minority participants were from a wide variety of places.

Comparison Interest (CI) was assessed using the same procedure as in the London study. However, the comparison targets differed slightly. Interest in comparing was measured for 'your own situation in the past'; 'Germans'; 'Turkish people in Germany'; 'Aussiedler in Germany'; 'Americans in America'; 'French people in France'; and 'members of your own group' (this last item was only for

participants who were not German, Turkish, or Aussiedler; note that there were no French or American participants). The order of items was randomised across participants. 'French people' and 'Americans' were included because pilot data had shown that these were targets of potential interest to the participants. In order to include them, 'interpersonal comparisons' - which were assessed before, but which were considered less important - were dropped from the design. It was decided to include 'Turkish people' and 'Aussiedler' explicitly, because these are the biggest and most salient minorities in Germany.

Responses were recoded into the following categories: Interest in comparing with 'members of the ingroup in Germany' (e.g. Germans in Germany for Germans, Turks in Germany for Turks – intragroup CI); 'the own situation in the past' (temporal CI); 'members of (another) minority in Germany' (Aussiedler for Turks, Turks for Aussiedler, and the mean of Aussiedler and Turks for Germans and minority members that were neither Turks nor Aussiedler – minority CI); 'Majority members' (i.e. Germans, for minority members only – majority CI); 'Americans' (American CI); 'French' (French CI); and the mean between American CI and French CI, which we called 'outgroups outside CI', (1 = low comparison interest to 5 = high comparison interest, for all items).

Then, participants made a *Categorical Comparison Choice*. Respondents picked either one group within Germany (options: Germans, Aussiedler, Polish, Italians, Albanians, Turks, Spanish, Asylum seekers) *or* outside Germany (options: Turks in Turkey, Americans in America, Polish in Poland, French in France, Dutch in Holland, English in England, Russians in Russia, Greeks in Greece). Although pilot data indicated that these targets were more likely to attract comparisons than many others, it was not hypothesised that all of them would be chosen frequently. Rather,

the aim was to constrain comparison options as little as possible, to ascertain that the continuous 'comparison interest' scales measured the interest in comparing with the subjectively most important targets, and that no targets important for the psychological reality of the participants were overlooked. Moreover, this approach was chosen to counteract concerns that the use of the rather global and abstract umbrella term 'members of another minority group' - as used in the categorical choice in the London study - might artificially lower the frequency with which this category would be chosen (the assumption being that *specifically* naming a *particular* salient minority outgroup might attract more categorical choices). In order to include as many social comparison referents as possible, no temporal comparison option was offered. All targets were randomly and evenly spaced out on one page, so as to not prompt responses to any of the targets through a prominent position in the layout.

To measure perceived *Status relative to the targets*, participants indicated how they were doing compared to each of the targets listed in the Likert-scale comparison choice (1 = much better to 5 = much worse). Answers were then recoded following the same principle as outlined for the *CI* items above, into 'status' relative to the following targets: 'intragroup', 'temporal', 'minority', 'majority' (for minority participants only), 'American', 'French', and 'outgroups outside' (the latter being the mean status vis-à-vis Americans and French people).

To measure perceived *Personal Deprivation*, participants indicated how well off they felt overall (1 = very to 5 = not at all), and how satisfied or angry they were with their situation (1 = very satisfied to 5 = very angry). Those items were then combined with the six 'status' items (5 for majority members), to form a 7-item scale (6-item scale for majority members) of 'personal deprivation' (α = .67).

Perceived *Group Deprivation* was measured by the participants indicating how well off they felt their group was overall, and how satisfied or angry they were with the situation of their group (2-item scale, 1 = low deprivation, 5 = high deprivation, α = .77).

The *Identification* scale was an abbreviated version of the one used in the London study (two items: 'I see myself as a member of my group', 'I like being a member of my group'; 1 = disagree to 5 = agree, *r* = .76).

Perceived *Similarity* to and *Contact* with the targets were measured on 5-point scales (1 = not at all to 5 = very much), respectively. Participants indicated how similar they felt to (and how much contact they had in their everyday life with) Germans, Turks, Aussiedler, Americans, French, and members of their own group (this last item was only filled out by participants who were not German, Turkish, or Aussiedler). Again, answers were recoded following the same principle as outlined for the *CI* items above.

Results

Analyses were carried out separately for the London sample, the German minority sample, and the German majority sample. However, to simplify the presentation of the results, this section is structured thematically, rather than in separate parts for the studies. Recall our three main concerns: (1) predicting comparison target interest, (2) predicting relative deprivation, (3) correlates of relative deprivation. Analyses will be presented under these headings:

1. Predicting comparison target interest

i. Perceived similarity, contact, and status relative to the different targets (testing H1, H2, H3a & H3b);

ii. Comparison interest in the different targets (for both the categorical and Likert-scale measures, testing H5);

iii. The relationship between comparison interest and perceived similarity, contact, and status (testing H4a-c).

2. Comparison Choices as antecedents of perceived deprivation (testing H6).

3. Correlates of perceived deprivation (life-satisfaction, self-esteem, and identification, testing H7, and the identification-deprivation link).

1i. Perceived Similarity, Contact, and Status relative to the different Targets

Separate repeated measures ANOVAs followed by post-hoc pairwise comparisons with Bonferroni adjusted alpha levels were conducted for each of the samples and for each of the predicted antecedents of comparison choice (similarity, contact, status). In each ANOVA the different targets were entered as levels of a repeated measures factor. The analyses tested the following predictions: (a) perceived similarity is higher with intragroup targets than with cross-group targets (H1); (b) perceived contact is higher with intragroup targets than with cross-group targets (H2); (c) minority members perceive the self to be of lower status than cross-group (majority) targets more frequently than they perceive the self to be of lower status than intragroup targets (H3a); and (d) the self is perceived to be of lower status than social – particularly cross-group – targets more frequently than the present self is perceived to be of lower status than the past self (H3b).

All ANOVAs produced highly significant main effects for the repeated measures factor 'target'. For perceived similarity to different targets, these were *F*

(2.99, 406.01) = 258.60, $p < .001$, $MSE = 1.18$ for the German minority sample, and F (3.16, 1052.54) = 934.17, $p < .001$, $MSE = 0.85$ for the German majority sample.[4] For differences in perceived contact with different targets, they were F (3.11, 441.22) = 280.68, $p < .001$, $MSE = 1.28$ for the German minority sample, and F (3.16, 1086.39) = 959.23, $p < .001$, $MSE = 0.93$ for the German majority sample (recall that 'similarity' and 'contact' were not assessed in the London sample, so these analyses were carried out for the German samples only). For perceived status relative to different targets, the effects were F (3.63, 803.99) = 3.06, $p < .02$, $MSE = 0.59$ for the London sample, F (4.39, 540.04) = 18.47, $p < .001$, $MSE = 0.95$ for the German minority sample, and F (3.71, 1107.76) = 25.68, $p < .001$, $MSE = 0.93$ for the German majority sample. For a summary of cell means, see Table 1.

<u>Insert Table 1 about here</u>

As predicted, post-hoc pairwise comparisons showed that perceived similarity and contact was higher with intragroup targets than with any of the cross-group targets. The predictions for 'status' were confirmed for German minority members, where the status of the self was perceived to be better relative to intragroup and temporal targets than relative to cross-group targets. The predictions for 'status' were not as clearly confirmed for the other two samples. However, it should be pointed out that post-hoc comparisons with adjusted alpha levels – chosen because of the large number of comparisons made – is statistically quite a conservative method of testing hypotheses. At least for the London sample, the pattern of means was in the right direction.

1ii. Comparison Interest in the different Targets (for both the Categorical and Likert-scale Measures)[5]

Analyses were conducted with both the categorical comparison measure and the interval one, to test whether intragroup and temporal comparisons are more popular than all kinds of cross-group comparisons (H5). First, analyses for the categorical choices are presented. For the German study, an initial analysis on the frequency with which each categorical target was chosen revealed that all targets that could be described as 'Members of (other) minorities in the country of residence' (e.g. Turks in Germany for Germans, Italians in Germany for Turks, etc.), and as 'members of outgroups outside Germany' (e.g. Greeks in Greece for Turks) were extremely unpopular. Therefore, those choices were recoded and subsumed under two umbrella terms. Other categories were 'majority members' (i.e. Germans for minority members), 'ingroup members in the country of residence' (e.g. Turks in Germany for Turks, Germans in Germany for Germans, etc.), and 'people in the country of origin' (e.g. Turks in Turkey for Turks, Polish people in Poland for Polish people, etc.).

Insert Table 2 about here

As can be seen in Table 2, *minority members in London* expressed a strong interest in interpersonal comparisons, but also marked interest in temporal and intragroup comparisons. *Minority members in Germany* expressed most interest in intragroup comparisons, but also substantial interest in comparisons with people in their country of origin, and German majority members. The *German majority members* expressed most interest in intragroup comparisons, as well as interest in comparisons with various other groups within Germany (the modal choice in this category being asylum seekers with 31%) and outside Germany (the modal choice in this category being Americans with 47%).

One should note that percentage values between the London and the German study are not directly comparable, because the number and nature of comparison targets in the two studies were not identical. Naturally, the preference for any one target is influenced by the other comparison options available in a categorical choice. Still, considering the evidence from the three samples taken together, one finds evidence for H5. For example, a Turkish teenager in Germany who wants to assess his/her lot is most likely to compare with other Turks. Leaving the 'interpersonal' target aside (this target will be discussed later), an Indian teenager in London is much more likely to compare with other Indians or with his/her personal past than with white English people or with members of other minorities, such as Afro-Caribbeans. While these data provide some initial indication which comparison referents might or might not be of interest, we will now turn to evidence from the interval 'comparison interest' scales to shed further light on this issue.

For each of the three data sets, a repeated measures ANOVA was conducted to test for significant differences between the comparison interest in different targets. For a summary of cell means, see Table 3.

Insert Table 3 about here

These ANOVAs produced significant main effects for 'target' in all three samples: $F (3.57, 811.01) = 15.50$, $p < .001$, $MSE = 0.93$ for London minority members, $F (4.38, 586.77) = 71.62$, $p < .001$, $MSE = 1.14$ for German minority members, and $F (3.52, 1163.73) = 171.78$, $p < .001$, $MSE = 1.41$ for the German majority. Post-hoc pairwise comparisons (with Bonferroni adjusted alpha levels) yielded support for H5 in all three samples, since interest in the intragroup and temporal targets was consistently higher than interest in the cross-group targets.

The analyses presented thus far have compared mean levels. As predicted, comparison interest was highest for those targets that were also perceived to be most similar, and that participants perceived to have most contact with. Also, albeit slightly more equivocally, comparison interest was higher for targets in relation to which participants perceived themselves to have a more favourable status. Although these results are consistent with the hypothesis that 'similarity', 'contact', and 'status' influence 'comparison interest', they do not provide a direct test. In the next section, regression analyses are presented that provided such direct evidence.

1iii. The Relationship between Comparison Interest and Perceived Similarity, Contact, and Status

Regression analyses tested whether comparison interest in a target would be predicted by perceived similarity to it, frequency of contact with it, and perceived status relative to it (H4a-c). The effects of 'similarity' and 'contact' were expected to be positive, and the effect of inferior 'status' of the self was expected to be negative. All three predictors were assessed only in the German study, so all analyses pertain to this dataset only.

For *German minority members*, four regressions were conducted, with the following dependent variables: interest in comparing with (a) *ingroup* members, (b) members of *other minorities*, (c) members of *outgroups outside* Germany (i.e. Americans and French people), and (d) members of the *majority*. For *German majority members,* three regressions were performed, with the following dependent variables: interest in comparing with (a) *ingroup* members, (b) members of *minority groups* in Germany (i.e. mean of Aussiedler and Turks), and (c) members of *outgroups outside* Germany (i.e. Americans and French people).[6] Zero-order

correlations for the variables included in these analyses are shown in Table 4, and results from the regression analyses are displayed in Table 5.

Insert Tables 4 & 5 about here

As can be seen in Table 5, for minority members, perceived similarity and perceived status predicted interest in comparing with ingroup members (although the second was only marginally significant); and contact predicted interest in comparing with members of other minorities, outgroups outside, and members of the majority (the last being only marginally significant). For majority members, perceived status significantly predicted interest in comparing with ingroup members, perceived similarity significantly predicted comparison interest in all three targets, and contact predicted interest in comparing with the two outgroups.[7]

2. Comparison Choices as Antecedents of perceived Deprivation

Regression analyses tested whether interest in different comparison targets influence feelings of overall perceived personal and group deprivation (H6). Interest in intragroup and temporal targets were expected to be negative predictors. For minority members only, interest in comparing with majority members was expected to be a positive predictor. Regressions were conducted in all three samples, and separate analyses were carried out to predict personal and group deprivation. Zero-order correlations for these analyses are displayed in Table 6, and results from the regression analyses in Table 7.

Insert Tables 6 & 7 about here

As can be seen in Table 7, even though not all the regressions were significant, some support for the hypothesis was found. Interest in comparing with ingroup members negatively predicted group deprivation for the two German samples, and it

negatively predicted personal deprivation for the German majority sample. Interest in comparing with the temporal target negatively predicted group deprivation for the German minority, and personal deprivation for the German majority. Interest in comparing with majority members positively predicted group deprivation for the London minority.

3. Correlates of Perceived Deprivation: Life-satisfaction, Self-esteem, and Identification

Next, we explored the relationships between personal and group deprivation and self-esteem, life-satisfaction, and identification. Bi-variate correlations are displayed in Table 8.

<u>Insert Table 8 about here</u>

Two regression analyses tested whether personal deprivation and group deprivation would be negatively predictive of (a) self-esteem, and (b) life satisfaction (H7, recall that these two variables were only assessed in the London study). It was also explored whether personal and group deprivation would interact in their effect on these dependent variables (DVs).

When regressing *self-esteem* from personal deprivation, group deprivation, and their interaction (entered in a second step in hierarchical regression), both steps were significant, $R^2 = .03$, $F(2, 216) = 3.71$, $p < .03$ at step 1 and $\Delta R^2 = .03$, $F(1, 215) = 6.81$, $p < .01$ at step 2. The betas for personal deprivation and the interaction term were significant, $\beta = -0.14$, $p < .05$ for personal deprivation, and $\beta = 1.32$, $p < .01$ for the interaction. An ANOVA was conducted with the two median split deprivation scales as IVs and self-esteem as DV in order to interpret the interaction. Results showed that those participants who were neither personally nor group

deprived displayed the highest self-esteem ($M = 4.25$). Next came those in the high

personal/low group cell ($M = 4.04$), followed by those in the low personal/high group

cell ($M = 3.99$), and the high personal/high group deprivation respondents ($M = 3.94$).

In sum, the lower the personal deprivation, the higher the self-esteem. Moreover, the

relative absence of both personal and group deprivation has the largest positive effect

on self-esteem.

When regressing *life-satisfaction* from personal deprivation, group

deprivation, and their interaction, only the first step of the model was significant, $R^2 =$

.20, $F(2, 217) = 27.50$, $p < .001$. The beta for personal deprivation was significant at

$\beta = -0.45$, $p < .001$. Thus, the lower the personal deprivation, the higher the life-

satisfaction.

Next, the link between *identification* and deprivation was explored.

Identification was assessed in both the London and the Germany study; therefore

regressions will be presented for all three samples (DV = identification, IVs =

personal deprivation and group deprivation). Identification was the DV, rather than

the IV, for practical rather than theoretical reasons. For the *London data*, the analysis

yielded a significant result, $R^2 = .08$, $F(2, 213) = 9.69$, $p < .001$. The betas were $\beta = -$

0.14, $p < .05$ for personal deprivation, and $\beta = -0.22$, $p < .001$ for group deprivation.

For the *German minority sample*, the model was significant, $R^2 = .25$, $F(2, 159) =$

27.45, $p < .001$. The betas were $\beta = -0.14$, $p < .05$ for personal deprivation, and $\beta = -$

0.43, $p < .001$ for group deprivation. For the *German majority sample*, the model was

significant, $R^2 = .09$, $F(2, 339) = 17.29$, $p < .001$. The betas were $\beta = -0.13$, $p < .02$

for personal deprivation, and $\beta = -0.24$, $p < .001$ for group deprivation. Across all

three samples, then, both personal and group deprivation were *negatively* correlated

with identification.[8]

Discussion

In discussing the results, we first briefly summarise the hypotheses that were supported, then we turn to a more detailed discussion of those hypotheses for which the evidence was less supportive, and finally we discuss some of the limitations of the present research.

To begin with, clear evidence was obtained in support of H1 and H2. Some evidence was also found for H3, although support for this hypothesis was weaker (clear support only for the German minority sample, but not for the other two samples). Evidence was also found for H5, the prediction that comparison interest in intragroup and temporal targets would be higher than in the other targets. The categorical comparison data also yielded evidence that comparisons with people in the country of origin might play an important role. This target might usefully be explored further in future research. One further result that deserves attention is the high percentage of people that chose 'interpersonal' comparisons in the categorical choice. Originally, the 'interpersonal' target was meant to assess interests in comparing with other people when group memberships are *not* salient. In retrospect, it seems likely that group memberships were salient throughout the survey, making it difficult to interpret this item. Moreover, anecdotal evidence from respondent comments during debriefing gave us reason to believe that social desirability considerations might have prompted this choice, particularly on the categorical question. The 'interpersonal' item should therefore best be omitted in further research. Last but not least, clear evidence was found in support of H7. Interestingly, deprivation did not only affect self-esteem and life-satisfaction directly, but personal and group deprivation also interacted in their effect on self-esteem. As mentioned in the introduction, such

interaction effects have been found when predicting other consequences of perceived deprivation. To our knowledge, this is the first time such an interaction has been demonstrated for self-esteem, and future research might usefully follow up on this finding and explore the effect further.

We now discuss three issues that yielded more complicated patterns of results. The first is the prediction that 'similarity' and 'contact' would positively predict comparison interest, and that 'status' would be a negative predictor (H4a-c). Regression analyses yielded some evidence of the proposed effects of 'similarity' and 'contact'. The pattern that emerged, however, showed that the independent variables were differentially influential, depending on the specific comparison target, and on *who* is comparing (minority or majority members). This finding underlines the importance of focussing on different comparison targets simultaneously, and we hope that future research will follow the present study in adopting such a design. The predicted negative effect of 'status' on comparison interest was found only if the target was 'intragroup' (and it was only significant for German majority members). Recall that the negative effect had been predicted on the basis of a self-protective rationale: People should avoid non-flattering, upward comparisons (Crocker & Major, 1989). How, then, can the weak findings be explained? As outlined above, 'self-protection' might not always be the strongest motivator. Other motives, such as 'self-evaluation', 'equity concerns', etc., also exist (Levine & Moreland, 1987; Taylor, Moghaddam, & Bellerose, 1989; Tyler, 2001). Possibly, some motives other than self-protection guided the participants' responses. Future research should aim either to assess or, better, manipulate such motives, in order to ascertain their effects on comparison choices.

A second hypothesis that yielded only weak evidence was that feelings of deprivation depend on people's comparison interest (H6). The regressions that tested this prediction yielded rather weak overall R^2s, and not all of the individual predictors were significant. Given that the present studies present one of the very few attempts to test directly the RDT assumption that feelings of deprivation depend on comparison choices, this should give reason for concern. Further, it should be noted that the few other studies that have investigated this question have also had problems demonstrating a clear causal effect of comparison direction (c.f. Buunk, Zurriaga, Gonzalez-Roma, 2003; Crosby, Meuhrer, & Loewenstein, 1986). Several considerations might explain these results. Firstly, it might be that people somehow acquire a mental image of how they are doing, which is resistant to change even if people are exposed to diagnostic and persuasive contradictory comparison information. Secondly, people's assessment of their situation might be influenced by media messages or social persuasion from significant others. For instance, if a social comparison showed that someone is gratified, this comparison might still not result in feelings of gratification if, at the same time, significant others (friends, peers, parents) kept emphasising that the person is deprived. Future research could evaluate the differential effects of such factors on resulting feelings of deprivation. Thirdly, people might distort social reality in self-serving ways (Crosby, 1982). That is, they might be subject to some 'cognitive blinder' mechanism and refuse to *perceive* existing deprivation even when engaging in upward comparisons. This argument is not dissimilar to the self-protection hypotheses outlined in Crocker & Major (1989). However, it is important to note the inherent contradiction between the self-protection argument and the RDT argument. RDT suggests a *positive effect* of interest in comparing with upward targets (relative to which one is deprived) on perceived

overall deprivation. The self-protective rationale predicts a *negative effect* of deprivation relative to a specific target on interest in comparing with it because, where possible, comparisons with such 'superior' upward targets should be avoided. If the two proposed mechanisms with their opposite causal directions and opposing signs come into play together, they should cancel each other out, which might result in rather weak overall results for the relationship between comparisons and deprivation that we observed here. Further experimental or longitudinal research is needed to clarify this issue.

The third and last issue that deserves attention is the relationship between identification and deprivation. The fact that some studies have found positive associations and some, including the present ones, have found negative associations speaks to the importance of some moderating factors. Consider the following four options:

Identification might lead to either high or low deprivation, depending on the *motives* that are prevalent. If strong enhancement motives (a desire to feel good about the ingroup) are present, those who are most identified with their group should play down deprivation, because those high identifiers – who care most about the ingroup - should 'belittle' and 'shut out' anything that reflects badly on the group (such as being deprived) more than low identifiers (scenario a). In contrast, if strong equity motives (a desire to point out that oneself or one's group is treated unfairly and is not getting what it deserves) are present, those who are most identified should *emphasise* deprivation, because those high identifiers – who care most about the ingroup - should stress the unfair treatment of the ingroup more than low identifiers (scenario b).

In a similar vein, reversing the causal direction, deprivation might lead to either high or low identification, depending on the *action preferences* that are

prevalent. People might prefer 'individual action' (action targeted at the improvement of their personal situation) or 'collective action' (action targeted at improving the situation of their group, Wright, 1997; Wright & Taylor, 1998; Wright, Taylor, & Moghaddam, 1990; Wright & Tropp, 2002). If 'individual action' is preferred, those who are more deprived should lower their identification, because they should be more motivated than those who are less deprived to act individually, and to disengage from their group in order to improve their situation (scenario c).However, if 'collective action' is preferred, those who are more deprived should increase their ingroup identification, because they should be more motivated than less deprived people to act together with other group members and to form a strong sense of community, group cohesiveness and common fate in order to improve their own situation alongside that of their group (scenario d).

Two of these scenarios (a and c) are in line with the findings of the present studies. Unfortunately, the proposed moderators (motives and action preferences) were not measured in the present research, and so future research might usefully test these proposed moderation hypotheses directly.

Finally, some limitations of the research should be noted. Firstly, one important limitation is that this research was correlational. Thus, although theoretically we conceive of similarity and contact as being antecedents of comparisons, and of self-esteem and life-satisfaction as being consequences of deprivation, our data cannot answer questions of causality. For this, further longitudinal or experimental research is needed. Secondly, recall that we had proposed that comparisons affect feelings of relative deprivation (H6), and that relative deprivation would in turn affect self-esteem and life-satisfaction (H7). Taken together, essentially this implies a mediation hypothesis, namely an indirect effect of

comparisons on self-esteem and life-satisfaction, mediated by deprivation. One could even go a step further. Recall that it was proposed that 'similarity' and 'contact' with different targets influence interest in comparing with them (H1 and H2). Hence, one could propose an indirect effect of 'similarity' and 'contact' on self-esteem and life-satisfaction (mediated by comparisons and deprivation). Our data do not readily lend themselves to test such mediation hypotheses, but future research could endeavour to do so. Lastly, the participants of the present studies were adolescents. Much research into stigma and ethnic identity has focussed on this age group (Crabtree & Rutland, 2001; Liebkind, & Jasinskaja-Lahti, 2000; Orr, Mana, & Mana, 2003). This, together with the fact that we obtain meaningful patterns of results, should be sufficient evidence that the issues of the present research can sensibly be addressed with adolescent samples. That said, one cannot, of course, simply assume that the mechanisms uncovered here will generalise to adult samples. Although 'age' did not have any main or interactive effects on the dependent variables of our analyses, the generalisability of our results to older samples needs to be tested directly.

In conclusion, in closely parallel studies conducted in two quite different cultural contexts we have found for the first time that members of ethnic groups show a distinct interest in temporal and intragroup comparisons over cross-group comparisons of various kinds. This in itself is a theoretically challenging discovery because some current accounts of intergroup relations have rather neglected such comparisons in their theorizing (e.g. SIT, RDT). Moreover, we have shown that perceived similarity to, contact with and status in relation to targets are all variously predictive of comparison interest in them. Identifying such correlates is an important first step in providing a more complete causal account of the antecedents of comparisons in naturalistic settings. Finally, and equally challenging for RDT, we

found that comparison interest was not a consistent predictor of relative deprivation.

Because a central assumption of RDT is that people's feelings of deprivation or

gratification depend on the comparisons they make, an important research task for the

future will be to identify the additional moderating variables which will clarify the

link between comparison choices and perceived deprivation. Given that relative

deprivation has been shown to have important consequences at both a collective and a

personal level (e.g., Foster & Matheson, 1995; Guimond & Dambrun, 2002; Kelly &

Breinlinger, 1996; Vanneman & Pettigrew, 1972; Walker & Mann, 1987; see also

Table 8), undertaking that task takes on more than mere academic significance.

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Author Note

Footnotes

[1] Unfortunately, the word 'ethnic' is often used in a sense that implies - incorrectly – biological and genetic differences between groups. For instance, the Concise Encyclopaedia Britannica (2002) defines an 'ethnic group' as a people having 'common ties of *race* (our emphasis), language, nationality, or culture'. The myth that there exist biologically distinct categories of people is central to racist ideologies, and this makes it necessary to clarify that the term 'ethnic' is used here to describe a purely socially constructed, rather than a biological or 'natural', demarcation. Further, although we acknowledge that Aussiedler may see themselves as ethnically German (in a sense implying blood ties), they are nevertheless subject to the same socially constructed 'othering processes' as other minorities by the majority Germans. We therefore subsume Aussiedler, together with the other minority groups that feature in the present paper, under the heading 'ethnic minority', to be understood in the socially constructed sense outlined above.

[2] Due to space limitations, we cannot do full justice to the complexities of Crocker and Major's argument. Basically, while the authors argue that because *perceiving* oneself to be the target of discrimination has an adverse effect on self-esteem, they also argue that *attributing* specific instances of negative treatment to discrimination can buffer self-esteem. A detailed discussion can be found in Major et al. (2002).

[3] For example, age did not significantly qualify any of the results presented below. Some of the variables of course produced significant effects (e.g. where 'group membership' was significant, 'group membership of the father/mother' produced similar effects (due to the high correspondence between child-parent group

memberships)). Effects like this are to be expected, but too banal to merit an extended discussion.

[4] For these and all the following analyses for which the sphericity assumption was violated, Greenhouse-Geisser corrected values are reported. In these and some of the following analyses, the Ns are sometimes smaller than the size of the three sub-samples, due to missing data.

[5] Analyses showed that there was a good correspondence between responses to interval and categorical comparison measures. ANOVAs with the categorical choice as between subjects factor and the interval choices as levels of a within subject factor produced significant interactions ($F = 5.40$ for the London sample, $F = 4.24$ for the German minority, and $F = 9.61$ for the German majority, all ps $< .05$). Participants scored highest on that interval comparison target which they also chose in the categorical measure. Similar results have been obtained elsewhere (Zagefka & Brown, 2003). This underscores the construct validity of both the interval and categorical measurement approach.

[6] Because the regressions for Americans and French people (and for Aussiedler and Turks as outgroups) yielded very similar patterns, those two targets were combined into the category 'members of salient outgroups outside Germany' (and 'members of (other) minorities'), in order to present the results in as clear a way as possible. Similarity to, contact with, and status relative to those targets was averaged.

[7] Although for this and subsequent regression analyses some of the predictor variables were substantially correlated, collinearity was not a problem in any of the analyses. For the analyses presented in Table 5, all tolerance values were substantial, with most being higher than .80.

[8] A number of alternative hypotheses that have been proposed in relation to the identification-deprivation link were tested. For example, nothing was gained in separating the affective and cognitive components of deprivation and identification (see Guimond and Dube-Simard, 1983; Petta & Walker, 1992; Walker, 1999).

Table 1

Mean perceived Similarity, Contact, and Status relative to different targets

Targets	Minority members (London)	Minority members (Germany)			Majority members (Germany)		
	Status	Similarity	Contact	Status	Similarity	Contact	Status
	N = 222	N = 137	N = 143	N = 124	N = 332	N = 345	N = 300
Intragroup	2.27 ab (0.89)	4.37 a (0.97)	4.27 a (1.19)	2.04 a (0.95)	4.49 a (0.92)	4.68 a (0.70)	2.38 b (0.82)
Temporal	2.18 a (1.05)			2.08 a (1.15)			2.21 ab (1.05)
Members of (other) minorities	2.31 ab (0.93)	1.51 c (0.89)	2.06 c (1.11)	2.66 bc (1.16)	1.30 c (0.70)	2.14 c (1.19)	2.05 a (1.09)
Majority members	2.40 b (0.95)	2.54 b (1.26)	3.74 b (1.25)	2.55 b (0.96)			
Interpersonal	2.36 ab (0.92)						
Americans		1.40 c (0.77)	1.32 d (0.78)	2.83 c (0.99)	1.86 b (1.15)	1.28 b (0.75)	2.58 c (0.91)
French		1.35 c (0.87)	1.24 d (0.71)	2.81 c (0.97)	1.39 c (0.78)	1.21 b (0.57)	2.57 c (0.88)

Note. High values indicated more similarity, contact, and high status of the target compared to the self. Subscripts denote significant differences between means per column according to post-hoc comparisons at $p < .05$. Standard deviations in parentheses.

Table 2

Percentage of choices for each Categorical Comparison Target for the three samples

Categorical Comparison Target	Sample		
	Minority members (London) $N = 200$	Minority members (Germany) $N = 95$	Majority, i.e. Germans (Germany) $N = 277$
Ingroup member in country of residence (intragroup)	19.5	57.9	65.8
Temporal	34.5		
Members of (other) minorities in country of residence	0.5	2.1[a]	15.8[a]
Majority members	4.0	18.9	
Interpersonal	41.5		
Members of outgroups outside Germany		1.1[a]	18.4[a]
People in the country of origin		20.0	
Chi-Squared	130.90***	100.52***	130.88***

Note. [a] Because these categories are constituted by frequency sums across a number of groups, their percentage values are likely to be artificially inflated. *** $p < .001$.

Table 3

Mean Comparison Interest in various Targets

- 51 -	Minority members (London) N = 228	Minority members (Germany) N = 135	Majority, i.e. Germans (Germany) N = 332
Targets			
Ingroup member in country of residence (intragroup)	3.08 a (1.47)	3.95 a (1.08)	3.85 a (1.10)
Temporal	3.04 a (1.27)	4.09 a (1.14)	3.77 a (1.21)
Members of (other) minorities in country of residence	2.70 b (1.34)	2.50 cd (1.14)	2.38 b (1.19)
Majority members	2.56 b (1.36)	3.07 b (1.24)	
Interpersonal	2.65 b (1.36)		
American people		2.82 bc (1.29)	2.65 b (1.20)
French people		2.38 d (1.11)	2.35 b (1.10)

Note. High values indicated more comparison interest. Subscripts denote significant

differences between interest in different targets within each sample at *p* < .05. Standard

deviations in parentheses.

Table 4

Zero-order bivariate correlations for variables included in the analyses predicting

comparison interest from perceived similarity, contact, and status

		German minority			German majority		
		Contact	Similarity	Status	Contact	Similarity	Status
Ingroup members	Similarity	.67 ***			.42 ***		
	Status	-.24 **	-.32 ***		-.14 **	-.19 ***	
	CI	.27 ***	.36 ***	-.26 **	.13 **	.24 ***	-.22 ***
Members of	Similarity	.41 ***			.29 ***		
(other) Minorities	Status	-.007	-.07		.03	-.03	
	CI	.66 ***	.23 **	-.03	.31 ***	.29 ***	-.04
Members of	Similarity	.69 ***			.35 ***		
outgroups outside	Status	-.03	.03		-.07	.08 ●	
Germany	CI	.19 **	.03	-.13 *	.23 ***	.30 ***	.05
Majority	Similarity	.29 ***					
members	Status	-.10	.004				
	CI	.19 **	.14 *	-.12 ●			

Note. CI = comparison interest. ● *p* < .10, * *p* < .05, ** *p* < .01, *** *p* < .001.

Table 5

Predicting comparison interest from perceived Similarity, Contact, and Status (German sample)

Comparison Interest in…	Minority					Majority				
	Overall model		Individual standardised betas			Overall model		Individual standardised betas		
	R^2	F	Contact	Similarity	status	R^2	F	Contact	Similarity	Status
Ingroup members	.15	7.44*** (3, 123)	0.04	0.28*	-0.16●	.08	9.53*** (3, 300)	0.02	0.19**	-0.17**
Members of (other) Minorities	.44	38.38*** (3, 146)	0.68***	0.05	0.02	.14	17.57*** (3, 323)	0.24***	0.21***	-0.02
Members of outgroups outside Germany	.06	3.63* (3, 148)	0.30**	-0.18	0.11	.11	13.44*** (3, 324)	0.14*	0.25***	-0.04
Majority members	.05	2.92* (3, 147)	0.15●	0.09	0.10					

Note. ● $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. *Df* in parentheses.

Table 6

Zero-order bivariate correlations for variables included in the analysis predicting overall deprivation from comparison interest

	Temporal CI	Intragroup CI	Majority CI	Temporal CI	Intragroup CI	Majority CI	Temporal CI	Intragroup CI	Majority CI
	London			Minority (Germany)			Majority (Germany)		
Intragroup CI	.48 ***			.31 ***			.25 ***		
Majority CI	.43 ***	.56 ***		.23 **	.17 *				
PD	-.08	-.05	-.06	-.14 *	-.16 *	-.09	-.22 ***	-.24 ***	
GD	.10	-.01	.13 *	-.28 ***	-.27 ***	-.19 *	-.03	-.13 **	

Note. CI = comparison interest, PD = personal deprivation, GD = group deprivation. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7

Predicting Personal and Group Deprivation from comparison interest

		Minority members (London)		Minority members (Germany)		Germans (Germany)	
		PD	GD	PD	GD	PD	GD
		$N = 232$	$N = 219$	$N = 138$	$N = 138$	$N = 340$	$N = 333$
	Mean levels	2.19	2.58	2.12	2.25	1.99	2.16
Overall Model	R^2	.01	.03	.04	.13	.09	.02
	F	0.56	2.53 ●	1.81	6.61 ***	16.09 ***	3.39 *
		(3, 228)	(3, 215)	(3, 134)	(3, 134)	(2, 337)	(2, 330)
Individual Betas	Intragroup CI	-.01	-.15 ●	-.11	-.17 *	-.21 ***	-.14 *
	Temporal CI	-.07	.10	-.09	-.21 *	-.17 **	.001
	Majority CI	-.02	.17*	-.08	-.13		

Note. CI = comparison interest, PD = personal deprivation, GD = group deprivation. ●

$p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. *Df* in parentheses.

Table 8

Zero-order bivariate correlations for the analyses including Self-esteem, life-satisfaction, and identification

	PD	GD	Identification	Self-esteem
London sample				
GD	.26 ***			
Identification	-.22 ***	-.27 ***		
Self-esteem	-.19 **	-.12 ●	.44 ***	
Life-satisfaction	-.46 ***	-.12 ●	.34 ***	.53 ***
German minority				
GD	.41 ***			
Identification	-.29 ***	-.49 ***		
German majority				
GD	.28 ***			
Identification	-.21 ***	-.28 ***		

Note. ● *p* < .10, * *p* , .05, ** *p* < .01, *** *p* < .001.