

# The Relative Deprivation–Gratification Continuum and the Attitudes of South Africans Toward Immigrants: A Test of the V-Curve Hypothesis

Michaël Dambrun

McGill University and Université Blaise Pascal

Donald M. Taylor

McGill University

David A. McDonald and Jonathan Crush

Queen's University

Alain Méot

Université Blaise Pascal

It has long been established that there is a linear and positive relationship between relative deprivation and prejudice. However, a recent experiment suggests that the converse of relative deprivation, relative gratification, may also be associated with prejudice (S. Guimond & M. Dambrun, 2002). Specifically, the evidence suggests that the usual test for a linear relationship between relative deprivation–gratification and prejudice might conceal the existence of a bilinear relationship. This function, labeled the *V-curve hypothesis*, predicts that both relative deprivation and relative gratification are associated with higher levels of prejudice. This hypothesis was tested with a representative sample of South Africans ( $N = 1,600$ ). Results provide strong support for the V-curve hypothesis. Furthermore, strength of ethnic identification emerged as a partial mediator for the effect of relative gratification on prejudice.

*Keywords:* relative gratification, relative deprivation, prejudice, V-curve hypothesis, group identification

The present research applied both relative deprivation and relative gratification theories to understand the negative attitudes that South Africans have toward immigrants to their country. A comprehensive, in depth survey initiated by the Southern African Migration Project, using a representative national survey, demonstrated that immigrants are the prime target for prejudice in postapartheid South Africa (Mattes, Taylor, Poore, & Richmond, 1999).

## Relative Deprivation and Intergroup Attitudes

Relative deprivation has offered a number of important insights into researchers' understanding of intergroup attitudes (Brewer & Brown, 1998; Fiske, 1998; Pettigrew, 2002; Runciman, 1966). The concept of relative deprivation was coined by researchers who were studying the satisfaction levels of American soldiers during the Second World War (see Stouffer, Suchman, DeVinney, Starr, & Williams, 1949). The major assumption of relative deprivation theory is that a person's or group's satisfaction is not related to their objective circumstances but, rather, to their condition relative to other persons or groups. This implies, for example, that objectively disadvantaged people may feel less deprived than objectively advantaged people because of the chosen target for their social comparisons. Relative deprivation theory has been successfully applied to a variety of social–psychological domains including collective action (Gurr, 1970; see also Guimond & Dubé-Simard, 1983), revolution (Davies, 1962), and the dynamics of intergroup hostility and prejudice (see Mummendey, Kessler, Klink, & Mielke, 1999; Runciman, 1966).

In terms of prejudice, relative deprivation theory postulates that unfavorable comparisons (the cognitive component of relative deprivation) can generate feelings of deprivation (the affective component of relative deprivation) that motivate outgroup hostility (see, e.g., Grant & Brown, 1995). Relative deprivation has consistently been identified as being a strong and robust predictor of intergroup attitudes in a variety of countries including the United States (Vanneman & Pettigrew,

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Michaël Dambrun, Department of Psychology, McGill University, Montreal, Quebec, Canada, and Laboratoire de Psychologie Sociale et Cognitive, Centre National de la Recherche Scientifique (LAPSCO CNRS), Université Blaise Pascal, Clermont-Ferrand, France; Donald M. Taylor, Department of Psychology, McGill University; David A. McDonald, Faculty of Arts and Science, Queen's University, Kingston, Ontario, Canada; Jonathan Crush, Southern African Research Centre, Queen's University; Alain Méot, LAPSCO CNRS, Université Blaise Pascal.

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Correspondence concerning this article should be addressed to Michaël Dambrun, UFR de Psychologie, Université Blaise Pascal, LAPSCO UMR CNRS, 34 avenue Carnot, 63000, Clermont-Ferrand, France. E-mail: michael.dambrun@univ-bpclermont.fr

1972), India (Tripathi & Strivastava, 1981), South Africa (Appelgryn & Nieuwoudt, 1988), and Western Europe (Dambun & Guimond, 2001; Pettigrew & Meertens, 1995). In many different cultures, higher levels of relative deprivation have been associated with greater levels of prejudice. Confirming the key function of relative deprivation in intergroup phenomena, a recent study revealed that even when one controls for other sociopsychological variables (e.g., identity threat, social dominance orientation), relative deprivation still remains one of the main predictors of extreme right-wing political attitudes (Dambun, Maisonneuve, Duarte, & Guimond, 2002).

The relative deprivation framework suggests that negative attitudes toward immigrants to South Africa may be the result of perceived relative deprivation among South Africans. However, a recent experiment suggests the possibility of a more complex relationship between South Africans' perceptions of their circumstances and negative attitudes toward immigrants. Specifically, Guimond and Dambun (2002) have noted that although the role of relative deprivation in the regulation of prejudice has been extensively studied, relative gratification, the converse of relative deprivation, has received little attention (see also Leach, Snider, & Iyer, 2002; Pettigrew, 2002).

### Relative Gratification and Intergroup Hostility

Relative deprivation theorists have long argued that when people feel better off than others, the result is a state of relative gratification, the opposite of relative deprivation (Leach et al., 2002; Martin, 1981; Smith, Spears, & Oyen, 1994; Vanneman & Pettigrew, 1972). Although relative deprivation theorists acknowledge that relative gratification is conceptually possible, its potential effects on intergroup attitudes have received little attention. Challenging the commonsense conclusion that if relative deprivation is associated with greater prejudice, relative gratification should be related to greater tolerance, recent research has revealed that relative gratification may actually lead to greater intergroup hostility. Specifically, in a series of experiments with psychology students in France, Guimond and Dambun (2002) manipulated both relative deprivation and relative gratification by confronting participants with declining (relative deprivation) or improving (relative gratification) personal job opportunities (Study 1) and group job opportunities (Study 2). For example, in the second study, the students were led to believe that their own group (psychology students) would be much worse off in terms of job opportunities in the future (group relative deprivation condition) than an outgroup (students in law) or much better off (group relative gratification condition). Following the manipulation, in addition to measuring various intergroup attitudes, Guimond and Dambun measured perceptions of the standing of the two groups (cognitive component) and the feelings associated with these perceptions (affective component).

The results confirmed the usual effect of relative deprivation on prejudice but also revealed that relative gratification increased the level of prejudice toward stigmatized groups in France, increased ingroup bias, and led to an increase in the willingness to support and act in favor of restrictive immigration policies. Moreover, although the effect of relative deprivation on prejudice was partially mediated by the affective component (dissatisfaction), the effect of relative gratification was mediated by the cognitive component. Thus, the perception of being better off, regardless of the feelings of satisfaction it produced, led to greater prejudice.

The implication of these results is that not only are negative relative outcomes (relative deprivation) associated with prejudice but relatively positive ones (relative gratification) are as well. Applied to the South African context, these findings suggest that hostility toward immigrants might be associated not only with perceptions of economic deprivation but also with perceptions of economic improvement or gratification. When the relative deprivation and relative gratification effects are combined, a V-curve relationship between perceptions of relative economic condition and intergroup hostility should result.

### The V-Curve Hypothesis and Intergroup Attitudes

Integrating the roles of relative deprivation and relative gratification in the regulation of intergroup attitudes may provide for a more functional theoretical framework than the classic one derived from relative deprivation on its own. Although relative deprivation theory proposes a linear relationship between the perception of relative economic conditions and negative intergroup attitudes, the relative gratification perspective suggests a V-curve or bilinear relationship. The only empirical evidence of a bilinear relationship to date arises from a single experiment (Guimond & Dambun, 2002), raising the possibility that it reflects a laboratory artifact. Using a representative sample of South Africans should allow for a test of the predictive validity of the role of relative gratification and the resulting bilinear relationship.

The impact of relative gratification on prejudice may well have been ignored in past research because of a methodological bias. In studies dealing with relative deprivation, the effect of relative deprivation on prejudice has been tested by applying a linear model of prediction (e.g. Pettigrew & Meertens, 1995). Consistently these studies have revealed that relative deprivation varies positively and linearly with the expression of prejudice toward outgroups; the more participants feel deprived, the more they express negative attitudes toward outgroups. However, the relative gratification perspective suggests a different form of relationship between the relative deprivation–gratification continuum and prejudice. Specifically, from this new perspective, both relative deprivation and relative gratification will be associated with greater prejudice. The linear model cannot test the comparative effects of relative deprivation and relative gratification, as it tests only the general effect for the relative deprivation–gratification continuum. A bilinear model of prediction, however, allows for a test of the combined effects of relative deprivation and relative gratification. This pattern of relationship has never been tested in the context of prejudice, which may explain why few studies report an effect for relative gratification. In what is probably the only existing study that has systematically considered both relative deprivation and relative gratification, Grofman and Muller (1973) suggested that both may have similar effects. In their article “The Strange Case of Relative Gratification and Potential for Political Violence: The V-Curve Hypothesis,” they reported that the greatest potential for political violence is manifested both by individuals who perceive negative change (relative deprivation) and by those who perceive positive change (relative gratification).

The first objective of the present study was to test both the linear and bilinear functions of the relative deprivation–gratification continuum on attitudes toward immigrants to South Africa. Following relative deprivation theory, we hypothesized a significant linear relationship between relative deprivation and negative atti-

tudes toward African immigrants, such that those expressing greater hostility would be those who feel the most deprived. However, on the basis of the relative gratification perspective, we also hypothesized a significant bilinear relationship, which would indicate that both relative deprivation and relative gratification are associated with greater levels of hostility toward immigrants. Thus, we hypothesized that those who feel worse off (relative deprivation) and those who feel better off (relative gratification) would display more prejudice.

### Toward an Explanation of Relative Gratification on Intergroup Attitudes? Identifying Mediators

According to social identity theory (Tajfel & Turner, 1979), people are motivated to maintain or achieve a positive social identity. Because the self-concept is partially derived from group membership, which positively influences self-esteem through favorable intergroup comparisons, people tend to identify more strongly with the group to which they belong than with outgroups. In the context of relative gratification, people may identify even more strongly with their social group. A favorable comparison, such as perceived economic improvement in the country or perceived improvement in group status, would underlie a state of relative gratification. In this context, we argue that people may feel more pride in their own group and more attracted to it (see Doosje, Spears, & Ellemers, 2002). This should result in stronger ingroup identification among people perceiving relative gratification. It has been well established that stronger ingroup identification is associated with increases in ingroup bias and outgroup derogation (e.g. Perreault & Bourhis, 1999). Consequently, on the basis of social identity theory, we predicted a mediational model in which group identification mediates the effect of relative gratification on intergroup attitudes. Specifically, in the South African context, the second objective of this study was to test the hypothesis that strength of ethnic identification would mediate the effect of relative gratification in terms of prejudice toward immigrants.

### Group Status, Relative Gratification, and Intergroup Attitudes: Identifying Moderators

A final aim of the present study was to determine whether economic relative gratification produces hostility toward all outgroups, suggesting that it generates generalized prejudice, or whether, to the contrary, it leads to hostility toward specific outgroups. We suspect that economic relative gratification produces intergroup hostility and also that the participant's own socioeconomic status (SES) moderates which outgroup will be targeted. Specifically, we predicted that low status outgroups would be the target of low SES people perceiving economic relative gratification and that high status outgroups would be the target of high SES people perceiving relative gratification.

From our relative gratification perspective, a favorable economic comparison should lead people to perceive economic relative gratification, which in turn would motivate them to support ideologies that maintain their relative advantage. Derogation of relevant immigrant groups permits people perceiving economic relative gratification to justify and maintain their advantage. This process is consistent with the major assumption of the instrumental model of group conflict (Esses, Jackson, & Armstrong, 1998),

which claims that when economic gains and losses are at stake, people are motivated by their own economic interests. Indeed, it can be argued that people perceiving economic relative gratification are motivated to maintain their economic advantage in order to foster their own interests and that this leads to greater prejudice toward relevant outgroups. However, we suggest that the specific outgroups targeted for derogation are dependent on the SES of the people perceiving relative gratification. Specifically, when people perceive economic relative gratification, they are motivated to maintain their advantaged position by derogating groups that are perceived as potential competitors. It has long been demonstrated that the perception of economic competition is associated with intergroup hostility (Campbell, 1965; Levine & Campbell, 1972; Sherif, 1966) and derogation of immigrants (Esses et al., 1998; L. M. Jackson & Esses, 2000). In the context of relative gratification, we suspect that low and high SES people do not perceive the same competitors. According to the instrumental model of group conflict, "for dimensions relevant to obtaining resources, groups that are similar to the ingroup are more likely to be seen as competitors" (Esses et al., 1998, p. 704). Thus, low SES South Africans perceiving relative gratification should perceive low status immigrants as potential competitors (e.g., African immigrants in South Africa) but would tend to disregard high status immigrants as potential competitors (e.g., Western immigrants in South Africa). Because, in this specific case, low status immigrants should be perceived as more threatening than high status immigrants, we hypothesized that among low SES South Africans, relative gratification should be more strongly associated with prejudice toward African immigrants than with prejudice toward Western immigrants.

Among high SES South Africans experiencing relative gratification, we hypothesized the opposite pattern of results. We argue that high status immigrants will be perceived as more threatening than low status immigrants by high SES people perceiving economic relative gratification. Consequently, we hypothesized that among high SES South Africans, economic relative gratification should be more strongly associated with greater levels of prejudice toward high status immigrants (Western immigrants) than toward low status immigrants (African immigrants).

## Method

### Participants

A total of 1,600 South Africans were surveyed, with the sample being drawn from official census data (from the 1996 Census by Statistics South Africa; see <http://www.statssa.gov.za/census01/Census96/HTML/default.htm>) and information from national organizations that attempt to maintain population statistics. We used this information to draw a clustered, randomly stratified, nationally representative sample. This representative sample comprised 800 women and 800 men and 869 Blacks, 372 Whites, 208 Coloreds, and 151 Indians/Asians.<sup>1</sup> The average age was 38.3 ( $SD = 16.31$ ; range = 16 to 99).

### Procedure

The sampling procedure involved randomly selecting a series of primary sampling units (PSUs) from a larger list of suburbs and magisterial districts, with the chance of selection being weighted proportionately by the

<sup>1</sup> These labels (i.e., Black, White, Colored, and Indian/Asian) are used for official categorization in South Africa and are commonly used among all people in South Africa.

population of the suburb or the district. Once a PSU had been established, maps were used to select, at random, a place to begin interviewing. Interviewers were then required to walk in a randomly determined direction and conduct an interview at every *n*th home, depending on how many interviewers were required within that designated PSU. The use of such a detailed sampling procedure ensured that no systematic bias affected the sampling procedure. Once the survey was completed, the 1,600 respondents were compared with existing population statistics, and the data were weighted according to any discrepancies. Thus, a combination of careful sample selection and postsample analyses corrections yielded a sample that accurately represented the population of South Africa.

To further guard against potential bias, surveyors followed strict rules once a household had been selected for inclusion in the sample. They were first required to list all household members over the age of 18. From this list, the surveyor chose the actual person to be interviewed according to a preestablished random schedule. Once the person was selected, the interviewer made three attempts to schedule an interview. Only after three failed attempts was the interviewer allowed to replace that person following the same procedure at a predetermined randomly selected replacement household. The logistics of preparing a nationwide survey of this magnitude are formidable. For example, it was necessary to have the survey instrument translated from English into the other 10 official languages and then back-translated into English via the double-blind method for us to ensure that translations reliably communicated the intended meanings. Also, co-ethnic interviewers had to be recruited so that respondents would be interviewed by someone who could speak their language fluently.

The survey instrument was designed so that respondents were required to answer questions in a standard format, but one that offered them a range of response alternatives. The interviewer, therefore, was required to pose the questions in a predetermined order. The order of questions was carefully determined to proceed from simple to complex questions and from nonpersonal to more socially sensitive questions.

### Questionnaire

A wide variety of measures were used in the questionnaire. Of particular relevance for the present study were items that focused on perceptions of relative deprivation and gratification, ethnic identification, and attitudes toward immigrants. At the end of the questionnaire, participants were also asked to indicate their age, gender, ethnicity, education level, and annual income.

*Measures of relative deprivation and gratification.* Our objective was to measure a general state of relative deprivation–gratification. Thus, on

the basis of previous research (Guimond & Dambrun, 2002; Guimond & Dubé-Simard, 1983; Pettigrew & Meertens, 1995; Runciman, 1966), eight items similar in content and design to previous scales were selected (see Table 1). Specifically, two components of relative deprivation–gratification were assessed: economic relative gratification–deprivation (Items 1, 2, 3, and 4) and overall relative gratification–deprivation (Items 5, 6, 7, and 8). The internal consistency of this eight-item scale was found to be satisfactory ( $\alpha = .76$ ). All items used 5-point rating scales ranging from 1 (*very satisfied*) to 5 (*very dissatisfied*) for Items 1 and 3 and ranging from 1 (*much better*) to 5 (*much worse*) for Items 2, 4, 5, 6, 7, and 8. Thus, higher scores indicate greater perceptions of relative deprivation. Conversely, lower scores indicate greater perceived relative gratification.

*Measure of ethnic identification.* Participants were asked to rate on a six-item scale the extent to which they identified with their national ethnic group (i.e., Black, White, Colored, and Indian/Asian; see Footnote 1). To assess ethnic identification, we used six items: “Being a X is a very important part of how you see yourself” (Item 1); “You would want your children to think of themselves as X” (Item 2); “It makes you feel proud to be a X” (Item 3); “You feel much stronger ties to X, than to other South Africans” (Item 4); “Of all the groups in South Africa, X are the best” (Item 5); and “X are very different from other South Africans” (Item 6). Three of these items do not involve any explicit intergroup comparisons (Items 1, 2, and 3), whereas the remaining three do involve an intergroup comparison (Items 4, 5, and 6). The internal consistency of this six-item scale was found to be satisfactory ( $\alpha = .79$ ). All items used 5-point rating scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The six items were drawn mainly from three different scales designed to assess social identity (Brown, Condor, Mathews, Wade, & Williams, 1986; Garza & Herringer, 1987; S. E. Jackson, 1981).

*Measures of intergroup attitudes.* Participants were asked to rate on a 10-point scale the extent to which they felt unfavorable (0) or favorable (10) toward their own ethnic ingroup (i.e., Blacks, Whites, Coloreds, and Indians/Asians; see Footnote 1;  $M = 8.58$ ,  $SD = 1.91$ ) and toward five immigrant groups ( $\alpha = .88$ ): people living in South Africa from Zimbabwe, Mozambique, Lesotho, and other African countries (i.e., African immigrants;  $\alpha = .90$ ;  $M = 4.22$ ,  $SD = 2.16$ ) and people living in South Africa from countries in Europe and North America (i.e., Western immigrants;  $M = 4.89$ ,  $SD = 2.38$ ). It is important to note that participants expressed their attitudes toward their ingroup and the different outgroups and could not logically be a member of any outgroup. Only participants who were South African (i.e., having the South African nationality) were interviewed.

On the basis of these different ratings, we constructed four indicators: (a) By averaging the four ratings for African immigrants, we created a measure

Table 1  
*Means and Standard Deviations of Relative Deprivation–Gratification Items*

Item	<i>M</i>	<i>SD</i>
1. At the moment are you (satisfied/dissatisfied) with your personal economic conditions?	3.19	1.12
2. Do you expect that your personal economic conditions will get (better/same/worse) one year from now?	2.8	1.05
3. At the moment are you (satisfied/dissatisfied) with economic conditions in South Africa?	3.55	1.04
4. Do you expect that economic conditions in South Africa will get (better/same/worse) one year from now?	2.99	1.17
5. Would you say that your overall personal conditions are (better/same/worse) than those of other South Africans?	2.77	0.84
6. Would you say that your overall personal conditions are (better/same/worse) as other (members of the ingroup)?	2.82	0.76
7. Would you say that the overall conditions of people from your ingroup are (better/same/worse) than those of other groups in South Africa?	2.87	0.82
8. Would you say that the overall conditions of South Africa are (better/same/worse) than those in other Southern African countries?	2.35	0.86

of attitudes toward African immigrants; (b) ratings of Western immigrants provided a measure of attitudes toward Western immigrants; (c) by subtracting the ratings for African immigrants (i.e., derogation of African immigrants) from the ratings for the respondents' own group (i.e., ingroup bias), we arrived at a measure of prejudice toward African immigrants; and finally, (d) by subtracting the ratings for Western immigrants from the ratings for their own group, we obtained a measure of prejudice toward Western immigrants. Research has provided compelling evidence for the validity of such relative measures of prejudice (see Castano, Yzerbyt, Paladino, & Sacchi, 2002; Guimond & Dambrun, 2002; Guimond & Palmer, 1993; Levin, Federico, Sidanius, & Rabinowitz, 2002; Sidanius & Pratto, 1999). Typically, the difference between the rating of the ingroup and the rating of the outgroup is a more sensitive measure of prejudice than the rating of the outgroup alone (Guimond et al., 2003). Consequently, these were the two measures retained as dependent variables: prejudice toward African immigrants and prejudice toward Western immigrants.

*Confirmatory factor analysis.* To verify the validity of our different scales, we performed a confirmatory factor analysis. Specifically, we compared our predicted model with the null model (i.e., in which all the items load on the same latent factor). The predicted model was composed of three latent variables: relative gratification–deprivation, ethnic identification, and prejudice. Two distinct components made up both the relative gratification–deprivation variable (i.e., economic vs. overall relative deprivation–gratification) and the ethnic identification variable (i.e., ethnic identification without vs. with an intergroup comparison). Confirming the validity of our different scales, the predicted model,  $\chi^2(95, N = 1,600) = 651.18, p < .001$ , comparative fit index (CFI) = .94, goodness-of-fit index (GFI) = .95, normed fit index (NFI) = .93, root-mean-square error of approximation (RMSEA) = .06, fitted significantly more with the data than did the null model,  $\chi^2(104, N = 1,600) = 5,645.90, p < .001$ , CFI = .36, GFI = .65, NFI = .36, RMSEA = .18. The chi-square difference between the two models was significant,  $\Delta\chi^2(9, N = 1,600) = 4,994.72, p < .001$ .

Results

*The Effects of Relative Deprivation–Gratification on Intergroup Attitudes*

To test our main hypothesis that the bilinear function of the relative gratification–deprivation continuum will provide a better fit of the data than the linear function, we compared two regression models in which the relative gratification–deprivation scores were centered at the grand mean. The first model, labeled the reduced model, corre-

sponds to the classical linear model. It includes a single independent variable (i.e., relative gratification–deprivation). The second model, referred to as the full model, corresponds to the bilinear model. It includes two independent variables. The first (i.e., relative gratification) included only the ratings equal to or below the median (i.e., zero). The second independent variable (i.e., relative deprivation) included the rating above the median. In both cases, zeros replaced ratings of excluded participants.

The full model assumes a different slope for participants who perceived relative gratification than for those who perceived relative deprivation. Testing the equality of these two slopes allowed us to choose which of the two models, the full or the reduced, is the most appropriate. The statistical procedure, for which theoretical support can be found in Brook and Arnold (1985), involves determining the extent to which using the full model (i.e., different slopes) in comparison with the reduced model (i.e., single slope) results in a significant increment of explained variance. Hence, as in a hierarchical multiple regression analysis (e.g., Cohen & Cohen, 1983) both the increment in  $R^2$  (i.e.,  $I$ ) and its statistical significance (i.e.,  $F_I$ ) were computed. A significant increment in  $R^2$  means that using two different slopes (i.e., bilinear model) provides a better fit of the data than using the classical linear function (i.e., single slope).

For each analysis, the eight-item relative gratification–deprivation scale was used as the independent variable and the measures of intergroup attitudes as the dependent variables. Results from these statistical analyses are presented in Table 2.

First, with respect to prejudice toward African immigrants, the test of the difference between the two models was significant ( $I = .015, p < .001$ ), showing that the bilinear model better fitted the data than the classical linear one. The reduced model was not significant. The two slopes included in the full model were significantly different from zero and the estimates of these slopes were of opposite signs (see Table 2). As Figure 1A illustrates, participants displayed significantly greater prejudice toward African immigrants to the extent that they felt either gratified or deprived.

In terms of prejudice toward Western immigrants, both the reduced and full models were significant (see Table 2). However, the test of the difference between the two models was significant ( $I = .010, p < .001$ ). The slope of the reduced model was not in

Table 2  
*The Effects of Relative Deprivation–Gratification on Intergroup Attitudes*

Model	Hierarchical analysis					Coefficients for the full model				
	Cum. $R$	Cum. $R^2$	$F$	$I$	$F_I$	Independent variable	Estimate	$SE$	$\beta$	$sr^2$
Prejudice toward African immigrants										
Reduced	.028	.001	1.17	.001	1.17	Constant	3.927***	.12		
Full	.126	.016	11.58***	.015	21.98***	$X_{RG}$	-0.707***	.22	-.093	.007
						$X_{RD}$	1.281***	.27	.136	.015
Prejudice toward Western immigrants										
Reduced	.076	.006	7.93**	.006	7.93**	Constant	3.221***	.14		
Full	.125	.016	10.74***	.010	13.47***	$X_{RG}$	-1.126***	.24	-.140	.016
						$X_{RD}$	0.589*	.30	.059	.003

*Note.* Relative gratification–deprivation scores were centered at the grand mean for each analysis. Estimate,  $SE$ , and  $\beta$  for each term are controlled for the other term.  $I$  = increment in  $R^2$ ;  $F_I$  = test of the significance for the  $R^2$  increment;  $sr^2$  = squared semipartial correlation for one term controlling for the other term; Reduced = linear model (single slope); Full = bilinear model (two slopes);  $X_{RG}$  = relative gratification term;  $X_{RD}$  = relative deprivation term.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

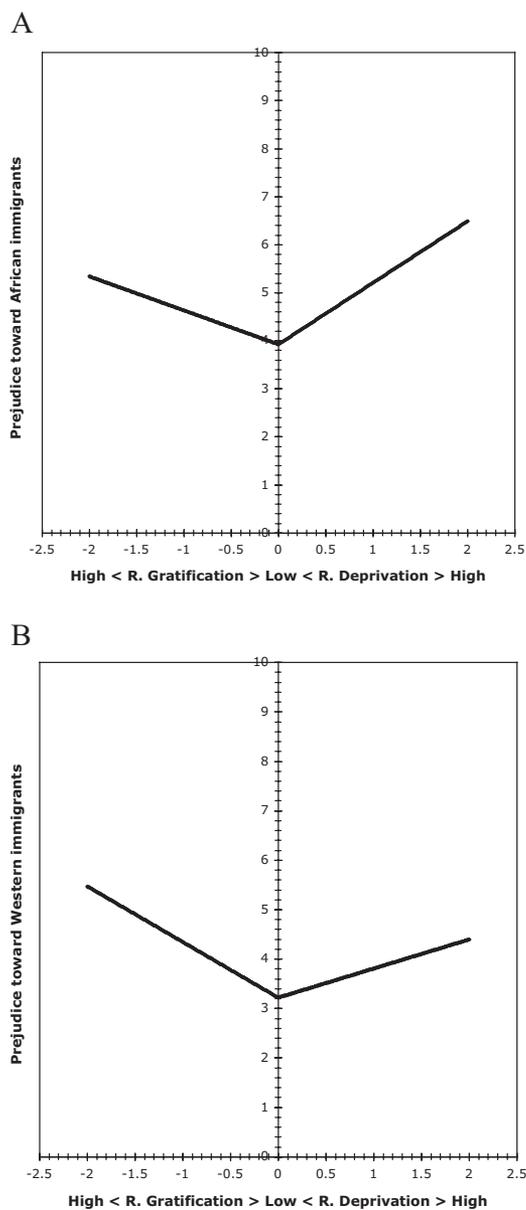


Figure 1. Bilinear relationship between the relative gratification–deprivation continuum and prejudice toward African (A) and Western (B) immigrants. R. = Relative.

the hypothesized direction. Revealing a main effect of relative gratification, the more participants felt gratified, the more they displayed prejudice toward Western immigrants ( $b = -.398$ ,  $SE = .141$ ,  $\beta = -.076$ ,  $p < .01$ ,  $R^2 = .006$ ). Concerning the full model, the two slopes were significantly different from zero and the estimates of these slopes were opposite in sign (see Table 2). As shown in Figure 1B, both relative deprivation and relative gratification were associated with greater levels of prejudice toward Western immigrants. Finally, additional analyses revealed that when we controlled for age, gender, ethnicity, and education, both the linear and bilinear effects of relative deprivation–gratification maintained their levels of significance.

### *The Effect of Relative Deprivation–Gratification on Ethnic Identification*

Using the same statistical procedure, we tested both the reduced and the full model using the full scale of relative deprivation–gratification<sup>2</sup> (centered at the grand mean) as the independent variable and the ethnic identification scale as the dependent variable. Both the reduced model,  $R = .135$ ,  $R^2 = .018$ ,  $F(1, 1596) = 29.81$ ,  $p < .001$ , and the full model,  $R = .151$ ,  $R^2 = .023$ ,  $F(2, 1595) = 18.51$ ,  $p < .001$ , were statistically significant. However, the test of the difference between the two models was significant,  $I = .004$ ,  $F_t(2, 1595) = 7.10$ ,  $p < .008$ . The slope of the reduced model reveals that the more the participants felt gratified on the relative gratification–deprivation continuum, the more they identified with their ethnic group (Estimate =  $-.154$ ,  $SE = .028$ ,  $\beta = -.135$ ,  $p < .001$ ,  $R^2 = .018$ ). However, the bilinear function reveals that it was only those who felt more gratified who identified more strongly with their ethnic group (Estimate =  $-.261$ ,  $SE = .049$ ,  $\beta = -.147$ ,  $p < .001$ ,  $sr_2^2 = .017$ ). The relationship between relative deprivation and ethnic identification was not significant (Estimate =  $-.01$ ,  $SE = .059$ ,  $\beta = -.007$ ,  $ns$ ; see Figure 2).

### *Ethnic Identification as a Mediator of the Effect of Relative Gratification on Intergroup Attitudes*

Because we predicted that ethnic identification would mediate the effect of relative gratification on prejudice, we used a median split to isolate the effect of relative gratification.<sup>3</sup> Including in the analysis respondents who perceived relative deprivation would not allow for a test of our specific hypothesis. We predicted that ethnic

<sup>2</sup> Our general hypothesis suggests that perceived relative gratification results in ethnic identification. However, because South Africans have important group identities at different levels of inclusion (e.g., South African, Black, Xosa), it is reasonable to propose a matching process such that different levels of relative gratification will have the most impact on the corresponding level of identity. Future research needs to examine this possibility. Because, in the present study, the scale of relative gratification was composed of items focusing on various dimensions, we examined whether some items were related more closely with the scale of national ethnic identification than others. Of interest, except for Item 1 (personal economic satisfaction), all items assessing relative gratification were significantly related to ethnic identification. Thus, confirming our general hypothesis, the more the participants felt gratified in South Africa, the more they identified with their national ethnic group. Thus, confirming our general hypothesis, the more the participants felt gratified in South Africa, the more they identified with their national ethnic group.

<sup>3</sup> At this point, it is important to note that the full model (bilinear) tests the joint effect of relative gratification and relative deprivation on prejudice. Thus, testing whether the bilinear function is significantly mediated by the measure of ethnic identification would not allow us to test our specific hypothesis that ethnic identification should mediate the effect of relative gratification on prejudice. Similarly, concerning our moderation hypothesis, testing whether the bilinear function is significantly moderated by SES would not allow us to test our specific hypothesis that SES should moderate the effect of relative gratification. No hypothesis has been formulated for the effect of relative deprivation; thus including participants perceiving relative deprivation would result in a shift between our specific hypotheses and the analyses.

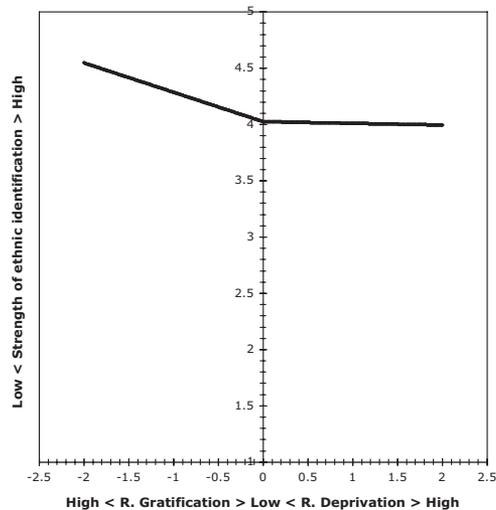


Figure 2. Bilinear relationship between the relative gratification–deprivation continuum and ethnic identification. R. = Relative.

identification would mediate the effect of relative gratification but not the effect of relative deprivation. Thus, respondents perceiving relative deprivation were excluded from the mediation procedure. A score of 0 on the relative gratification–deprivation measure (centered at the grand mean) corresponded both to the median and to a neutral score. To test the linear function of the relative gratification effect, we had to include neutral scores as a baseline in the regression procedure. Thus, on the basis of their relative gratification–deprivation score, participants were split at the median into deprived ( $n = 661$ ) and gratified ( $n = 938$ ) groups. More participants constituted the gratified group only because a relatively large proportion of the sample scored at the median. In order to test the mediating role of ethnic identification in the relationship between relative gratification and intergroup attitudes, we followed the regression procedure advocated by Baron and Kenny (1986). The first requirement is that the independent variable (i.e., relative gratification) be related to the dependent variable (i.e., intergroup attitudes). As shown in Figure 3A, relative gratification was significantly and positively related to prejudice toward African immigrants ( $\beta = .074$ ,  $p < .03$ ,  $R^2 = .005$ )<sup>4</sup> and prejudice toward Western immigrants ( $\beta = .126$ ,  $p < .001$ ,  $R^2 = .016$ ). Second, the mediating variable (i.e., ethnic identification) should be related to the independent variable and the dependent variable. As Figure 3A illustrates, these two requirements were satisfied. Ethnic identification and relative gratification correlated positively and significantly ( $\beta = .199$ ,  $p < .001$ ,  $R^2 = .04$ ). Moreover, both prejudice toward African immigrants ( $\beta = .101$ ,  $p < .003$ ,  $R^2 = .01$ ) and prejudice toward Western immigrants ( $\beta = .094$ ,  $p < .007$ ,  $R^2 = .009$ ) were significantly and positively related to ethnic identification.

The final and most basic requirement specified by Baron and Kenny (1986) is that a mediating variable should predict the dependent variable even when the independent variable is statistically controlled, whereas the effect of the independent variable on the dependent measure should be significantly reduced when the mediating variable is statistically controlled. This requirement was tested separately for the two measures of intergroup attitudes.

As expected, the effect of relative gratification on prejudice toward African immigrants was rendered nonsignificant when the measure of ethnic identification was statistically controlled ( $\beta = .056$ ,  $p > .105$ ,  $sr_2^2 = .003$ ). But the effect of ethnic identification on prejudice toward African immigrants remained significant even when relative gratification was statistically controlled ( $\beta = .090$ ,  $p < .009$ ,  $sr_2^2 = .008$ ). Consistently, the Sobel test, performed to test the significance of the mediation, was significant ( $z = 2.44$ ,  $p < .01$ ; see Figure 3A), and 24.3% of the effect of relative gratification on prejudice toward Africans immigrants was mediated by ethnic identification, indicating a partial mediation. Confirming the validity of our model, we found no support for the reversed model (see Figure 3B).

Finally, the effect of ethnic identification on prejudice toward Western immigrants remained significant even when relative gratification was statistically controlled ( $\beta = .070$ ,  $p < .05$ ,  $sr_2^2 = .005$ ). The effect of relative gratification on prejudice toward Western immigrants was significantly reduced ( $z = 2.18$ ,  $p < .05$ ) but remained significant when the measure of ethnic identification was statistically controlled ( $\beta = .111$ ,  $p < .002$ ,  $sr_2^2 = .012$ ), indicating a partial mediation (see Figure 3C). A relatively small portion of the effect of relative gratification on prejudice toward Western immigrants was mediated by the measure of ethnic identification (12%). Again, confirming the validity of our model, we found no support for the reversed model (see Figure 3D).

#### *SES as a Moderator of the Effect of Relative Gratification on the Target of Prejudice*

Among low SES South Africans, we hypothesized that relative gratification would be more strongly associated with prejudice toward African immigrants than with prejudice toward Western immigrants. Conversely, among high SES South Africans, we predicted that relative gratification would be more strongly associated with greater levels of prejudice toward Western immigrants than with prejudice toward African immigrants. Because we predicted this interaction only with scores of relative gratification, not with scores of relative deprivation, people perceiving relative deprivation were excluded from the moderation procedure (see Footnote 3). Thus, on the basis of the median split used in the mediation procedure, only gratified respondents were included in the moderation analysis ( $n = 938$ ). To test our specific hypothesis, we performed a regression analysis using relative gratification scores as the first independent variable, scores of annual income as the second independent variable (i.e., SES), and the interaction between scores of relative gratification and scores of annual income as the third

<sup>4</sup> In order to be sure that the significance of the effect of relative gratification on prejudice was not simply due to large sample size, we performed additional analyses. These analyses revealed that the linear effect of relative gratification on prejudice remained significant even when we used a very restrictive value of selection of participants. For example, with a very restrictive selection (i.e., selection of participants whose scores were  $\leq -1$  on the centered relative gratification–deprivation scores;  $n = 121$ ), the effect of relative gratification on prejudice toward African immigrants is significant and accounts for a larger part of the variance ( $\beta = -.187$ ,  $R^2 = .035$ ) than it does with a less restrictive standard selection based on a median split ( $\beta = -.074$ ;  $R^2 = .005$ ,  $n = 872$ ).

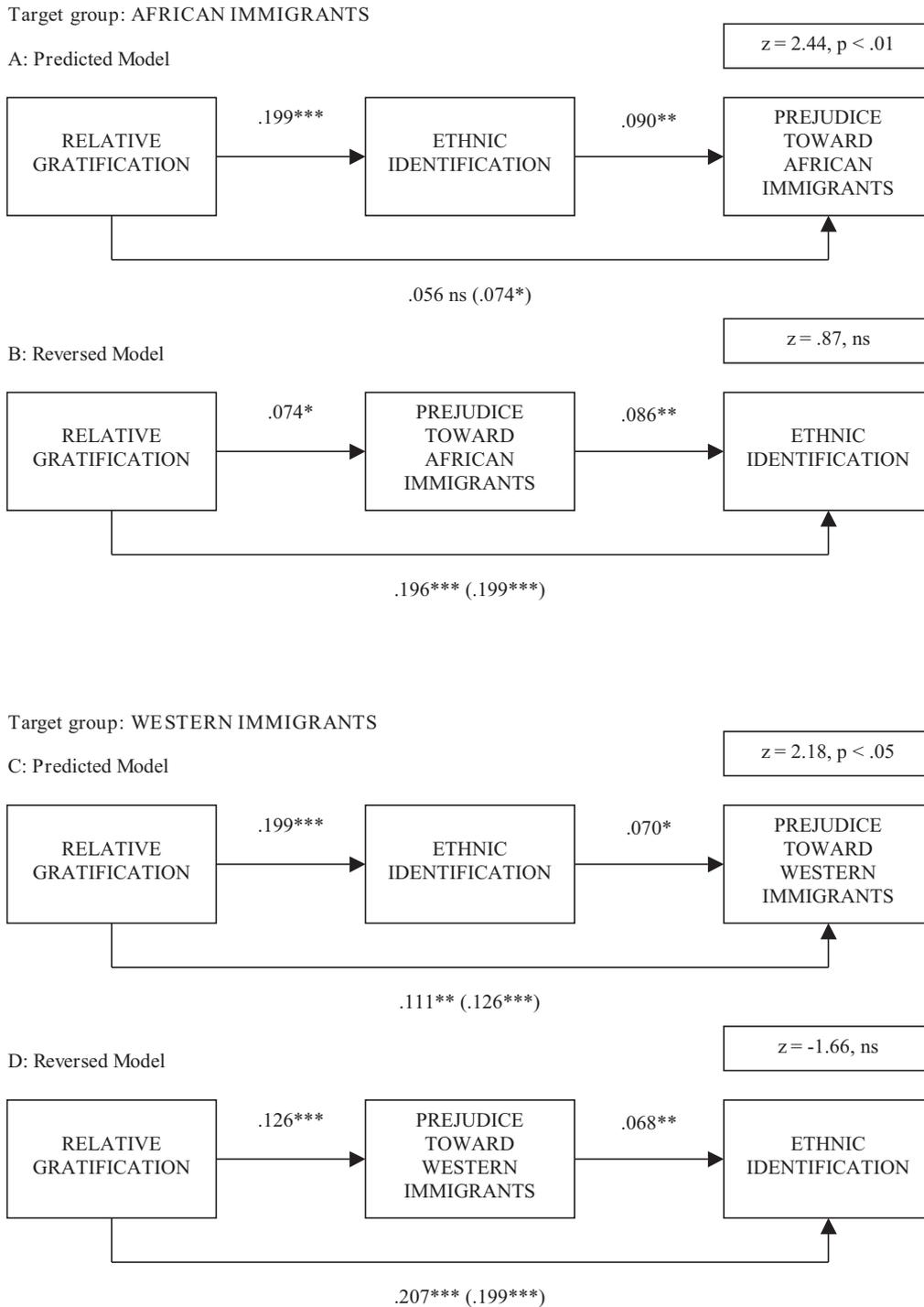


Figure 3. Ethnic identification as a mediator of the effect of relative gratification on prejudice toward both African and Western immigrants. The values in parentheses represent the beta coefficients without controlling for the mediating variable. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

and final independent variable. The two first variables were standardized. By subtracting the scores of prejudice toward Western immigrants from the scores of prejudice toward African immigrants, we obtained a new dependent variable.

Higher scores on this dependent variable indicate greater prejudice toward African immigrants than toward Western immigrants. Neutral scores indicate that both outgroups are derogated equally. Conversely, lower scores indicate greater

prejudice toward Western immigrants than toward African immigrants.

Results from the regression analysis are presented in Table 3. As expected, the interaction between relative gratification and SES (i.e., annual income) was significant ( $\beta = -.087, p < .024, sr_2^2 = .007$ ). The pattern of this interaction is depicted in Figure 4. As expected, the interaction reveals that the more high SES South Africans perceived relative gratification, the more they derogated Western immigrants compared with African immigrants ( $\beta = .159, p < .005, R^2 = .025$ ). However, contrary to our expectation, low SES South Africans perceiving relative gratification were not more prejudiced toward African immigrants than toward Western immigrants ( $\beta = -.01, ns$ ). They targeted both outgroups equally.

### Discussion

Using a large national sample from South Africa, the present research provides the first major test, in a natural setting, of a new theoretical dimension of prejudice. Over the past several decades, relative deprivation theorists have documented the role of relative deprivation in the explanation of intergroup attitudes and behaviors, suggesting that the more people feel deprived, the more likely they are to display outgroup prejudice. The theoretical implication of this legacy of research is that the less people feel deprived, the less likely they are to display negative intergroup attitudes and behaviors. In the present research, we have added a new dimension by pointing to the role that relative gratification may play in the understanding of prejudice. We predicted a bilinear rather than a linear relationship between the relative gratification–deprivation continuum (i.e., perception of economic conditions) and prejudice toward immigrants to South Africa. We hypothesized that both relative gratification and relative deprivation would be associated with higher levels of intergroup hostility.

We found very strong support for a bilinear function. As hypothesized, this V-curve relationship reveals that both relative gratification and relative deprivation are associated with greater levels of prejudice toward both African and Western immigrants to South Africa. Although the general linear function was relatively poorly related to intergroup attitudes, the bilinear equation accounted for a significantly greater percentage of the explained variance with regard to prejudice and was always highly signifi-

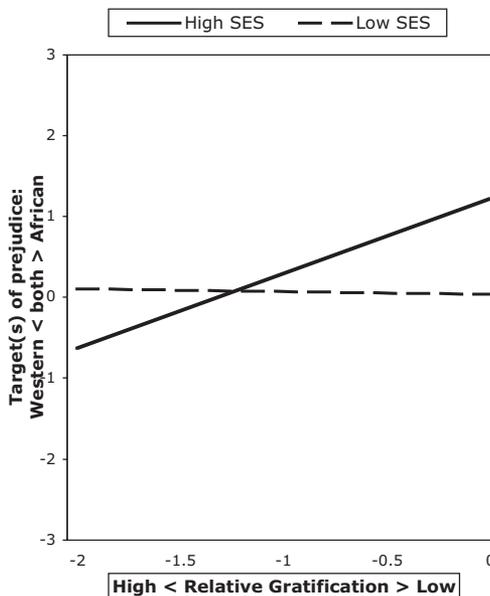


Figure 4. Socioeconomic status (SES) as a moderator of the effect of relative gratification on the target of prejudice. Higher scores on the dependent variable indicate greater prejudice toward African immigrants than toward Western immigrants. Neutral scores indicate that both outgroups are derogated equally. Conversely, lower scores indicate greater prejudice toward Western immigrants than toward African immigrants.

cant. Moreover, the direction of the linear function was not always in the expected direction. Indeed, although the linear function was related positively but not significantly to prejudice toward African immigrants, it was significantly related negatively to prejudice toward Western immigrants. Thus, the direction of the relationship seems to depend on the status of the outgroup. A classic but nonsignificant effect of relative deprivation arises in the case of a low status outgroup, and an opposite effect arises in the case of the higher status outgroup. However, these general tendencies mask a more complex but systematic pattern of results in which both relative deprivation and relative gratification are associated with higher levels of prejudice toward both African and Western im-

Table 3  
Socioeconomic Status as a Moderator of the Effect of Relative Gratification on the Target of Prejudice

Independent variable	Estimate	SE	$\beta$	<i>t</i>	<i>p</i>	$sr_2^2$
Constant	.411	.087		4.75	.0001	
Relative gratification	.164	.087	.073	1.89	.059	.005
Income	-.477	.088	-.207	5.39	.0001	.040
Relative Gratification $\times$ Income	-.226	.100	-.087	2.26	.024	.007

Note. Relative gratification and annual income scores were centered at the grand mean. Concerning the first independent variable, lower scores indicate greater perception of relative gratification. For the second independent variable, lower scores indicate greater annual income. The difference scores between the two measures of prejudice were used as the dependent variable. Higher scores on this dependent variable indicate greater prejudice toward African immigrants than toward Western immigrants. Neutral scores indicate that both outgroups are derogated equally. Conversely, lower scores indicate greater prejudice toward Western immigrants than toward African immigrants.  $sr_2^2$  = squared semipartial correlation for one term controlling for the other term.

migrants. In fact, we suggest that the difference in the direction of the linear relationship between high and low status outgroups simply indicates the general tendency of the distribution, concealing a more complex V-curve relationship. Whereas the nonsignificant linear relative deprivation effect (i.e., positive linear slope) on prejudice toward African immigrants masks the existence of the effects of both relative gratification and relative deprivation, the linear relative gratification effect (i.e., negative linear slope) on prejudice toward Western immigrants tends to mask the existence of a significant relative deprivation effect. Thus, the results strongly suggest that analyses of the linear relationship between the relative perception of both economic and overall conditions and intergroup phenomena are not sufficient. Such a traditional analysis can reveal a significant but relatively spurious relationship while concealing a more complex one. The V-curve effect is found to be strongly consistent across measures of intergroup attitudes. As shown by Figures 1A and 1B (see also Table 2), the bilinear function (i.e., full model) significantly predicts the measures of intergroup attitudes in each of the two cases. On the basis of this V-curve relationship, both relative deprivation and relative gratification were associated with greater levels of prejudice toward immigrants. These results confirm the key role of relative deprivation but in addition reveal that the relative gratification effect on intergroup attitudes, previously largely unexplored and undocumented, is robust and not limited to the French and the laboratory context (Grofman & Muller, 1973; Guimond & Dambun, 2002; Guimond et al., 2003).

#### *The V-Curve Hypothesis: The Mediating Role of Ethnic Identification*

Previous research has documented that the effect of relative deprivation is mediated by negative feelings, the affective component of relative deprivation (see Grant & Brown, 1995; Guimond & Dubé-Simard, 1983). If negative emotions mediate the relative deprivation effect, what explains the effect of relative gratification? An important aim of the present study was to explore the potential mediating role of ethnic identification. Specifically, we hypothesized that when South Africans perceive a general improvement in both their own personal conditions and their ingroup conditions, they might feel more pride in their ingroup and more attracted to it.

However, because South Africans have important group identities at different levels of inclusion (e.g., South African, Black, Xosa), it is reasonable to propose a matching process such that different levels of relative gratification will have the most impact on the corresponding level of identity. Future research needs to examine this possibility. Concerning our prediction, because stronger ingroup identification tends to be related to an increased bias against outgroups (e.g. Perreault & Bourhis, 1999), ingroup identification should act as a mediator of the effect of relative gratification on intergroup attitudes. The results of the present study provide relatively clear support for this hypothesis. The model by which ethnic identification mediates the effect of relative gratification on prejudice toward both Africans and Western immigrants received stronger support than the reverse model by which prejudice mediates the effect of relative gratification on ethnic identification (see Figure 3). Moreover, for both measures of prejudice, statistical analyses revealed that ethnic identification is a signifi-

cant mediator. However, because ethnic identification mediates, respectively, 24% and 12% of the effect of relative gratification on prejudice toward Africans immigrants and on prejudice toward Western immigrants, we conclude that ethnic identification is a partial rather than a full mediator and, consequently, that other variables also underlie the effect of relative gratification. For example, when people are in a state of relative gratification, they find themselves in a privileged position (Kawakami & Dion, 1995). Greater prejudice toward outgroups may emerge in an attempt to justify and maintain such privileges. As Crocker, Major, and Steele (1998) argued, "People of higher status may stigmatize those of lower status to justify their advantages" (p. 509). Clearly, the role of justification processes in understanding the phenomenon of relative gratification needs to be investigated.

#### *The V-Curve Hypothesis, SES, and Target Outgroup Status*

The results of the present study provide mixed support for our moderation hypothesis. As predicted, for high SES South Africans, relative gratification was associated with higher levels of prejudice toward Western immigrants than toward African immigrants. However, low SES South Africans perceiving relative gratification derogated African and Western immigrants to the same extent. In other words, contrary to our expectation, low status participants perceiving relative gratification do not seem more inclined to derogate low status outgroups than high status outgroups. Thus, these results seem to partially confirm our hypothesis derived from the instrumental model of group conflict (Esses et al., 1998), which predicted that relevant outgroups are not the same for low and high SES participants who perceive relative gratification. We argued that in order to maintain their perceived improving economic conditions, people derogate outgroups identified as potential competitors who pose a threat to the maintenance of their advantaged position. Results seem to suggest that both African and Western immigrants are identified as potential competitors by low SES South Africans perceiving relative gratification. Such was not the case for high SES respondents. These results are relatively consistent with the basic premise that perceptions of competition, economic competition, and threat to status lead to hostile intergroup attitudes (Brown, 1995; Campbell, 1965; Esses et al., 1998; L. M. Jackson & Esses, 2000; Sherif, Harvey, White, Hood, & Sherif, 1961; Stephan, Ybarra, & Bachman, 1999). Finally, the present results permit us to refine the manner in which relative gratification affects intergroup attitudes. The results of the present study are relatively consistent with the general hypothesis that people perceiving relative gratification are motivated to derogate potential outgroup competitors who may threaten the maintenance of their advantaged position. However, this hypothesis needs to be tested more directly in future research.

#### *Integrating the V-Curve Perspective With Related Lines of Research*

Five decades of research on relative deprivation has concluded that unfavorable comparisons generate feelings of dissatisfaction, and these lead to prejudice and intergroup hostility. The results of the present research suggest that favorable comparisons can also lead to hostile intergroup attitudes. It has long been argued that

prejudice and intergroup hostility are mainly associated with negative experiences, such as negative feedback, threats to identity and self-esteem, economic threat, and frustration (Brown, 1995; Cialdini & Richardson, 1980; Dollard, Miller, Doob, Mowrer, & Sears, 1939; Fein & Spencer, 1997). Our results do not contradict this perspective. They do suggest, however, that favorable comparisons resulting in a state of relative gratification can also play an important role in the emergence of negative intergroup phenomena. Such a conclusion is by no means inconsistent with other theoretical orientations in the field of intergroup relations. For example, it has been demonstrated that high status or privileged groups tend to be more ethnocentric in their attitudes and behavior than low status and disadvantaged groups (see Bettencourt, Dorr, Charlton, & Hume, 2001; Sachdev & Bourhis, 1987). Social dominance theorists have also shown that advantaged groups display greater ingroup bias and are more favorably disposed toward inequality and hierarchical relations favoring dominant groups than are disadvantaged groups (Sidanius & Pratto, 1999). Duckitt's (2001) theory also seems to be compatible with the relative gratification effect. In his dual process model, Duckitt and his colleagues (see Duckitt, 2001; Duckitt, Wagner, Plessis, & Birum, 2002) argued that dual motivational and cognitive processes underlie two distinct dimensions of prejudice. Specifically, "threat-driven control and security motivation and competitively driven dominance or superiority motivation" (Duckitt et al., 2002, p. 88) correspond to two independent processes that underlie prejudice. The first process mainly refers to threat and fear. The second process is more related to dominance, status, and power. Of interest, whereas the effect of relative deprivation might be related to the first process (threat), the relative gratification effect appears to be more closely related to the second process (power). In fact, because both relative gratification and high status involve a positive position on some evaluative dimension of comparison, it could be argued that relative gratification corresponds to one of the specific processes that underlies the more general concept of high status. However, both low and high status group members can perceive relative gratification. Thus, relative gratification can be seen as a dynamic process characterizing members who perceive that their personal or group situation is improving, has improved, or will improve. However, it is probable that the dynamics of both relative gratification and high status group membership share a similar sociopsychological logic. Individuals experiencing both find themselves in a relatively privileged position. We suggest that people are motivated to maintain such a position; it allows them to maintain their own interests and to occupy a valuable social position. However, maintaining such a position implies the use of strategies that require advantaged people to derogate potential threatening competitors.

Because it involves a favorable comparison, relative gratification can be defined as a "positive experience" closely related to dominance, status, and power. However, in certain contexts, it seems that relative gratification can be associated with perceived competition, threat, and defense of own interests, which are more "negative experience" by nature. Thus, it would be important to recognize that in certain situations, a positive experience and advantaged economic situation can result in defensive processes that favor derogation of relevant outgroups.

The role of ethnic identification reveals a more complex structure to the relative gratification effect. If the moderation of the

effect of relative gratification by both SES and outgroup target status argues in favor of an underlying defensive process, the mediating function of ethnic identification suggests another entirely different psychological mechanism. Thus, it seems that the relative gratification effect may be rooted in relatively distinct and independent processes. According to both realistic group conflict theory (Levine & Campbell, 1972; Sherif et al., 1961) and the instrumental model of group conflict (Esses et al., 1998), defensive strategies are more likely to appear when resources are relatively limited and when the economic context is bleak. Thus, in our view, a depressed and uncertain economic context may drive the defensive mechanisms that allow people to maintain their self-interest. On the other hand, we propose that the relative gratification effect also involves a motivation for superiority–dominance. The fact that in the relative gratification context, people feel more pride in their ethnic ingroup and this pride partially mediates the effect on hostile intergroup attitudes is compatible with this view. Thus, consistent with previous theory and research (e.g., Duckitt, 2001), it seems that relative gratification may be driven by two relatively independent processes.

### *Limitations and Future Directions*

Although the results of the present research support our hypotheses, the correlations between the variables are modest, accounting for a small percentage of variance (see Footnote 4). Using an experimental design and only student participants, Guimond and Dambrun (2002) found that the relative gratification effect explained approximately 10% of the variance. Using a correlational design along with a representative sample for the present study, we have shown that the explained percentage of variance for the relative gratification effect varies between <1% and 4% depending on the specific measure. Similarly, the well-established relationship between ethnic identification and prejudice explained approximately 1% of the variance in the present study. Because representative samples are more heterogeneous than student samples, it is not surprising that effect sizes tend to decrease. The fact that observed effect sizes are small indicates that we need to acknowledge that the relative gratification effect accounts for a small portion of the variance in real-world terms, but it is nevertheless a significant factor. We know little about the significance of many social–psychology variables and theories in the real world. Thus, research demonstrating the significance of a social–psychological variable, such as relative gratification, represents in our view a clear advance for social psychology.

Because the present study is based on a correlational design, no strong claims about causal relations among variables can be made. For example, future research needs to examine the mediating role of ethnic identification using an experimental design. In terms of the effect of relative gratification on prejudice, an important aim of the present study was to test the ecological validity of the relative gratification effect arising from a single laboratory experiment (Guimond & Dambrun, 2002). Clearly the effect of relative gratification reflects more than a mere laboratory artifact, but new insights into its underlying processes should emerge from examining the relationship between relative gratification and prejudice in a variety of different intergroup contexts.

### Understanding the South African Intergroup Situation

Relative deprivation theory has often been applied to the context of South Africa (Appelgryn & Nieuwoudt, 1988; De La Rey & Raju, 1996; Duckitt & Mphuthing, 2002). The results of the present study offer new considerations for understanding the intergroup dynamics in South Africa. Recent research has documented that immigrants are a prime target for discrimination in South Africa (Mattes et al., 1999). Intriguingly, this hostility seems to be generalized across contextual boundaries. Even when different variables such as social class, education, age, gender, and ethnicity are analyzed, no subgroup was found to display positive attitudes toward immigrants. Following the traditional perspective of relative deprivation theory, it could be argued that hostility toward African immigrants mainly reflects strong perceptions of economic decline among the current South African population (Hepworth & West, 1988; Hovland & Sears, 1940). However, the results of the present study force a new interpretation by suggesting that perceptions of economic improvement also tend to be associated with intergroup hostility in South Africa. This is relatively consistent with the study of Green, Glaser, and Rich (1998). In their extensive analysis of the relationship between economic downturns and negative behaviors toward stigmatized outgroups (e.g., hate crimes), they found little support for the usual claim that perceptions of economic decline (relative deprivation) produce intergroup hostility. Thus, testing the linear relationship between the perception of economic downturns and intergroup hostility is not sufficient and may conceal a more complex relationship in which both relative deprivation and relative gratification are associated with greater levels of intergroup hostility.

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