

Prejudice and social contact in South Africa: A study of integrated schools ten years after apartheid



Zelda Holtman

Health Sciences Faculty, University of Cape Town, South Africa

Johann Louw*

Department of Psychology, University of Cape Town, Private Bag, Rondebosch, 7701, South Africa

e-mail: jlouw@humanities.uct.ac.za

Colin Tredoux

Department of Psychology, University of Cape Town, South Africa

Tara Carney

Department of Psychology, University of Cape Town, South Africa

In this article the relationship between intergroup contact and racial prejudice in formerly segregated schools in Cape Town, South Africa, is investigated. A total of 1 119 black African, coloured, Afrikaans-speaking and English-speaking white learners were surveyed, using three measures of intergroup prejudice, a self-report intergroup contact measure and a racial identification scale. In general, quality of contact with individuals of other race groups and an increase in contact both in and outside of the school improved learners' race attitudes. Higher levels of demographic integration within schools were also positively related to race attitudes, but a high degree of identification with one's own race led in several instances to less positive attitudes towards other race groups. Intergroup contact seemed to be the single most important predictor of attitudes for all four groups in this study.

*To whom correspondence should be addressed

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The apartheid system in South Africa attempted to regulate intergroup contact in all spheres of daily life. This was particularly evident in government schools, which were rigidly segregated until the early 1990s, severely limiting opportunities for contact between learners from different 'racial' backgrounds. The repeal of apartheid legislation in the closing decade of the twentieth century saw the opening of schools to all 'race' groups and resulted in increased contact between previously segregated groups of learners. This situation created outstanding opportunities to examine again the possible relationship between social contact and prejudice.

In social psychology this, of course, is the domain of the contact hypothesis, formulated by Gordon Allport in his classic study, *The nature of prejudice* (Allport, 1954). Allport advanced the position that increased direct personal contact between members of groups would lead to a reduction in stereotypical views of one another and therefore result in reduced prejudice. In the years since then the contact hypothesis has had a chequered history: as more and more empirical studies have been conducted to investigate its usefulness as an explanation of prejudice, results have been inconsistent (see Dutton, Singer & Devlin, 1998; McClenahan, Cairns, Dunn & Morgan, 1996; Pettigrew, 1998; Schofield, 1997). More importantly, perhaps, a myriad of situational factors has been identified that would have to operate to make contact ideal (see Pettigrew, *ibid.*, for a recent review). This is particularly troublesome in attempts to reduce prejudice via a contact mechanism: the burden of too many facilitating conditions for optimal contact (Pettigrew, 1998) makes it impossible for any setting to have all these conditions operative at any one time.

South Africa is, of course, not the only country in the world that has experienced segregated education. Northern Ireland and the United States of America have had similar experiences. Research has shown that while desegregation in schools may lead to more positive racial attitudes (Dutton, Singer & Devlin, 1998; McClenahan, Cairns, Dunn & Morgan, 1996; Schofield, 1997) it may also result in negative racial attitudes (Stephan, 1978; Stephan & Rosenfield, 1978). Recent meta-analytic findings by Pettigrew and Tropp (2000) provide a good prognosis for intergroup contact and the reduction of prejudice. Their review of individual studies included respondents from many different nations, including some developing countries. The results of the analysis showed an inverse relationship between intergroup contact and prejudice: greater intergroup contact was associated with lower prejudice.

There is a substantial amount of research on the contact hypothesis from as early as 1930 in South Africa (Foster & Finchilescu, 1986; Lever, 1972; Luiz & Krige, 1981; MacCrone, 1930; Mynhardt, 1982, in Mynhardt & du Toit, 1991; Rakoff, 1949). Not surprisingly, findings have ranged from positive to negative, with some showing a change in attitude trends, new racial patterns perhaps becoming evident (Bradnum, Nieuwoudt & Tredoux, 1993). Russell's (1961) study of a mixed residential area in Durban in the 1950s found that inter-racial contact led to friendly relationships between groups. Even though the positive attitudes did not generalise to the broader

group outside the residential area, residential proximity was found to be associated with increased contact between the groups. Luiz and Krige (1981) found that contact between equal status coloured and white schoolgirls in a convent who were involved in co-operative tasks resulted in the white girls showing more positive attitudes toward the coloured girls.

Although these studies reported positive results following intergroup contact, results from Mynhardt's study in 1982 (cited in Mynhardt & du Toit, 1991) showed that English-speaking, white high-school girls who had contact with black African learners scored more unfavourably on attitudes toward black Africans than those white English-speaking, learners who had had no contact with black African learners. In her investigation of the developmental patterns of own and out-group preference among young children, Aarons (1991) found that the white group showed high own-group preference and high out-group prejudice. In agreement with international research findings, both out-group prejudice and own-group preference declined with age.

In a study conducted to assess the racial awareness and attitudes (both intra- and interpersonal) of a small group of Sub A (Grade 1) children in a desegregated school in Cape Town in 1991, Cowley (1991) found that more than half of the respondents experienced difficulties in adjusting to classroom desegregation. Soudien (1998) investigated the effects of black African learners in previously coloured, Indian and white schools, and his results showed that inter-racial friendships were almost non-existent. Instead, an apartheid-imposed discourse of race was pervasive at the school, evident in the use of stereotypes of coloureds, black Africans and whites.

Attitudes are dynamic and therefore subject to change. Bradnum, Nieuwoudt and Tredoux's (1993) study of learners' attitudes in integrated and segregated schools in South Africa and Zimbabwe found evidence of the formation of new racial attitude patterns in South Africa. Black and white Zimbabwean learners who had experienced inter-racial contact for at least ten years showed a high degree of racial prejudice, whereas white South African learners in racially integrated private schools showed minimal levels of prejudice. However, this study was conducted at a time when racially integrated schools in South Africa were predominantly church-based with school policies that fostered racial tolerance, even though the broader socio-political milieu was racially ordered.

The current study therefore aimed to assess learners of different race groups in schools that have been desegregated for a number of years. The central hypothesis was that there is a significant relationship between the amount and quality of intergroup contact, and racial prejudice. In addition, we wanted to model racial prejudice as a function of multiple variables, namely group membership, intergroup contact and levels of demographic integration.

METHOD

Participants

Nineteen desegregated, coeducational high schools in Cape Town were selected to participate in the study, according to a nine-level stratified sampling plan. This sampling plan was a cross-combination of a three level socio-economic stratification and a three level school integration factor. Two schools were randomly selected from each of the nine combinations and one school served as a pilot for the study. *Socio-economic*

Table 1. Demographic characteristics of respondents

Characteristics	N
Sex	
Female	570
Male	455
Race	
Coloured	502
Black African	93
Afrikaans-speaking white	205
English-speaking white	279
Grade	
9	28
10	555
11	473
12	14
Language¹	
Afrikaans	275
English	814
Socio-economic status	
Low	361
Moderate	403
High	315
Level of Integration	
Low	335
Moderate	372
High	372

Note: ¹ Language in which questionnaire was completed

status (SES) was defined according to the median income of people living in the suburb in which the school was located. A *low SES suburb* was defined as falling in the bottom third of the income range, a *moderate SES suburb* as falling in the middle third, and a *high SES suburb* as falling in the top third of the range. Income data are regularly collected by the City of Cape Town and are reported for almost all city suburbs, so this exercise was relatively easy to accomplish. The *school integration factor* was defined in terms of the race composition of learners enrolled at the school. Schools that had *90% or more of learners of one race* were defined as low integration, whereas schools which had *at least 20% of learners from at least two race groups* were defined as high integration. *All other schools* were defined as moderate integration.

To minimise disruption to the teaching programme, principals and teachers selected classes to participate in the study. A total of 1 119 learners completed questionnaires, although not all returned questionnaires could be used. Table 1 provides a summary of the demographic composition of the study sample.

The cross-tabulation of socio-economic status, integration and race is indicated in Table 2. The majority of coloured learners came from a low SES background, and attended schools with low to moderate levels of demographic integration. For black African learners, the majority came from low SES backgrounds and attended schools with low to moderate levels of demographic integration. White learners, however, attended schools with a high level of integration in significantly greater numbers.

Table 2. Cross-tabulation of race/group, integration and SES

SES	Integ	Race /group					Total
		Coloured	Black African	Afrikaans white	English white	Other	
Low	Low	89	27	1	2	2	121
Low	Moderate	85	27	0	6	6	122
Low	High	64	1	45	14	14	130
Total		238	55	46	22	12	373
Moderate	Low	5	4	63	42	3	117
Moderate	Moderate	49	1	24	51	3	128
Moderate	High	92	17	3	52	5	169
Total		146	22	90	145	11	414
High	Low	1	1	52	48	3	105
High	Moderate	92	5	16	16	3	132
High	High	25	10	1	48	8	92
Total		118	16	69	112	14	329
	Total	502	93	205	279	37	1116

Notes: SES = Socio-economic status; Integ = degree of school integration

Measuring instruments

Racial/ethnic identification scale

Appelgryn and Bornman's (1996) 'racial identification' scale, consisting of eight Likert-type items, was used to measure respondents' identification with their own race group. Two of the eight items were reverse-scored and the questions comprised concepts such as loyalty to one's race group and commitment to one's culture and traditions, for example, 'Loyalty to my race is particularly important to me' and 'Commitment to my culture and traditions of my race group is a major source of security in my life.' A minimum score of 8 and a maximum score of 40 were possible. Low scores indicated high identification and high scores indicated low identification with one's race group. Kuder-Richardson 20 (KR-20) reliability coefficients of 0.9 were reported by Appelgryn and Bornman. In the present study, the KR-20 values were 0.60 for coloured and black African learners, 0.61 for white Afrikaans speakers, and 0.70 for white English speakers.

Contact at school

The 'contact at school' scale is an adapted 5-point version of Bornman's (1988) original 7-point semantic differential scale, consisting of six pairs of bipolar adjectives such as 'courteous/rude' and 'meaningless/meaningful'. This scale was used to measure the quality of respondents' intergroup contact experiences at school. A minimum score of 5 and a maximum score of 30 were possible. Low scores indicate a negative experience of contact. In the present study the alpha values for the different racial groups ranged from 0.71 for black African learners to 0.76 for Afrikaans-speaking white learners.

Contact outside the school premises

The 'contact outside the school premises' scale is based on an original scale used by Bornman (1988), and Bornman and Mynhardt (1991). The scale consists of six items and was used to measure the amount of intergroup contact outside the school premises. Questions such as 'How often do you have contact with coloured residents of your suburb?' and 'How often do you have contact with coloured people in your own home?' These questions were put to all four groups in the study. A minimum score of 6 and a maximum score of 24 were possible. Higher scores indicate greater contact between groups. The alpha values in the present study ranged between 0.85 for black African learners and 0.93 for Afrikaans-speaking white learners.

Contact in- and outside the school premises

This scale was constructed for the present study, and measured the combined amount of contact inside as well as outside the school premises. It contained nine items. A minimum score of 9 and a maximum score of 36 were possible. Low scores indicate little contact and high scores greater contact between groups in- and outside the school

premises. Reliability was high, with alpha values between 0.94 for black African and 0.98 for Afrikaans-speaking white learners, for example.

Social distance toward in- and out-groups

We used a four-item version of the English translation (Durrheim, 1995) of Groenewald's (1975) scale (which was itself an adaptation of Bogardus' original Social Distance Scale of 1925). A minimum score of 4 and a maximum score of 20 were possible. Low scores indicate less social distance and high scores more social distance towards a particular out-group. Reliability coefficients have ranged from 0.3 for Afrikaans- to 0.83 for English-speaking white South Africans (MacCrone, 1937). Alpha values in the present study indicated reliability to be good (e.g. 0.88 for black African learners, and 0.92 for white Afrikaans speakers).

Anti-black sentiment

The Subtle Racism Anti-Black African Scale (Duckitt, 1991) consisting of 10 items was used to tap less overt prejudiced attitudes. It includes items such as 'Given the same education and opportunities, blacks should be able to perform as well as whites in any field', and 'Given favourable conditions black majority rule will ensure a stable prosperous and democratic South Africa'. A minimum score of 10 and a maximum score of 70 were possible. Lower scores indicate lower prejudice. While Duckitt found the reliability coefficient to be 0.91 for white university students, Finchilescu and Dawes (1998) found it to be 0.5 for coloured adolescents. The alpha value of the scale in the present study was rather low, at 0.53 for the sample, excluding black respondents.

Anti-white sentiment

The Subtle Racism Anti-white Sentiment Scale (Duckitt & Farre, 1994) was used to measure anti-white sentiment. The scale consists of ten items. Examples of items included in this scale are: 'Whites should not be allowed to keep their wealth. It should be taken from them and re-distributed among all the people of South Africa'; and 'Whites should have to suffer for the wrongs of apartheid'. As with the Anti-Black Sentiment Scale, a minimum score of 10 and a maximum score of 70 were possible. Lower scores indicate lower prejudice. Reliability coefficients range from 0.56 (Finchilescu & Dawes, 1998) to 0.64 (Duckitt & Mphuthing, 1998) for black African learners. In this study an alpha value of 0.87 was obtained.

Semantic differential attitude scale

In the present study a semantic differential race attitude scale, which was adapted by Nieuwoudt (1973) for use in South African settings was used. It consists of 15 adjectival pairs to which participants have to respond on a 7-point scale; for example, participants could choose between 'Fair/Unfair' and 'Cruel/Kind' to describe a reference group. A minimum score of 15 and a maximum score of 105 were possible. Low

scores indicate negative attitudes and high scores positive attitudes. Nieuwoudt found that reliability coefficients were high, ranging from 0.82 with Afrikaans- to 0.9 with English-speaking white servicemen. The present study found similar values, ranging from 0.91 to 0.93.

Procedure

Before the questionnaire was administered to the eighteen study schools, a pilot study was conducted with one Grade 9 class consisting of 29 learners (from a nineteenth school, i.e. not through the sampling frame used in the present study). The 29 learners experienced no difficulties with the materials of the study, and their responses therefore were included in the final statistical analysis.

Questionnaires were administered in an ordinary classroom period. The class teacher and in some instances the headmaster, introduced the first author and asked the learners for their assistance. The first author presented the study as an attitude survey about adolescents' views of one another, and remained in the classroom while learners completed the questionnaires. The average time taken to complete a questionnaire was 40 minutes. A leaflet containing information about career options in psychology was handed to each learner on completion of the questionnaire. The data from 1119 learners were collected over a period of six months, from April 2000 to September 2000.

Questionnaires were made available in Afrikaans, English and isiXhosa. No-one requested a questionnaire in isiXhosa, and 814 completed the questionnaire in English and 275 in Afrikaans.

Only the responses from coloured, black African, white Afrikaans-speaking and white English-speaking learners were required for this study. Responses from 40 learners from other groups, such as Portuguese, Indian, Chinese and Japanese learners, were excluded from statistical analysis.

RESULTS

The major research question pertained to the relationship between attitudinal measures of prejudice, and a combination of predictors, including socio-economic class, level of school integration, strength of racial identification, and amount and quality of contact with members of other groups at school. Multiple regression with backward elimination (Howell, 1992) was used to build models to show the relationship between the independent and dependent variables. The pattern of race attitudes across the different groups in this design is also of interest, given that the description of race attitudes has a long history in South African social psychology (for an overview, see Foster, 1991). However, presentation and discussion of race attitudes across the groups would make for too complex an article, so only summary statistics in tabular form are provided in this regard. The demographic characteristics of the sample are contained in Table 1, and Table 2 shows the cross-tabulation of race/group, integration and

socio-economic status. Table 3 shows summary descriptive data for the groups. It is necessary to describe the procedure of the regression analyses in some detail before reporting the results of these analyses.

Table 3. Descriptive statistics of different race groups on the dependent measures

	Social distance <i>M (SD)</i>	Anti-black sentiment <i>M (SD)</i>	Race attitudes <i>M (SD)</i>	Anti-white sentiment <i>M (SD)</i>	Racial identification¹ <i>M (SD)</i>
Black African					
White Afrikaans	15.79 (3.12)	34.52 (8.5)	57.24 (15.13)		
White English	13.38 (3.76)	40.92 (9.3)	63.55 (14.77)		
Coloured	12.8 (4.46)	35.73 (7.86)	65.81 (15.43)		
Coloured					
Black African	11.10 (4.41)		63.52 (13.72)		
White English	12.03 (3.83)		70.45 (14.53)		
White Afrikaans	14.21 (3.47)		66.78 (14.03)		
White Afrikaans					
Black African	13.92 (5.45)		61.52 (18.34)		
White English	10.17 (4.12)		68.73 (16.24)		
Coloured	13.19 (4.65)		60.63 (15.26)		
White English					
Black African	10.82 (4.89)		62.08 (18.31)		
White Afrikaans	9.37 (4.01)		73.07 (13.01)		
Coloured	10.88 (4.43)		67.28 (13.95)		
White learners					
Black African				34.07 (10.4)	15.69 (4.42)
Coloured				32.61 (11)	17.74 (4.14)
White Afrikaans					17.33 (4.10)
White English					20.48 (4.26)

Notes: The group to whom the attitudes are directed is always listed as the heading for the column of values. Column 6 contains the means and standard deviations for the Racial Identification Scale for each group

Table 4. Results of regression analyses predicting white Afrikaans-speaking learners' disposition towards other groups on three measures of ethnocentric attitude

	Social distance			Model variables (β)		
	Black African (n = 184)	Coloured (n = 198)	White English-speaking (n = 152)	Black African	Coloured	White English-speaking
R^2	.26	.34	.2	CAT (-.37)	IO (-.28)	CAT (-.32)
$S_{y,x}$	2.61	2.86	3.69	CO (-.25)	Integ1+	IO (-.29)
$df_{\text{regression}}$	2	7	2		Integ2+	
df_{residual}	181	190	149		CO (-.27)	
F	31.16	14.26	18.37		CAT (-.2)	
$p <$	.001	.001	.001		SES1+	SES2+
Anti-black sentiment						
	Black African (n = 174)			Black African		
R^2	.26			CAT (-.45)		
$S_{y,x}$	6.92			SES1		
$df_{\text{regression}}$	4			SES2		
df_{residual}	169			RID* (.14)		
F	14.91					
$p <$	.001					
Race attitudes (semantic differential)						
	Black African (n = 179)	Coloured (n = 190)	White English-speaking (n = 144)	Black African	Coloured	White English-speaking
R^2	.4	.29	.16	CAT (.54)	CAT (.54)	CAT (.41)
$S_{y,x}$	12	11.87	11.78	CO (.2)		
$df_{\text{regression}}$	2	1	1			
df_{residual}	176	188	142			
F	59.44	75.89	27.96			
$p <$	.001	.001	.001			

Notes: CAT = contact at school; CO = contact outside of school; IO = contact in and outside school; RID = racial identification; Integ = Integration; SES = socio-economic status.

* RID coefficients have had their signs reversed in this and all further tables for ease of interpretation

+ These are dummy variables, and it is not sensible to report β coefficients for them individually.

Six independent variables, namely socio-economic status (SES), level of integration (Integ), racial identification (Rid), contact at school (Cat), contact outside school (CO) and contact in- and outside school (IO) were entered into a regression equation in the first step. The regression equation took one of the race attitude measures as a dependent variable. Both Integ and SES were entered as dummy variables and were thus entered in blocks. Predictors were then removed one by one in subsequent steps to determine the statistical significance and variance explained by each predictor. This was done separately for each of the dependent variables as well as for each of the four race groups to determine the effects of the predictors on the criterion for each group. The simplest model with the fewest number of predictors and with no significant change in R^2 from the previous step was presented as the best or most parsimonious model to describe the relationship between the predictors and the dependent measure. An alpha level of 0.05 was used for all statistical tests.

White Afrikaans-speaking learners' attitudes toward black African, coloured and white English-speaking people

It proved possible to fit satisfactory multiple regression models to the data collected from white Afrikaans-speaking learners for each of the three race attitude measures. All models were statistically significant, and explained between 16% and 40% of the variance in the dependent measures. Table 4 provides a summary of the results of the regression analyses.

Table 4 shows that self-reported experiences of contact were statistically significant predictors of race attitudes held by white Afrikaans-speaking learners toward black African, coloured and white English-speaking people. This was the case for each of the regression models. Self-reported contact measures were predictive of social distance as held by white Afrikaans-speaking learners in relation to each of the target groups (black African, $F = 31.16$, $df = 2$, 181, $p < .001$, coloured $F = 14.26$, $df = 7$, 190, $p < .001$ and white English-speaking $F = 18.37$, $df = 2$, 149, $p < .001$). The relationship was in the direction expected under the contact hypothesis, that is, more contact resulted in less social distance.

A measure of contact at school was predictive of anti-black sentiment as held by white Afrikaans-speaking learners towards black African people ($\beta = -0.45$), but additional significant variables here were socio-economic status (dummy variables), and racial identification ($\beta = -0.14$). These relationships were all in the expected direction, namely more contact led to less distance, and lower racial identification led to less distance (the scale is scored in the reverse direction). The overall regression equation was statistically significant ($F = 14.91$, $df = 4$, 169, $p < .001$).

In the case of race attitudes (i.e., the semantic differential scale) toward black African people, coloured people, and white English-speaking people, all regression equations were significant ($F = 59.44$, $df = 2$, 176, $p < .001$, $F = 75.89$, $df = 1$, 188, $p < .001$, and $F = 27.96$, $df = 1$, 142, $p < .001$, respectively). In all of these equations,

only self-report measures of contact were significant, and their corresponding β values are fairly large. It is also clear from the table that amongst the collection of predictor contact variables, contact at school typically accounted for more of the variance than any other, and indeed was a significant predictor in every regression model.

Black African learners' attitudes toward white Afrikaans-speaking, coloured and white English-speaking people

Multiple regression models were fitted to data for each measure of race attitude for Black African learners. Regarding social distance, the only model that was significant was that toward white Afrikaans speakers ($F = 10.35$; $df = 1, 65$; $p < 0.002$), and that model contained only one variable, namely self-rated contact in and out of school. The direction of that variable in the equation ($\beta = -0.37$) is consistent with expectation.

In the case of anti-white sentiment, the only model again that was significant was that relating black African learners toward white Afrikaans speakers ($F = 3.65$; $df = 3, 56$; $p < 0.02$), and the significant predictors here were two reflecting socio-economic status, and one reflecting self-rated contact at school ($\beta = -0.3$ for the latter). The direction of the contact variable is consistent with expectation.

In the case of (semantic differential) race attitudes toward white Afrikaans-speaking, coloured, and white English-speaking learners, all regression equations were significant ($F = 14.91$, $df = 3, 49$, $p < .001$; $F = 24.33$, $df = 2, 58$, $p < .001$; and $F = 13.19$, $df = 3, 56$; $p < .001$, respectively). In all of these equations, self-report measures of contact were significant, as was a variable encoding degree of integration at school (except in the case of coloured learners). It is also clear from the table that contact at school was a significant predictor in every regression model, and was in the expected direction.

Coloured learners' attitudes toward white Afrikaans-speaking, black African and white English-speaking people

Multiple regression models provided a satisfactory fit to the data collected from coloured learners for all four measures of race attitude. Models that were statistically significant explained between 8% and 23% of the variance in the dependent measures. The results of the regression analyses are summarised in Table 6.

In the case of social distance, regression models were significant for the relation of coloured learners to each of the target groups ($F = 20.66$, $df = 3, 379$, $p < 0.001$; $F = 32.4$, $df = 4, 434$, $p < 0.001$; $F = 23.71$, $df = 3, 431$, $p < 0.001$; for white Afrikaans, black African, and white English, respectively). Each of these models was dominated by contact variables, and the associated β coefficients were all in the expected direction.

The model for anti-black sentiment was also significant ($F = 6.03$, $df = 6, 424$, $p < 0.001$), but the R^2 value was somewhat low (0.08), and the model was composed of variables reflecting socio-economic status, level of integration of schools, racial

identification and contact at school. These variables all had β coefficients in the expected direction.

For anti-white sentiment, regression models were significant, both when the target was white Afrikaans and when it was white English people. Towards white Afrikaans speakers, contact both inside and outside the school seemed to be the strongest predictor variable (judging by the β values of the predictors), while for anti-white sentiment towards white English speakers, level of integration of schools was the strongest predictor. In both cases, though, the regression models were complex, and several variables were statistically significant, including socio-economic status, racial identification, and self-rated contact. Interestingly, the contact variable was in the expected direction for anti-white sentiment towards English speakers (less contact associated with more anti-white sentiment), but not for Afrikaans speakers (more contact associated with more anti-white sentiment).

In the case of (semantic differential) race attitudes toward white Afrikaans-speaking people, Black African people, and white English speaking people, all regression equations were significant ($F = 49.46$, $df = 2, 352$, $p < .001$; $F = 29.81$, $df = 3, 413$, $p < .001$; and $F = 30.59$, $df = 3, 397$; $p < .001$, respectively). In all of these equations, self-report measures of contact were significant, as was a variable encoding socio-economic status. It is also clear from the table that contact at school was a significant predictor in every regression model and was in the expected direction, except in the case of contact outside the school, where less contact with white English speakers was associated with more favourable attitudes.

White English-speaking learners' attitudes towards white Afrikaans-speaking, coloured and black African people

It proved possible to fit satisfactory multiple regression models to the data collected from white English-speaking learners for each of the three race attitude measures. All models were statistically significant, and explained between 14% and 39% of the variance in the dependent measures. Table 7 provides a summary of the results of the regression analyses.

Table 7 shows that self-reported experiences of contact were statistically significant predictors of race attitudes held by white English-speaking learners toward black African, coloured and white Afrikaans-speaking people. This was the case for each of the regression models. Self-reported contact measures were predictive of social distance as held by white English-speaking learners in relation to each of the target groups (Black African, $F = 21.69$, $df = 4, 220$, $p < .001$, coloured $F = 32.01$, $df = 4, 224$, $p < .001$ and white Afrikaans-speaking $F = 12.61$, $df = 2, 151$, $p < .001$). The relationship was in the direction expected under the contact hypothesis, that is, more contact resulted in less social distance, and the β coefficients were all relatively large in size (all $\beta > 0.19$). Although these models were dominated by contact measures, racial identification was significant in the case of social distance towards black African people ($\beta = 0.26$), and in the case of social distance towards Coloured people ($\beta = 0.2$).

Table 5. Results of regression analyses predicting black African learners' disposition towards other groups on three measures of ethnocentric attitude

Social distance						
	Target		Model variables (β)			
	White Afrikaans-speaking (n = 67)	Coloured (n = 198)	White English-speaking	White Afrikaans-speaking	Coloured	White English-speaking
R^2	.14			IO (-.37)		
$S_{y,x}$	4.88					
$df_{\text{regression}}$	1					
df_{residual}	65					
F	10.35					
$p <$	.002	Not significant	Not significant			
Anti-White sentiment						
	White Afrikaans-speaking (n = 60)	White English-speaking		White Afrikaans-speaking	White English-speaking	
R^2	.16			SES1		
$S_{y,x}$	9.88			SES2		
$df_{\text{regression}}$	3			CAT (-.3)		
df_{residual}	56					
F	3.65					
$p <$	0.02	Not significant				
Race attitudes (semantic differential)						
	White Afrikaans-speaking (n = 53)	Coloured (n = 61)	White English-speaking (n = 60)	White Afrikaans-speaking	Coloured	White English-speaking
R^2	.48	.46	.41	Integ1	CAT (.59)	Integ1
$S_{y,x}$	15.31	10.63	14.71	Integ2	IO (.2)	Integ2
$df_{\text{regression}}$	3	2	3	CAT (.39)		CAT (.2)
df_{residual}	49	58	56			
F	14.91	24.33	13.19			
$p <$	.001	.001	.001			

Note: CAT = contact at school; CO = contact outside of school; IO = contact in and outside school; RID = racial identification; Integ = Integration; SES = socio-economic status

Table 6. Results of regression analyses predicting coloured learners' disposition towards other groups on four measures of ethnocentric attitude

	Social distance					
	Target			Model variables (β)		
	White Afrikaans-speaking (n = 483)	Black African (n = 439)	White English-speaking (n = 435)	White Afrikaans-speaking	Black African	White English-speaking
R^2	.14	.23	.14	CAT (-.25)	CO (-.28)	IO (-.31)
$S_{y,x}$	4.32	3.93	4.08	IO (-.23)	CAT (-.23)	RID (.15)
$df_{\text{regression}}$	3	4	3	RID (.12)	IO (-.12)	CAT (-.13)
df_{residual}	379	434	431		RID (.12)	
F	20.66	32.4	23.71			
$p <$	.001	.001	.001			
Anti-black sentiment						
	Black African (n = 431)	Black African				
R^2	.08	SES1				
$S_{y,x}$	7.6	SES2				
$df_{\text{regression}}$	6	Integ1				
df_{residual}	424	Integ2				
F	6.03	CAT (-.16)				
$p <$	.001	RID (.11)				
Anti-white sentiment						
	White Afrikaans-speaking (n = 374)	White English-speaking (n = 420)	White Afrikaans-speaking	White English-speaking		
R^2	.12	.09	IO (.26)	Integ1		
$S_{y,x}$	10.68	10.84	SES1	Integ2		
$df_{\text{regression}}$	5	6	SES2	SES1		
df_{residual}	368	413	Integ1	SES2		
F	10.17	6.69	Integ2	CO (-.17)		
$p <$	.001	.001		RID (.12)		

Table 6 continued

Race attitudes (semantic differential)						
	White Afrikaans-speaking (n = 355)	Black African (n=417)	White English-speaking (n = 401)	White Afrikaans-speaking	Black African	White English-speaking
R^2	.22	.18	.19	CAT (.45)	CAT (.35)	CAT (.3)
$S_{y,x}$	13.94	14.02	12.73	IO (.1)	SES1	IO (.29)
$df_{\text{regression}}$	2	3	3		SES2	CO (-.11)
df_{residual}	352	413	397			
F	49.46	29.81	30.59			
$p <$	.001	.001	.001			

Notes: CAT = contact at school; CO = contact outside of school; IO = contact in and outside school; RID = racial identification; Integ = Integration; SES = socio-economic status

A measure of contact at school was predictive of anti-black sentiment as held by white Afrikaans-speaking learners towards black African people ($\beta = -0.34$), as was a measure of contact outside school ($\beta = -0.21$), but additional significant variables here were school integration (dummy variables), and racial identification ($\beta = 0.15$). These variables were all in the expected direction, namely more contact led to less distance, and lower racial identification led to less distance (the scale is scored in the reverse direction). The overall regression equation was statistically significant ($F = 14.91$, $df = 4, 169$, $p < .001$).

In the case of race attitudes toward black African people, coloured people, and white Afrikaans-speaking people, all regression equations were significant ($F = 47.53$, $p < .001$, $df = 2, 217$, $p < 0.001$; $F = 59.98$, $df = 2, 221$, $p < .001$, and $F = 22.4$, $df = 4, 139$, $p < .001$, respectively). In all of these equations, self-report measures of contact dominated, and their corresponding β values were fairly large. It is also clear from the table that amongst the collection of predictor contact variables, contact at school typically accounted for more of the variance than any other, and indeed was a significant predictor in every regression model. Racial identification was significant in the case of attitudes towards black African people ($\beta = -0.16$), and school integration was significant in the case of attitudes towards white Afrikaans-speaking people, but all the other variables in the models concerned contact.

DISCUSSION

The pattern of differences between race groups on attitudinal measures towards other groups is a classic question in South African social psychology. This study was concerned with an attempt to find predictors of race attitudes across groups on race attitude

Table 7. Results of regression analyses predicting white English-speaking learners' disposition towards other groups on three measures of ethnocentric attitude

	Social distance					
	Target Black African (n = 225)	Coloured (n = 229)	White Afrikaans- speaking (n = 154)	Model variables (β)		
			Black African	Coloured	White Afrikaans- speaking	
R^2	.28	.36	.14	RID (.26)	IO (-.36)	CAT (-.29)
$S_{y,x}$	3.01	3.08	3.88	CO (-.22)	RID (.2)	IO (-.21)
$df_{\text{regression}}$	4	4	2	CAT (-.21)	CAT (-.19)	
df_{residual}	220	224	151	IO (-.16)	CO (-.15)	
F	21.69	32.01	12.61			
$p <$	.001	.001	.001			
Anti-Black sentiment						
	Black African (n = 219)			Black African		
R^2	.3			CAT (-.34)		
$S_{y,x}$	7.59			CO (-.21)		
$df_{\text{regression}}$	5			Integ1		
df_{residual}	213			Integ2		
F	18.43			RID (.15)		
$p <$	.001					
Race attitudes						
	Black African (n = 220)	Coloured (n = 224)	White Afrikaans- speaking (n = 144)	Black African	Coloured	White Afrikaans- speaking
R^2	.3	.35	.39	CAT (.51)	CAT (.49)	CAT (.46)
$S_{y,x}$	12.01	11.49	12.46	RID (-.16)	IO (.25)	Integ1
$df_{\text{regression}}$	2	2	4			Integ2
df_{residual}	217	221	139			IO (.17)
F	47.53	59.98	22.4			
$p <$	.001	.001	.001			

Notes: CAT = contact at school; CO = contact outside of school; IO = contact in and outside school; RID = racial identification; Integ = Integration; SES = socio-economic status

measures. Regression models revealed that, in general, contact was the most important predictor of race attitudes. It seems to be more important than socio-economic class, demographic integration of the school, or participants' racial identification. This is in contra-distinction to the conclusion arrived at by Foster and Finchilescu (1986) in their review of the South African literature some 20 years ago. However, it is in line with recent research on the contact hypothesis, for example, 'Allport's formulation continues to receive support across a variety of situations, groups, and societies' (Pettigrew, 1998, p. 68). (See also the American Psychological Association's *amicus curiae* brief submitted to the First US Circuit Court of Appeals, to be found at www.apa.org/psyclaw.comfort-v-lynn.pdf).

Overall, the extent to which the school had been desegregated, the quality of inter-race contact at school, and amount of social contact inside and outside the school premises emerged as the strongest predictors of race attitudes and accounted for the highest variation in most of the dependent measures. The gross amount of contact, as reflected in the demographic integration of the school, was not nearly as significant as the individual level measures of contact. This perhaps is not so surprising, since the definition of the level of school integration was rather inexact, yielding us only three levels (namely, high, moderate and low) with which to work.

Racial identification as a predictor produced equivocal results. For Afrikaans-speaking white learners, it only emerged as statistically significant on the anti-black sentiment scale, which is a more subtle or covert measure of racial prejudice and therefore more sensitive to prejudiced attitudes. For English-speaking white learners, it emerged as a consistent predictor of social distance, anti-black sentiment and the endorsement of racial attitudes toward black African and coloured people. This was also true for coloured learners, for whom racial identification consistently emerged as a significant predictor of social distance, anti-black sentiment and anti-white sentiment toward black African, Afrikaans- and English-speaking white people, respectively (see Table 5).

Socio-economic status and level of integration were the only significant predictors of social distance toward coloured people for Afrikaans-speaking white learners. This is one of the few models where contact does not feature as a significant predictor.

There are considerable strengths to this study. For one, it is rare to see a survey done at schools on such a large scale, using so many measures relating to contact, integration and attitudes. Furthermore, as mentioned in the introduction to the article, it comes quite some time after the last comparable study of race attitudes in South Africa.

Our research also moves away from the study of the effects of contact on white prejudice towards black people, which is the most common type of study in the literature, to explore a more complex, multiracial pattern. This opens up the possibility, for instance, of exploring how the effects of contact may vary across different types of intergroup relations: whether contact works as well on black–white prejudice as it

works on white-black prejudice. Although the present analysis is not able to address this issue directly, it would seem from these results as if the route to reducing prejudice for all groups runs through inter-racial contact.

Nevertheless, we must acknowledge a number of limitations. The use of anonymous self-report measures such as questionnaires may be problematic (Simon, 1978). Social desirability is a common form of bias that may affect the validity of results from studies such as the present. Nine years after the first democratic general South African elections it is common knowledge that racial discrimination is socially undesirable and unacceptable in desegregated schools. While this may not have eradicated the occurrence of racial violence, learners are aware that racial prejudice is socially undesirable and may have been reluctant to report their actual attitudes, which they may believe to be shameful. Instead, they may have reported attitudes they felt would please the researcher. The use of several response dimensions and different measures (e.g. subtle racism measures) were therefore incorporated into the instrument in an attempt to control for such inaccuracy and distortion. During the administration of the questionnaire, some learners objected to the pre-defined categories and questions, such as the adjectival pairs in the semantic differential race attitude scale, which forced them to fit their own attitudes into predetermined responses.

The extent to which the findings of this study can be generalised is limited by the specificity of the sample. The respondents were Grades 9 to 12 learners of former Model C schools in the Western Cape Province. There are regional nuances that stem from the political and socio-economic history of this province. This makes the findings of this study unique to this particular region. However, it is doubtful that a study of this nature would produce substantially different results in other regions in South Africa, given the immense impact of the legacy of apartheid. Since 1949, the findings of research studies have shown consistently that the most negative attitudes were reported by white people toward black African and coloured people.

While it is true that South African intergroup patterns have remained largely unchanged for the past 60 years, there are indications of change in a positive direction with regard to desegregation in schools. Even though the findings of the present study did not reveal any dramatic changes from past trends, partial support for the contact hypothesis augurs well for desegregation in South African schools.

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