

Reading comprehension in Caucasian middle school students: effects of the race of protagonists

Clifton A. Casteel*

Vernon C. Haynes Middle School, Metairie, Louisiana, USA

David P. Rider

Psychology Department, Xavier University, New Orleans, USA

The purpose of this study was to investigate whether Caucasian students would read fictional text passages depicting African-American characters as carefully as they would those depicting characters of their own (Caucasian) race. Fifty-seven 7th grade high ability and low ability readers read nine African-American and nine Caucasian fictional passages. Following silent reading of each passage, the students responded to a 20-item multiple-choice test designed to measure comprehension. A 2 x 2 ANOVA was conducted on the number of test items answers correctly. Results demonstrated that all readers answered significantly more test items correctly over passages about Caucasian characters than they did over passages about African-American characters.

Research has demonstrated that young Caucasian children are not very fond of the colour black and black related objects. Because of this concept, many researchers have studied the attitudes of Caucasian children toward the colour black and the connotations associated with African-Americans. Documented studies (Ammons, 1950; Landreth & Johnson, 1953; Stevenson & Stewart, 1958; Tatum, 1992; Williams, 1964; Williams & Roberson, 1967; Williams & Stabler, 1973) have suggested that racial groups are often designated by colour names: African-Americans are called 'black' and Caucasians are called 'white', and the words black and white carry rather specific connotations. Caucasians in this study are defined as American Caucasians or whites.

Various studies involving Caucasian school children's attitudes toward black colour and African-Americans revealed that young Caucasian children as young as two use the word 'black' to symbolise evil and wickedness, and 'white' to symbolise goodness and purity, and the frequency of discrimination increases with increasing chronological age (Blake &

*Correspondence and requests for reprints should be addressed to Dr C. A. Casteel, 1487 Filmore, New Orleans, LA 70122-1956, USA.

Dennis, 1943; Goodman, 1952; Gordon, 1972; Horowitz, 1939; Parish, 1974; Parish, Fleetwood & Lentz, 1975; Renninger & Williams, 1966; Schrank, 1982; Spencer & Horowitz, 1973; Williams & Edwards, 1969; Williams & Roberson, 1967; Yancey & Sing (1975).

If Caucasian students have learned that 'white' people and things are good, and 'black' people and things are bad, it seems plausible that this complex of ideas and associations could carry over to students' perceptions of the African-American characters they read about in the classroom as depicted in reading textbooks.

Textbooks and their depiction of African-Americans

It is important to recognise from the outset that textbooks (in America) often embody a politics of representation that tends to suppress minority identities and reproduce inequalities that exist in society (McCarthy, 1990; MacCann & Richard, 1991; Slims, 1982; Smith, 1979; St Clair, 1989).

In fictional literature, African-American fictional characters often are represented as: pickaninnies, dim-witted, abnormal, bad at grammar, burdened by a depressing outlook on life, and as inhabitants of dismal urban settings (Barrett & Barrett, 1966; Broderick, 1973; Grant & Grant, 1981; Harris, 1984; Hill, 1971; Morrison, 1977; Schwartz, Linzer & Issuer, 1983). Of the 72 books Henderson (1990) investigated all but 27 featured African-Americans protagonists possessing little thinking skills, and unimaginable characters portrayed as simple minded and devalued. On the other hand, Caucasian protagonists are most often characterised as heroes and problem-solvers. Protagonist is defined as the main character in a story.

Palmer & Palmer (1983) presented an array of 30 racially diverse children's books to Caucasian seventh graders and asked them to select books they would like to read. Results revealed that these students selected books with characters correlating to their own race and refused to select books featuring African-American characters. In another investigation conducted by Kohl (1974) involving comic books, a group of Caucasian kindergarten children were asked to identify with the super-hero, who in some cases had been painted black for this procedure. When the super-hero's race had been altered, students rejected the identification and referred to the concept of an African-American as a super-hero as being silly.

Abundant previous research has explored the stereotypes that often characterise minorities and the negative attitudes that persist about groups of people. Yet very little work has been done to understand the more fundamental processes that may underline such stereotypes and attitudes. For example, how do Caucasian children process information that they read in classroom textbooks about African-Americans? Are there differences in manner or efficiency with which information is learned about people of different races? That is, will Caucasian children read African-American fictional text material as effectively as literature of their own race?

The purpose of this study was designed to examine the effects of reading comprehension in Caucasian middle school students when presented with African-American and Caucasian protagonists. Children read several stories in which the protagonist was Caucasian and several other stories in which the protagonist was African-American; their comprehension of those stories was then compared. To examine the potential effects of overall reading ability, two groups of students were studied: high ability readers and low ability readers.

Method

Sample

This sample consisted of 57 American Caucasian (white) seventh grade students. The 32 girls and 25 boys were enrolled in a public middle school (predominantly Caucasians) located in a south-eastern metropolitan city in the United States. School information revealed that all the students were from a low socio-economic status, as determined by parents' occupation, education, housing and use of the free lunch programme. The school had grouped all seventh grade students into homogeneous classes for reading instruction. One class contained ($N=32$) students (11 boys and 21 girls) classified as high ability readers and one class contained ($N=25$) low-ability readers (14 boys and 11 girls) which constituted the students for this investigation. Classification of reading ability of participants were as follows: low ability readers were those students ($N=25$) whose norm-reference scores on the Comprehensive Test of Basic Skills (CTBS), level 2, form S (McGraw-Hill, 1979) fell within the third and fourth stanines. High ability readers ($N=32$) were those with stanine scores falling in the sixth and seventh stanines. The test had been administered by counsellors in April of the previous school year. Ages of students ranged from 12 years 9 months to 15 years 6 months. The combined mean grade equivalent score for those students on the reading sections of the test was 6.2. All students were currently reading from a seventh grade textbook.

Materials

Text passages and comprehension tests

Eighteen passages were selected: nine passages depicting African-American protagonists and nine passages depicting Caucasian protagonists. The African-American passages had a total of 22 protagonists, some stories with two or more protagonists. A total of 17 protagonists were portrayed in the nine passages depicting Caucasian literature. All passages were designed for intermediate age (11-14) level and were part of the regular lesson. After each passage was read, 20 multiple-choice questions (supplied by the publishers) were administered to measure students' comprehension. Passage and condition were counterbalanced within students.

The passages were selected for use in the present study according to four criteria:

- (1) The illustrated cover sheets of the passages should depict the race featured. That is, if a passage was to depict African-Americans, a story with an illustration of an African-American on the front page was selected.
- (2) Passages were to be approximately 1200-1400 words, which has been documented as the appropriate length, difficulty and interest level for seventh grade readers as stated by the publishers.
- (3) The passages were fictional; none was historical or biographical. All passages were high interest and depicted children, as noted by the publishers and two reading specialists from a local university.
- (4) The passages were to have well-developed plots and clear story structure as judged by two local university reading specialists.

Passages were taken from: *Houghton Mifflin Reading Series*, 'Awards', 'Pageants', 'Taking Flights' and 'Triumphs' (Durr & Pikulski, 1983); *McGraw-Hill Reading Series*, 'Crystal Stair', 'Distant Shores' and 'Star to Star', (Sulzby, Hoffman, Niles, Shanahan & Teale, 1989).

Procedure and design

Students in each reading class (low ability and high ability) were asked to read 18 text passages under two treatment conditions, 'A' and 'B'. Nine passages depicting African-American protagonists constituted treatment condition 'A', while treatment condition 'B' contained nine passages depicting Caucasian protagonists. Each student began the experiment by silently reading a passage from treatment condition A or B. The next day, we presented students with a passage from treatment condition B or A. On the third day, students read from the opposite passage condition, and so on until the experiment was completed. This procedure was equally employed in both ability groups. Thus, all students in both ability groups read nine passages depicting African-American protagonists, and nine passages depicting Caucasians, a total of 18 passages. After each passage was read, the students were presented with a set of 20 multiple-choice test items which asked for specific facts or information about the passage. The total number of multiple-choice items for each type of passage condition (A/B) was 180.

This procedure was conducted in a regular reading classroom setting of 50 minutes per lesson. Since students had been in classes for two months, the time allowed for completion of an assignment seemed sufficient. Each group of participants was monitored by two staff teachers to help with students' questions and to minimise/limit the possibility of cheating. The reading and testing took place Monday through Thursday. Friday was make-up day for students who were absent during a treatment period. A duration of three months was necessary for the entire investigation. Nine students in the low ability class were unable to finish the assignment in one class period of 55 minutes, and they were permitted to continue through the next class period until completion.

Students were encouraged to read each passage carefully because their test scores would be recorded as part of their class grades. However, students were not informed as to the rationale of the study and, therefore, any reference to interest in colour as it relates to race was carefully avoided.

The two independent variables investigated in this study were performance level and passage type. The performance level variable had two levels: high and low ability. The passage type variables had two levels: African-American and Caucasian protagonists. Performance level is more correctly a status variable, since it represents attributes of the students and was not directly manipulated. The number correct on the multiple-choice tests over the two conditions (18 passages) served as the dependent variable.

Results

Both high and low ability readers scored better on tests over passages about Caucasian protagonists than they did on tests over passages about African-American protagonist. A 2 x 2 (ability level x passage type) analysis of variance (ANOVA) was conducted on the number of test items answered correctly. The passage type factor was assessed within students. Results of this analysis are provided in Table 2. Both main effects were statistically significant.

Table 1. Means and standard deviations of total number of items answered correctly on tests covering passages about African-American characters and about Caucasian characters.

Performance level	N	Passage type (A/B)			
		African-American (A)		Caucasian (B)	
		M	SD	M	SD
High ability	32	137.69	10.07	165.97	6.67
Low ability	25	120.44	14.89	140.44	15.31
Total	57	129.06	12.48	153.20	10.99

Total number of test items on each type of passage was 180.

The critical value for significance at the .05 level is 3.94. These results indicate that the difference in test scores on the two types of passages was somewhat greater in high ability readers than it was in low ability readers, although this difference was not statistically significant.

Table 2. Analysis of variance for reader type and response type of number of questions answered correctly

Source of variance	SS	d.f.	MS	F	p
Ability level	12,840.75	1	12,840.75	91.30	.01
Type of passage	17,316.01	1	17,316.01	123.12	.01
Interaction	481.26	1	481.26	3.42	NS
Within-subject error	15,470.16	110	140.64		
Total score	46,108.18	113			

Some additional statistical analyses were done to help assess separately the magnitude of the differences in test scores over the two types of passages for the two groups of students (high and low ability readers). Since the 'passage type' factor was assessed within students, it is appropriate to assess its potential effect on reading comprehension for each group of students with a *t* test for correlated samples. Table 3 summarises these results. The mean difference in test scores was calculated as total test items correct on passages about Caucasian protagonists minus total test items correct on passages about African-American protagonists.

Table 3. Summary of *t*-tests for correlated samples of high and low ability readers

Variable	M	N	SD	t	p
Performance level					
High ability (N=32)	28.28	32	11.33	14.11	.001
Low ability (N=25)	20.00	25	13.31	7.51	.001

The direction of differences in test scores over the two different types of passages was quite consistent across individual students. Of 25 students in the low ability group, 24 scored higher overall on the tests over passages about Caucasian protagonists. The one exception in this group answered two more questions correctly about African-American protagonists than about Caucasian characters. Of 32 students in the high ability group, 31 scored higher overall on the tests over passages about Caucasian protagonists.

Students' scores on the individual nine tests covering the two conditions of passages also showed a high degree of consistency. Each individual test consisted of 20 items. For the low ability readers ($N=25$), the mean score for the individual tests covering passages about African-American protagonists ranged from 12.52 to 14.68; the mean score for tests covering passages about Caucasian protagonists ranged from 14.92 to 16.96. For the high ability readers ($N=32$), the mean score for the individual tests covering African-American protagonists ranged from 13.91 to 16.19; the mean score for tests covering Caucasian protagonists ranged from 17.84 to 19.31.

Before summarising, some supplementary data are worth consideration.

Comments of students. After the completion of the text passage assignment, an informal interview took place with the students. Students were asked 15 specific questions about each passage designed to tap their feelings and attitudes. Some of the questions were: Can you identify with the protagonists? What did you like/dislike about the settings? What are your feelings about the endings and the plots? Do you feel he/she solved his/her problems in an intelligent manner? Their responses toward passages about African-American characters were overwhelmingly negative. For example, these students pointed out that most protagonists were 'silly, dumb and boring and did weird things that didn't make much sense', while responses generated toward Caucasian protagonists were very positive, such as 'they (protagonists) were cool and fun'. Such results, therefore, suggested that Caucasian students were unable to relate to or identify to African-American characters. Also, they could have found the characters less interesting.

Discussion

The present research provides clear evidence of a difference in reading comprehension in Caucasian middle school students as a function of the race of a story's protagonist. Students' comprehension of stories about Caucasians was consistently and substantially better than their comprehension of stories about African-Americans. This effect was not restricted to low ability readers: if anything, the effect on reading comprehension tended to be even more pronounced in the high ability readers. These results are considered consistent with the theory that white-black concept and the attitudes generated toward black have a profound effect upon the comprehension of literature depicting African-Americans.

Findings of this research pose some interesting questions. Is the difference in reading comprehension the result of negative attitudes or prejudice students already have about African-Americans? In either case, the possibility is fairly self-evident. A reader's prejudice toward an African-American protagonist may affect the reader's interpretation of events in the story. The reader may not believe the story is as important, interesting, or worthwhile as another story featuring protagonists of his/her race. Or the reader may be unable to identify with protagonists featured in the story. It is quite possible that these readers' minds were

made up before they attempted the literature involving African-Americans and rejected the possibility that the passages could have been exciting.

Regardless of what is responsible for it, the fact remains that these students showed a difference in reading comprehension when a story's protagonist was African-American. That difference, in turn, may contribute to a reader's negative attitudes. Stereotypes and prejudice often are based on notoriously inaccurate information about people to whom the stereotypes are applied. Given the nature of race relations in our society, African-Americans tend to be devalued by whites. Thus, it is possible that such negative attitudes toward African-Americans may transfer to young Caucasian students' perceptions of the characters they read about in texts. The present research, in effect, suggests that some information about such people may be processed inaccurately, if at all. This would seem to make it all the more difficult to correct misinformation and to undo such stereotypes.

Nonetheless, one could speculate that, if negative ideas and opinions directed toward African-Americans were formed at a very early age, would exposing Caucasian children to positive literature or textbooks about African-Americans in later years really make a difference in their attitudes toward minorities? That is, do books have the power to change lives and combat prejudices in the individual and in society as a whole? Some researchers (Beggs, 1956; Clark, 1963; Dalhouse, 1992; Gumaer, 1977; Harris, 1984, 1990; Henderson, 1990; Rollins 1967; Rollock, 1974; Schrank, 1982; Yancey & Singh, 1975) have presented evidence to demonstrate that reading material can influence young people's attitude toward people of different cultures if the story's protagonist is presented as a realistic person, not a victim, and if that protagonist is involved in experiences and plots that are identifiable to the young reader. In addition, some researchers (Gimmestad & de Chiara, 1982; Yancey & Singh, 1975) believe that books, school plays and audio video materials can be used for educational and therapeutic interventions in regard to alleviating to some degree negative racial feelings vented toward African-Americans. And this could be the vehicle to play a vital role in promoting positive attitudes in Caucasian children toward African-Americans. In contrast, Walker (1971) revealed a different conclusion. The results suggested that exposing young Caucasian children to programmes that focus strictly on the positive cognitive domain of any targeted group, such as African-Americans, only emphasising textbooks or filmstrips, in fact, have not always changed Caucasians' well-developed behaviour and effective dimensions of prejudice.

It is clear that in order to understand how racial attitudes and reading responses develop a great deal more information about young children will have to be obtained. For example, this study did not attempt to determine such questions as: would African-American students' test scores have been significantly higher than those of Caucasians after reading literature depicting Caucasian protagonists? Also of research interest would be a study in which this same procedure was undertaken in a multiracial class. Further investigations of Caucasian students' reading comprehension test scores toward African-American protagonists might attempt to determine remaining unanswered questions, and therefore might shed light upon the cause-effect relationship concept.

As a final point of this study, in fairness to the participants, the foregoing discussion should not be construed as suggesting that low test scores exhibited by Caucasian students toward African-American texts should be seen as a determinant of racial prejudice.

Note: The treatment of participants was in accordance with the ethical standards of the APA.

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