

**AN ASSESSMENT OF DIFFERENCES BETWEEN WHITE STUDENTS'
AND BLACK STUDENTS' INVOLVEMENT IN
MARINE RELATED ACTIVITIES**

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INTRODUCTION

In 1979, the Mississippi-Alabama Sea Grant Consortium supported a project to increase the marine-related involvement of minority, underprivileged and handicapped students at Biloxi High School in Biloxi, Mississippi. A major premise of the project was that minority students, for various social and economic reasons, do not participate in marine-related activities to the extent that White students do. Since this premise was based largely on personal contacts and interactions rather than documented evidence, one of the initial undertakings in the evaluation phase of the project was an assessment of the marine-related involvement of students at Biloxi High School and a determination of what differences, if any, exist between White students and Black students.

The Instrument

The instrument used in this investigation was the Marine Attitude and Activity Assessment, developed specifically for this project. The assessment contains four major sections and a total of 47 questions. The four sections are:

General information	5 questions
Student involvement in marine activities	14 questions
Student and parent marine-related fears	18 questions
Students' attitudes toward using the beach	10 questions

Sample

The Marine Attitude and Activity Assessment was administered to students enrolled in Marine Biology and selected other classes at Biloxi High School in March, 1979. A total of 342 students answered all items on the survey and, therefore, constitute the sample on which comparisons were made. Most of the students were in the 10th or 11th grade and there was an almost equal distribution

of males and females. However, since there were 267 White students compared to 75 Black students, all results will be expressed as percentages. A descriptive summary of the student population is presented in Table 1.

Results

The first section of the instrument contained five questions related to whether the students or their parents could swim and to whether the students had or were currently taking marine biology. A graph containing the percentage responses to the first three questions is presented in Figure 1 of the Appendix.

The second section of the instrument contained fourteen activities, and the students were asked to circle the number of times they had participated in each activity. The five choices were 0, 1-2, 3-5, 6-10, and over 10. For ease in the interpretation of the results, separate graphs were prepared for each of the activities and these are presented in Figures 2-15 of the Appendix. In addition, to determine if significant differences existed between the responses of Blacks and Whites, a chi-square test of significance was performed on the percentage responses to each question. This analysis revealed that for only two of the activities -- Picnic or Party on the Beach and Collected Marine Plants on the Beach -- were there no significant differences at the .01 level. An examination of the percentage responses to specific questions reveals that some of the differences are indeed large. For example:

63% of the Black respondents had never ridden on a privately-owned boat compared to 11% of the White respondents who had not.

Over twice as many Black as Whites (43% compared to 18%) had never gone fishing in the Gulf.

While approximately half the Whites had been wading in the Gulf more than 10 times, less than 20% of the Blacks had. In addition, over 40% of the Blacks had never been wading in the Gulf even once. The results are approximately the same for swimming in the Gulf.

A summary of the results is presented in Table 2.

Table 1
 Descriptive Summary of Students
 Participating in Survey

CATEGORY	NUMBER
I. Race	
Black	75
White	267
II. Sex	
Female	160
Male	182
III. Age	
15	88
16	122
17	101
18	25
19	3
20	3
IV. Grade	
10	138
11	145
12	59
V. Enrollment in Marine Biology	
Past enrollment	21
Currently enrolled	80
Never enrolled	241
	342

Table 2

SUMMARY OF RESULTS OF ASSESSMENT OF STUDENT INVOLVEMENT

Activity	Percentage of Responses					Chi-square	Probability					
	Black		White									
	0	1-2	3-5	6-10	Over 10							
Picnic or party on the beach	9	25	27	13	25	6	14	22	16	41	8.402	.0777
Ridden on a privately owned boat	63	16	13	1	7	11	13	15	12	49	77.801	.0000
Ridden on a commercial boat	71	19	7	1	3	22	26	21	12	19	54.846	.0000
Gone fishing in the Gulf	43	23	11	8	16	18	12	14	10	46	28.797	.0001
Gone wading in the Gulf	44	23	8	7	19	10	12	11	15	52	43.581	.0000
Gone swimming in the Gulf	49	20	9	4	17	20	16	13	7	44	26.125	.0001
Gone trolling in the Gulf	79	9	5	3	4	54	10	10	4	22	19.023	.0012
Gone crabbing in the Gulf	44	20	13	8	15	29	10	14	12	36	15.895	.0037
Thrown cast nets in the Gulf	64	21	5	1	8	44	13	11	7	25	21.089	.0006

Table 2 (Cont'd)

SUMMARY OF RESULTS OF ASSESSMENT OF STUDENT INVOLVEMENT

Activity	Percentage of Responses										Chi-square	Probability
	Black					White						
	0	1-2	3-5	6-10	Over 10	0	1-2	3-5	6-10	Over 10		
Been to Deer Island	80	9	7	1	3	40	13	12	7	27	39.072	.0000
Been to Horn Island	83	9	3	3	3	51	18	12	6	12	22.424	.0004
Been to Ship Island	71	16	9	0	4	27	15	20	12	26	52.093	.0000
Collected marine plants on the beach	69	21	7	0	3	62	15	13	3	7	7.774	.1000
Collected marine animals on the beach	63	21	9	3	4	46	15	16	7	15	13.575	.0093

In the third section of the instrument, the students were asked to give two responses, one concerning their worries and the other their parents' worries, to nine items which complete the following statement, "If you went fishing or swimming in the Gulf, would you or your parents worry about you:". Graphs summarizing the responses of the students are presented in Figures 16 and 17 of the Appendix. As with the previous section, a chi-square test of significance was performed on the percentage responses to each item, and these results are presented in Table 3. Those items related to students' fears for which significant differences existed were:

- Falling into a deep hole
- Stepping into quicksand
- Being washed away by waves
- Being bitten by crabs

However, only two items--Stepping into quicksand and Being bitten by crabs--related to parents' fears had significantly different responses.

In the last section of the instrument, students were asked to agree or disagree with 19 statements related to their attitudes toward using the beach. The percentages of students agreeing to each statement are presented in Figure 18 of the Appendix. As before, chi-square tests of significance were performed on the percentage responses of Blacks and Whites, and four of the ten items were found to be significantly different at the .01 level. These statements were:

- I am a good swimmer and I enjoy the water.
- I am afraid to ride on boats.
- I do not feel comfortable near the water.
- I don't go to the beach because I don't know how to swim.

Of special interest is the fact that no significant differences were found among the responses to the following items:

- When I go to the beach, I feel like an outsider.
- My parents do not want me to go to the beach.
- I don't go to the beach because I feel other people don't want me there.

A summary of the results is presented in Table 4.

Table 3

Results of Assessment of Students' and Parents' Marine-Related Fears

Percentage of Yes Responses

Item	Black	White	Chi-square	Probability
Do you worry about:				
Falling into a deep hole	67	46	8.138	.0047
Being stung by a sting-ray	57	57	.8814	.8814
Being attacked by sharks	56	38	5.801	.0154
Stepping into quicksand	56	28	14.963	.0003
Being washed away by waves	52	24	15.471	.0003
Being bitten by crabs	55	24	18.830	.0001
Being dragged into a whirlpool	60	43	5.125	.0224
Being harmed by pollution	45	48	.080	.7739
Being bitten by snakes	57	48	1.283	.2563
Do your parents worry about:				
Falling into a deep hole	71	69	.024	.8720
Being stung by a sting-ray	65	66	.000	1.000
Being attacked by sharks	60	49	2.016	.1521
Stepping into quicksand	65	37	14.586	.0004
Being washed away by waves	56	37	6.512	.0106
Being bitten by crabs	60	35	11.549	.0011
Being dragged into a whirlpool	61	54	.737	.6047
Being harmed by pollution	56	57	.000	1.000
Being bitten snakes	65	55	1.687	.1911

Table 4

Results of Assessment of Students' Attitudes Toward Using the Beach

Item	Percentage of Yes Responses		Chi-square	Probability
	Black	White		
When I go to the beach, I feel like an outsider.	23	10	5.226	.0211
My parents do not want me to go to the beach.	24	14	2.632	.1009
I am a good swimmer and enjoy the water.	53	88	27.792	.000
I don't go swimming on the beach, because the water is too dirty.	87	73	5.281	.0205
I am afraid to ride on boats.	25	4	16.132	.0002
I do not feel comfortable near water.	25	3	18.314	.0001
My parents go to the beach often.	13	25	3.931	.0448
I know a lot about fish and other marine animals.	29	39	1.805	.1760
I don't go to the beach, because I feel other people don't want me there.	11	2	5.265	.0207
I don't go to the beach, because I don't know how to swim.	20	3	12.577	.0007

Conclusions

The Marine involvement project was based on the premise that minority students do not participate in marine-related activities to the extent White students do. While the results of this investigation certainly support this contention, the reasons for this discrepancy are probably more complex than it was originally assumed. Some of the findings which appear particularly pertinent to understanding minority students' attitudes are:

- 1) Only 55% of Black students know how to swim as compared to 95% of White students.
- 2) While Blacks participate less than Whites in marine-related activities, at least some of this discrepancy may be economically-related (e.g. ridden on a privately-owned boat).
- 3) All students, both Black and White, expressed concern over certain occurrences taking place while swimming or fishing. The only two concerns, which may both be culture-related, for which there were differences in how the students perceived their parents' fears are stepping into quicksand and being bitten by crabs.
- 4) Contrary to expectations, most Black students indicated that "feeling like an outsider" was not a major factor in discouraging their use of the beach.
- 5) Black students indicated that their swimming ability was more of a factor in discouraging their use of the beach than were other factors.

The results of this investigation certainly support the need to not only make students more aware of the marine environment by encouraging participation in marine-related activities, but also the need to provide instruction in such activities as swimming and water safety. Thus, it is concluded that the initial premise was correct and that the project was based on sound assumptions.

APPENDIX

FIGURE 1

PERCENTAGE OF STUDENTS ANSWERING "YES" TO FIRST THREE QUESTIONS

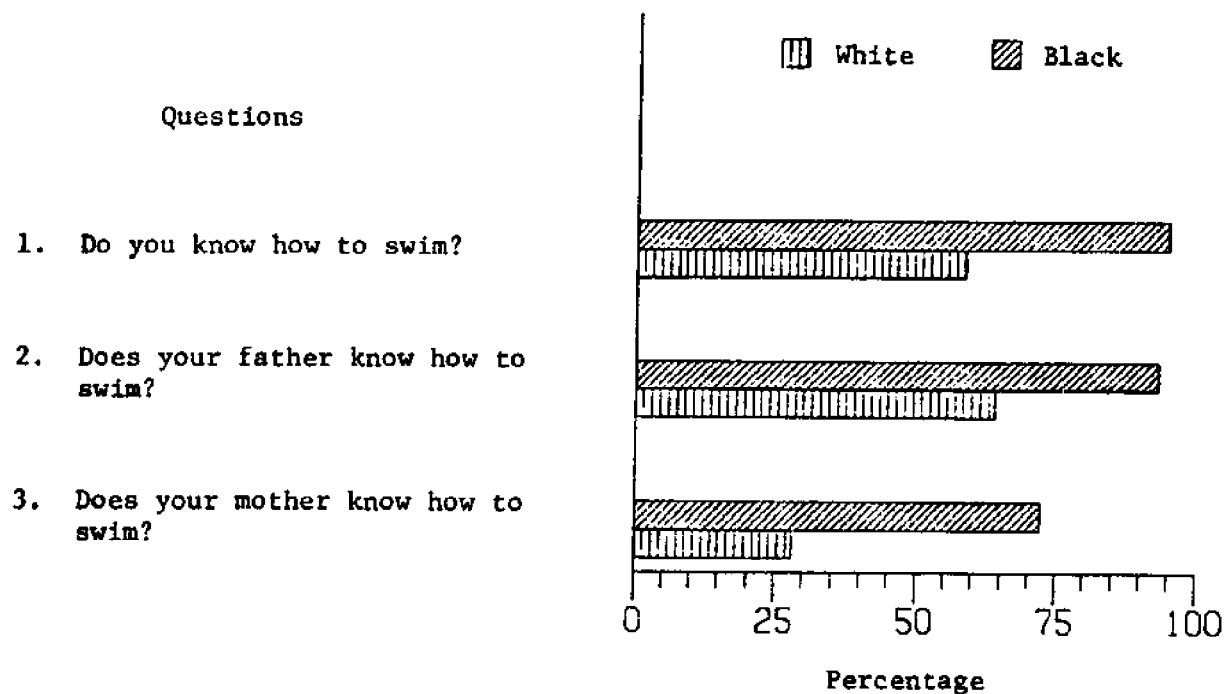


FIGURE 2

ACTIVITY: PICNIC OR PARTY ON THE BEACH

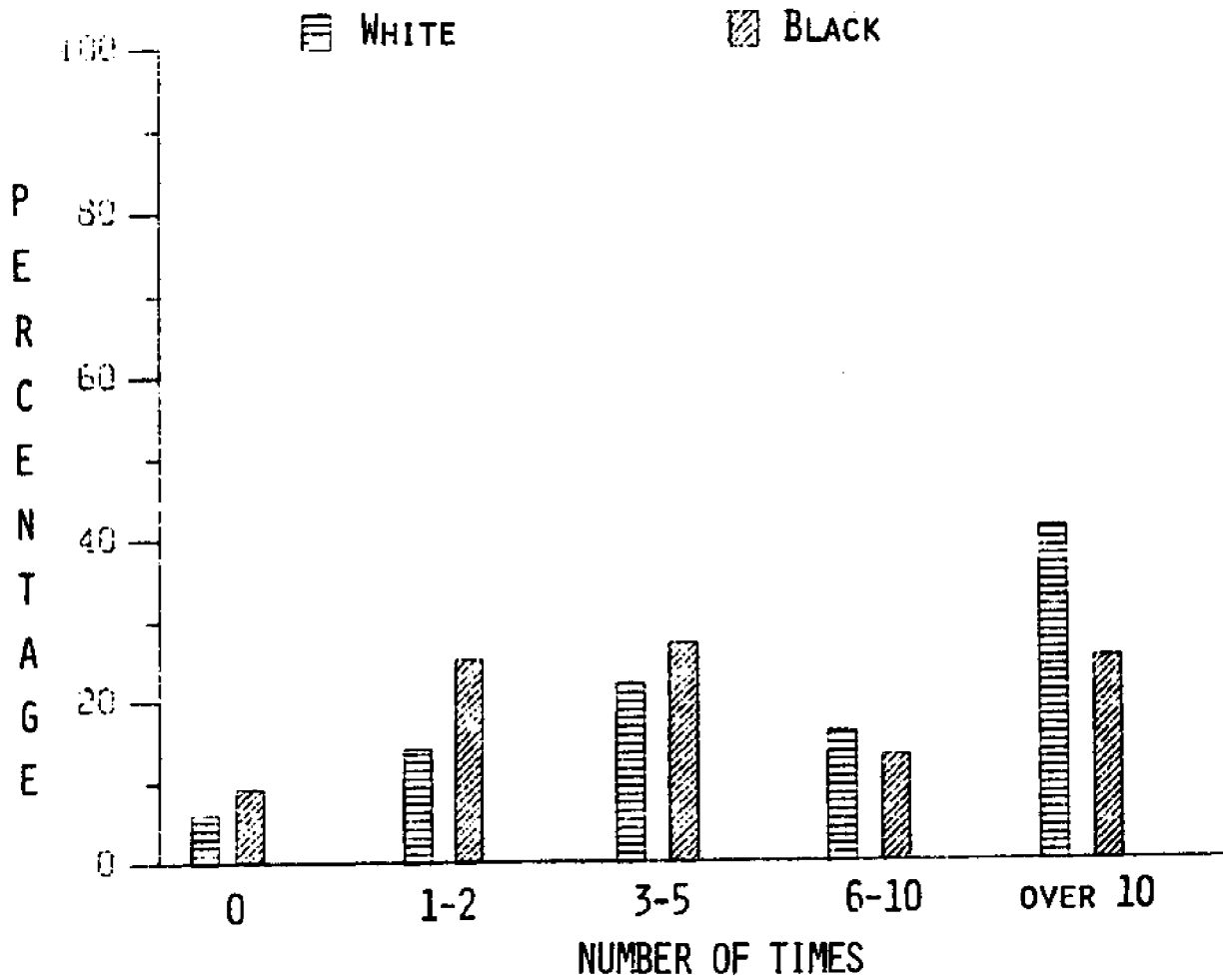


FIGURE 3

ACTIVITY: RIDDEN ON A PRIVATELY OWNED BOAT

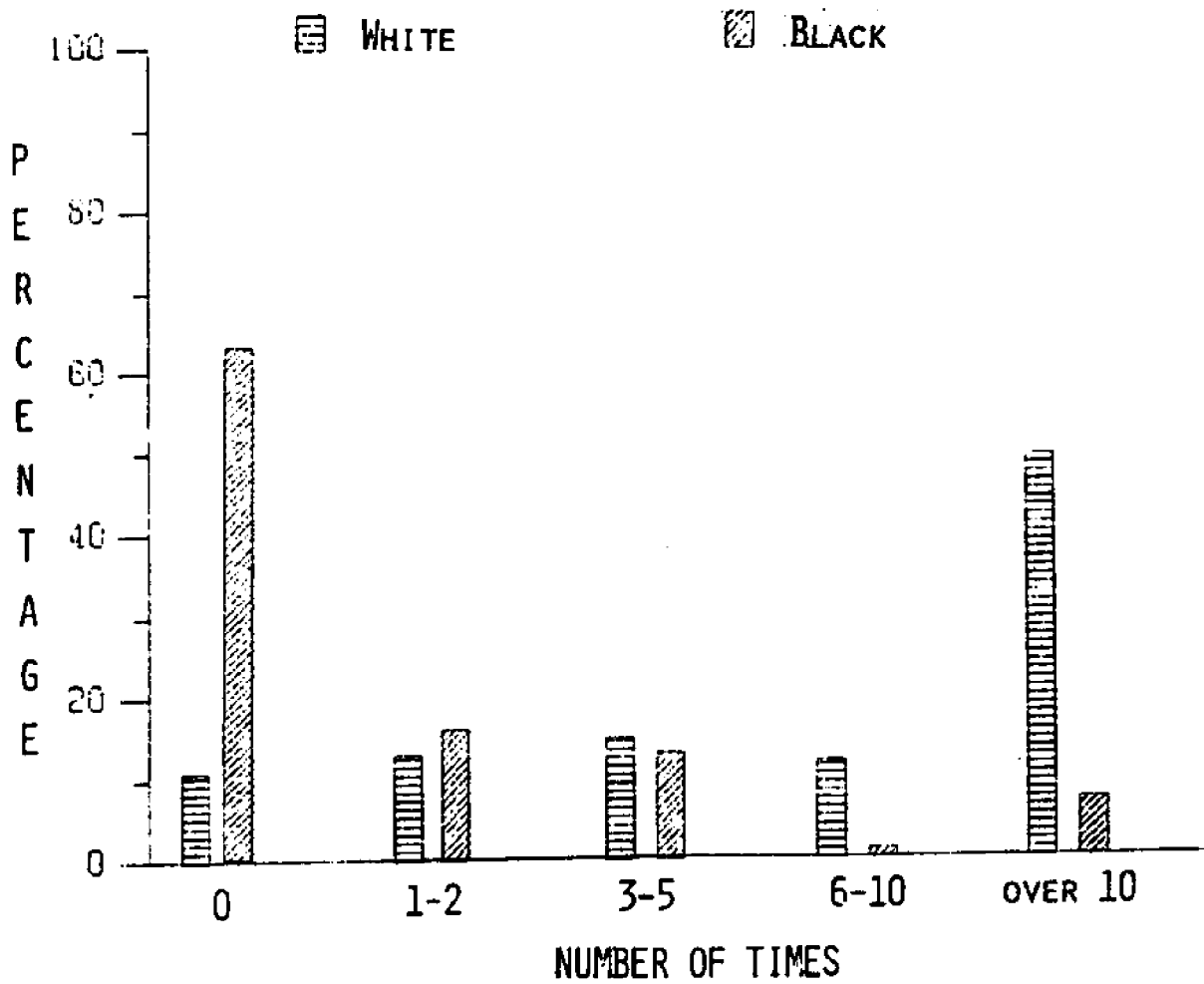


FIGURE 4

ACTIVITY: RIDDEN ON A COMMERCIAL BOAT

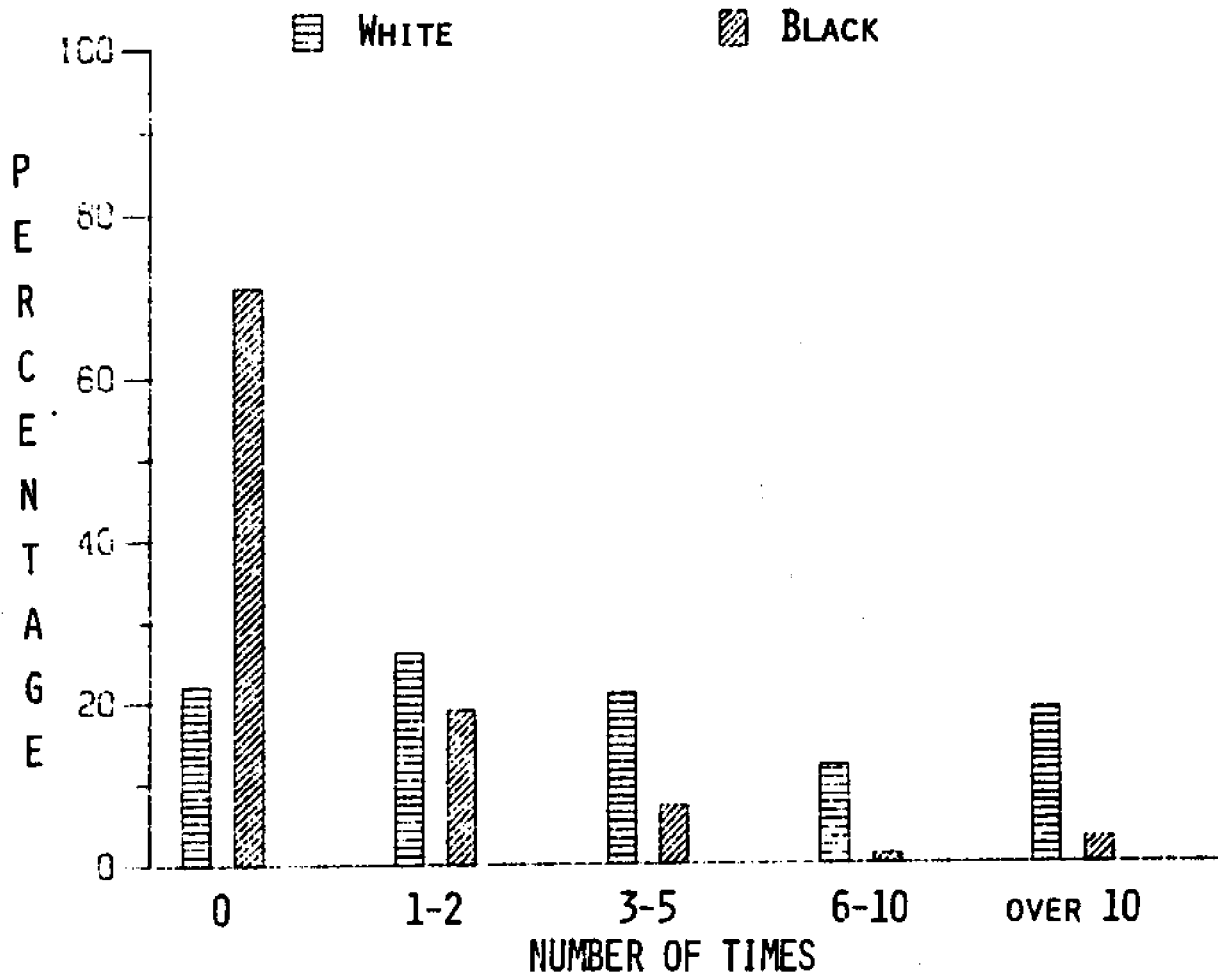


FIGURE 5

ACTIVITY: GONE FISHING IN THE GULF

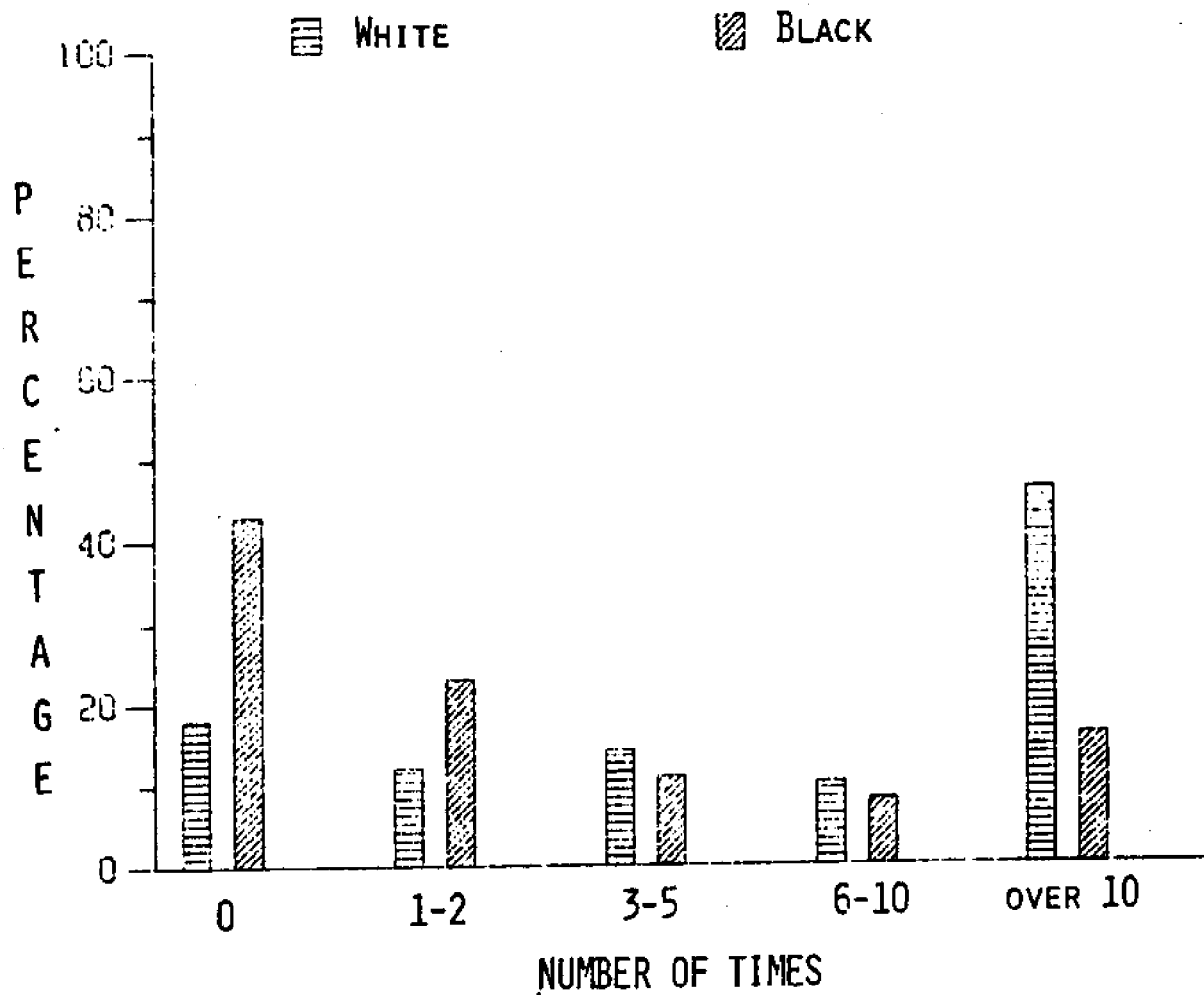


FIGURE 6

ACTIVITY: GONE WADING IN THE GULF

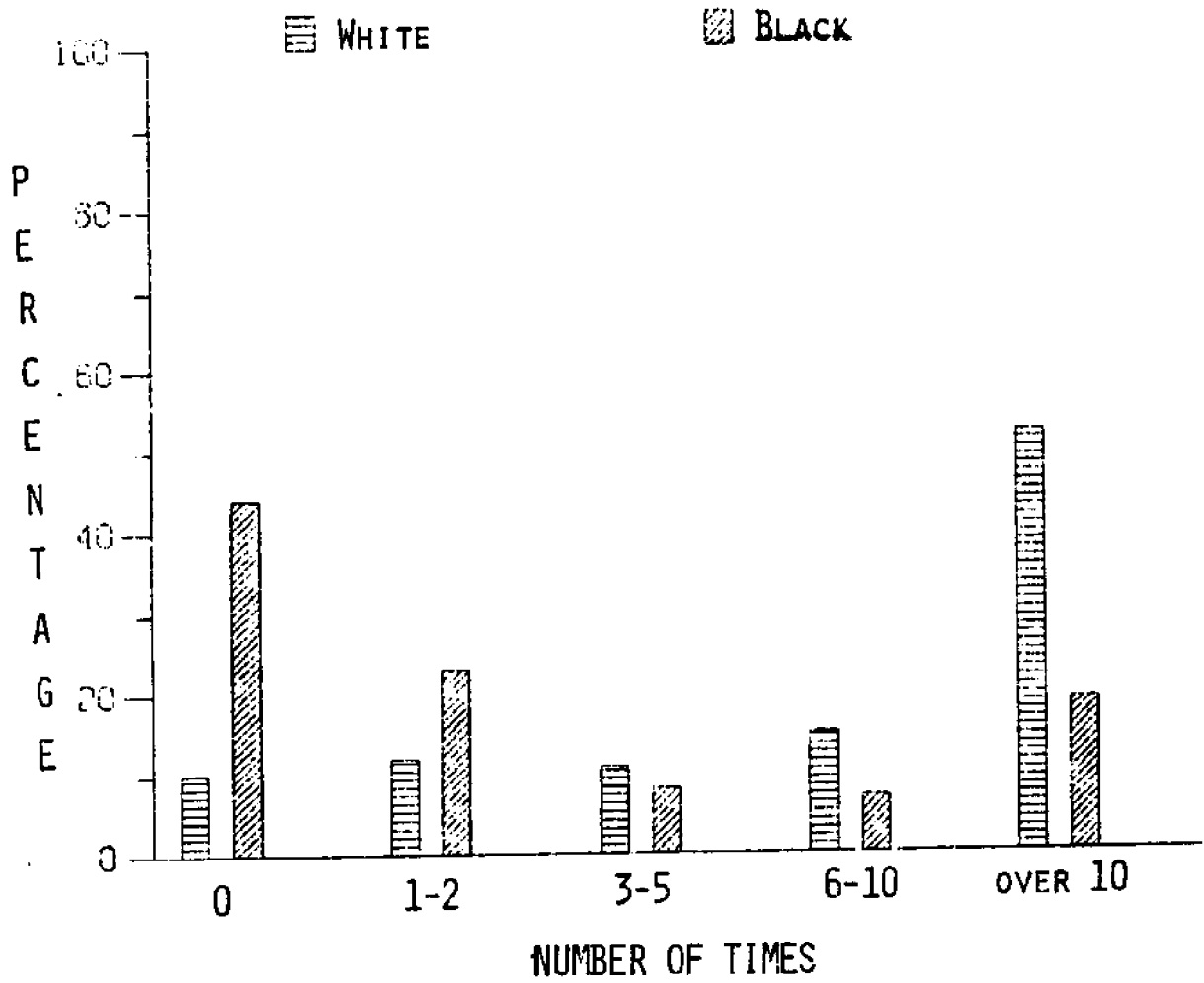
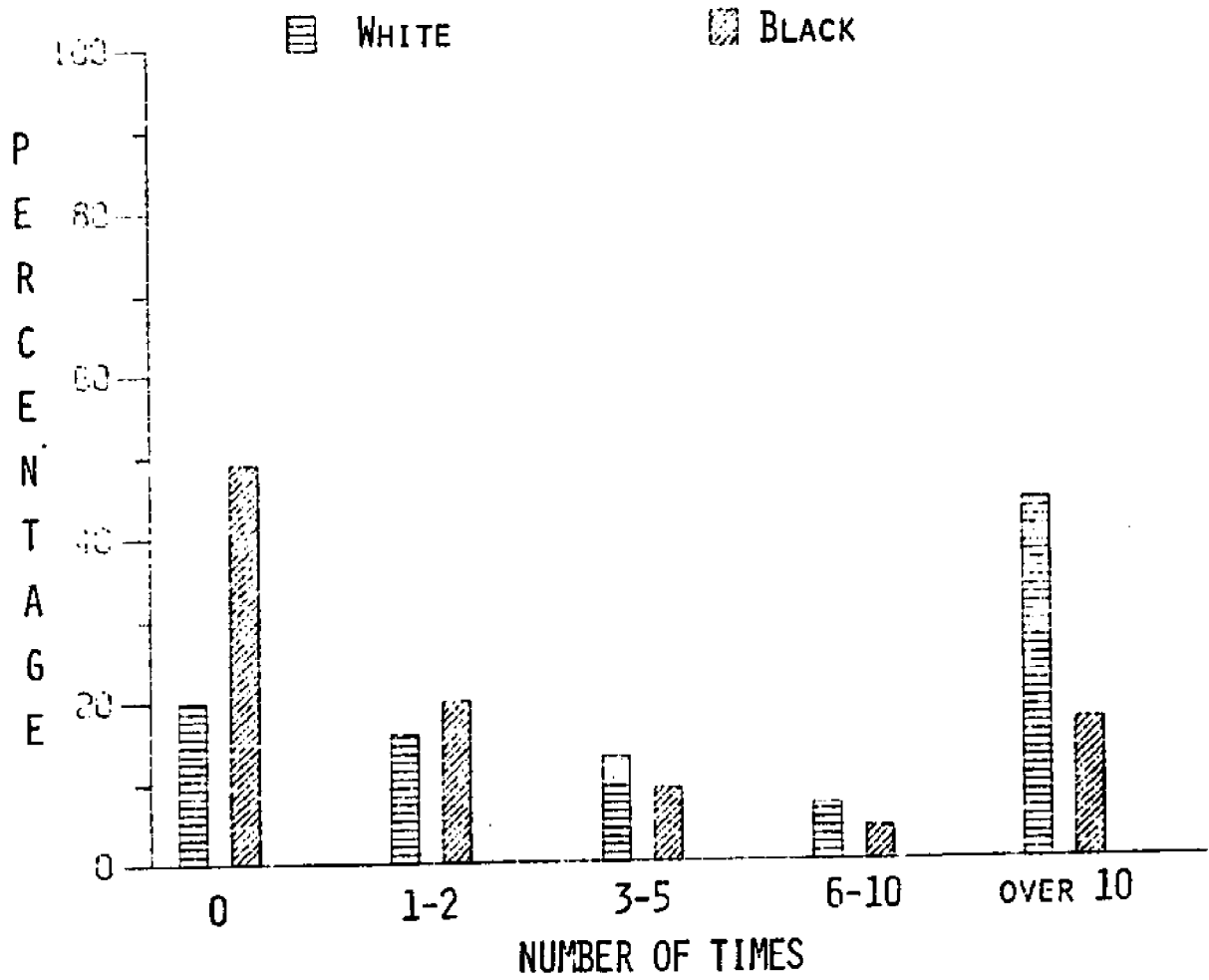
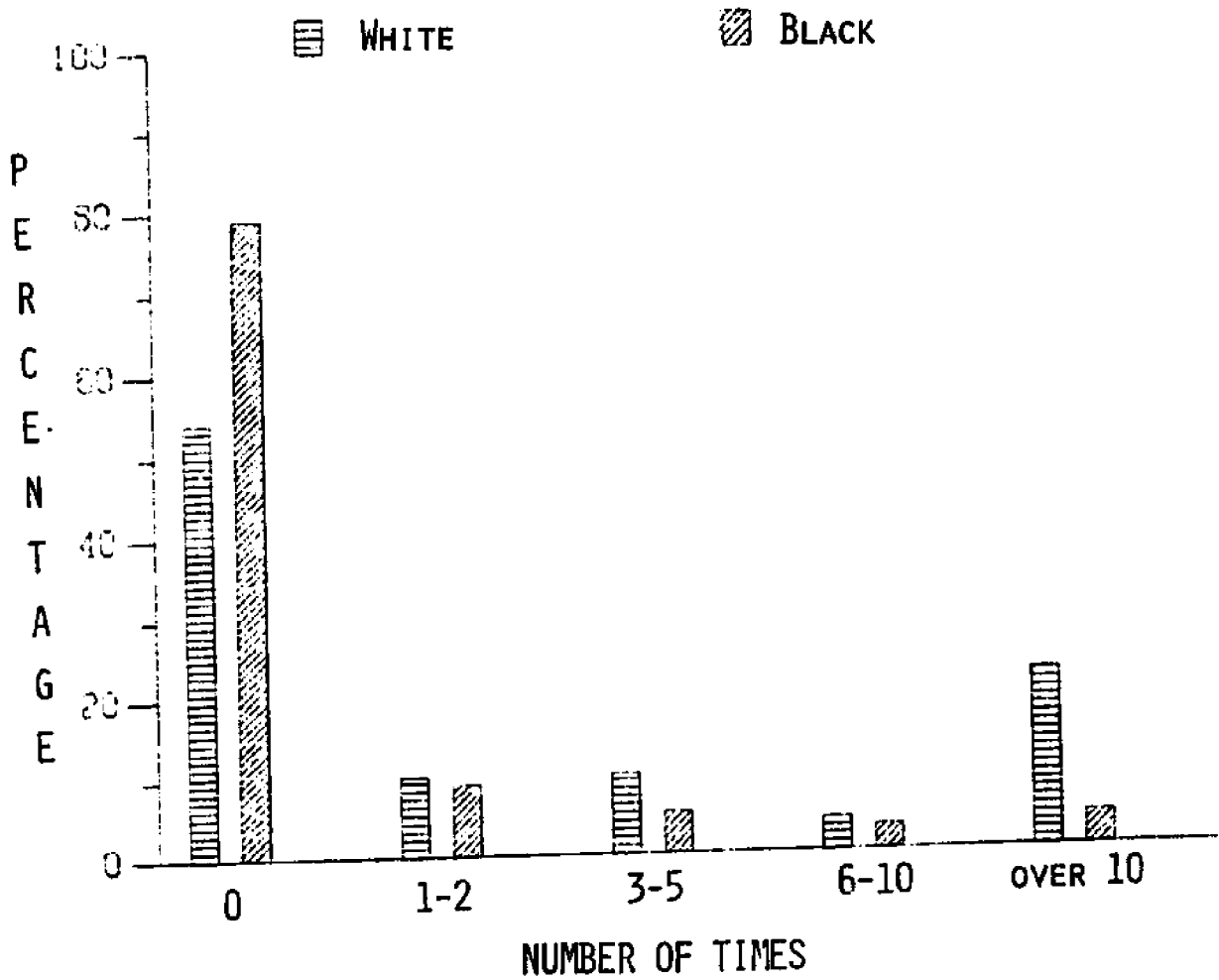


FIGURE 7

ACTIVITY: GONE SWIMMING IN THE GULF



ACTIVITY: GONE TROLLING IN THE GULF



ACTIVITY: GONE CRABBING IN THE GULF

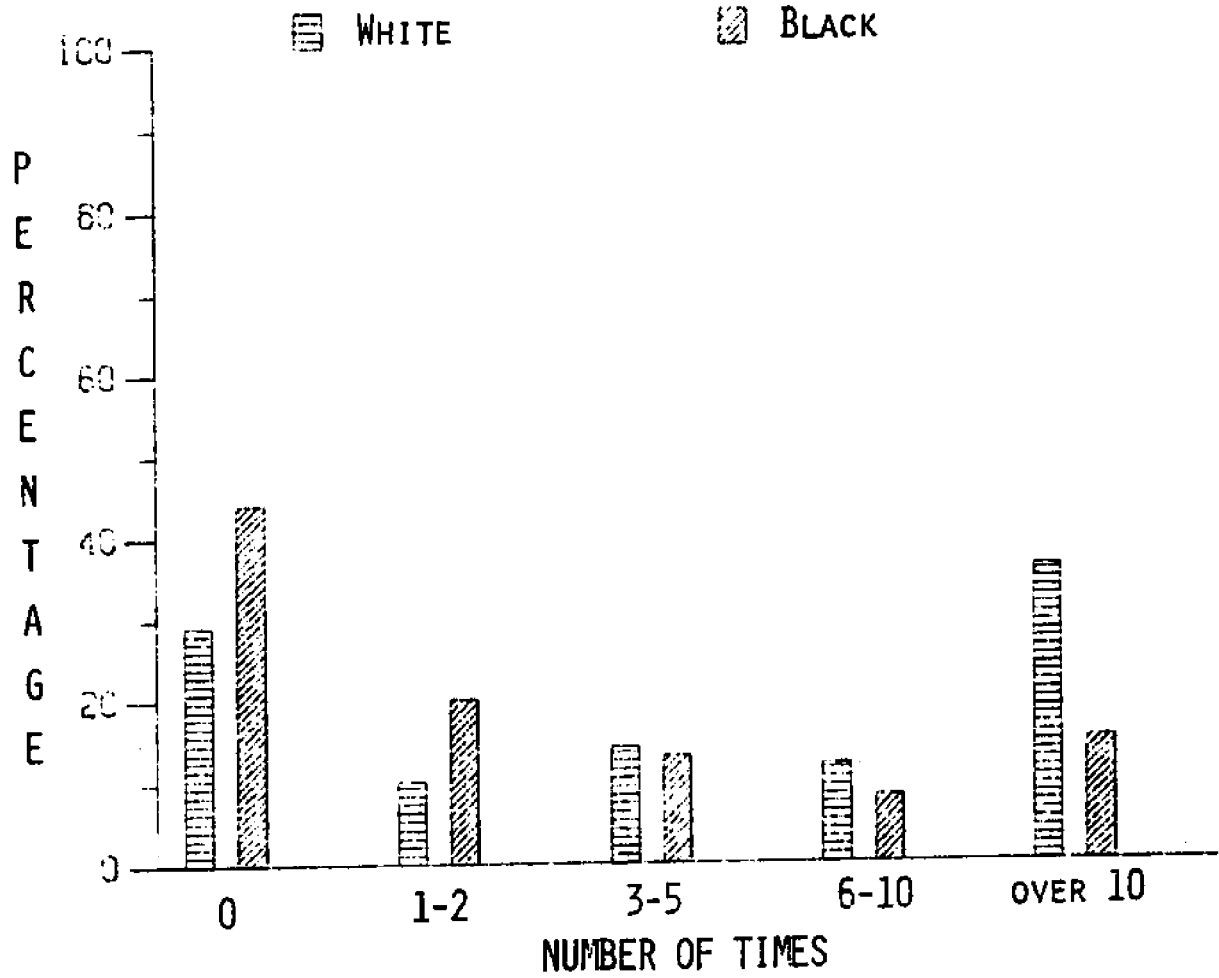


FIGURE 10

ACTIVITY: THROWN CASTS NETS IN THE GULF

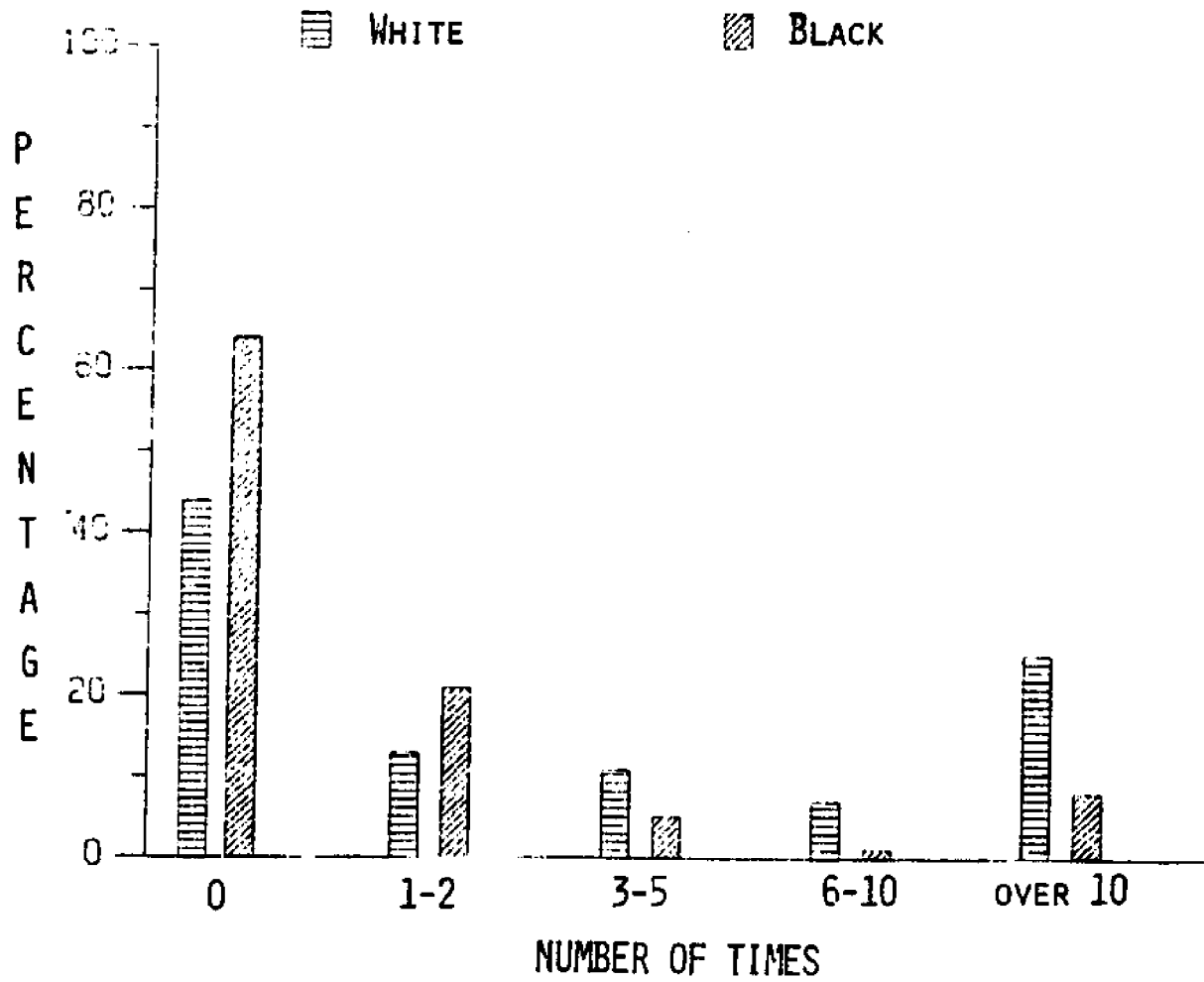


FIGURE 11

ACTIVITY: BEEN TO DEER ISLAND

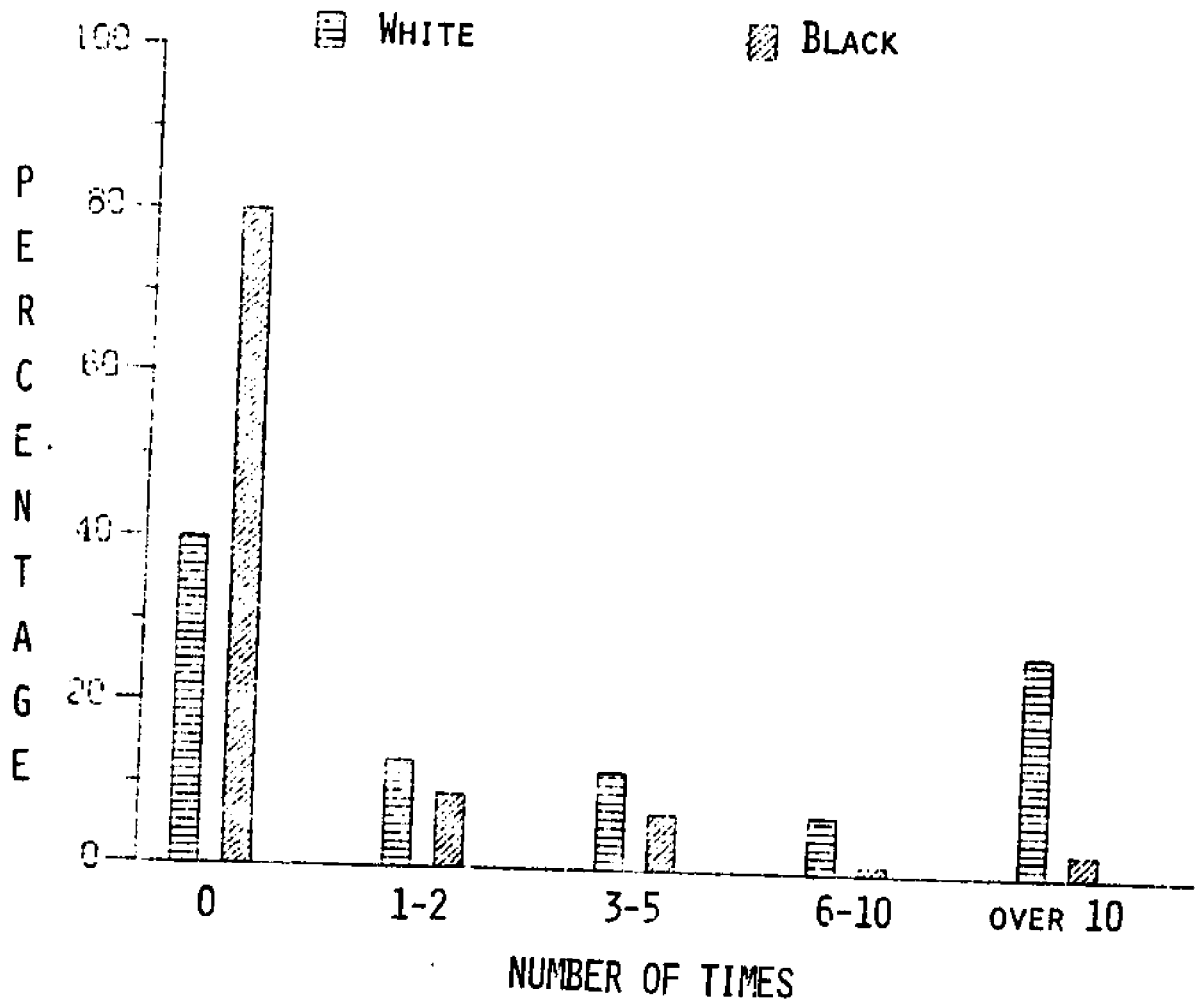


FIGURE 12

ACTIVITY: BEEN TO HORN ISLAND

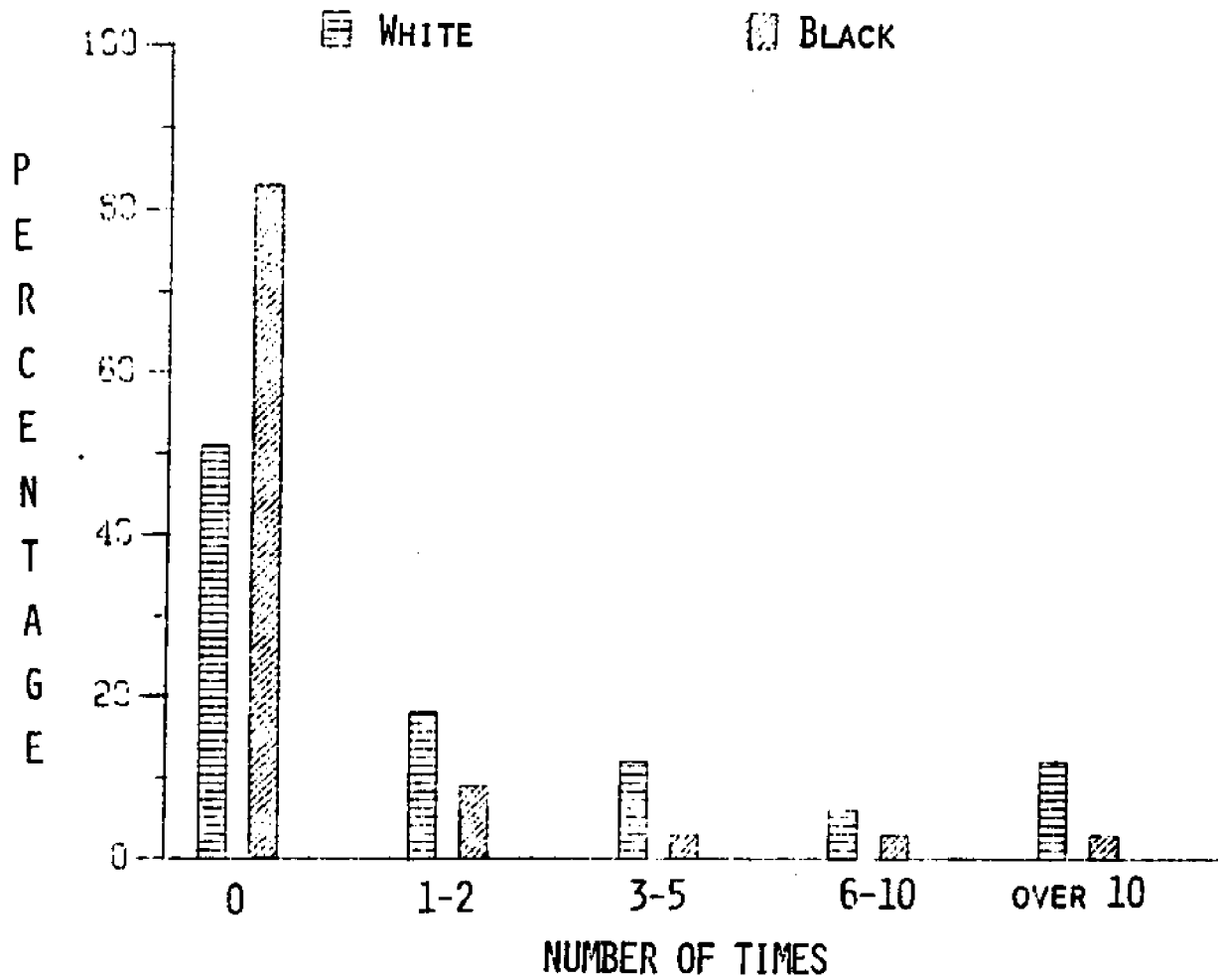


FIGURE 13

ACTIVITY: BEEN TO SHIP ISLAND

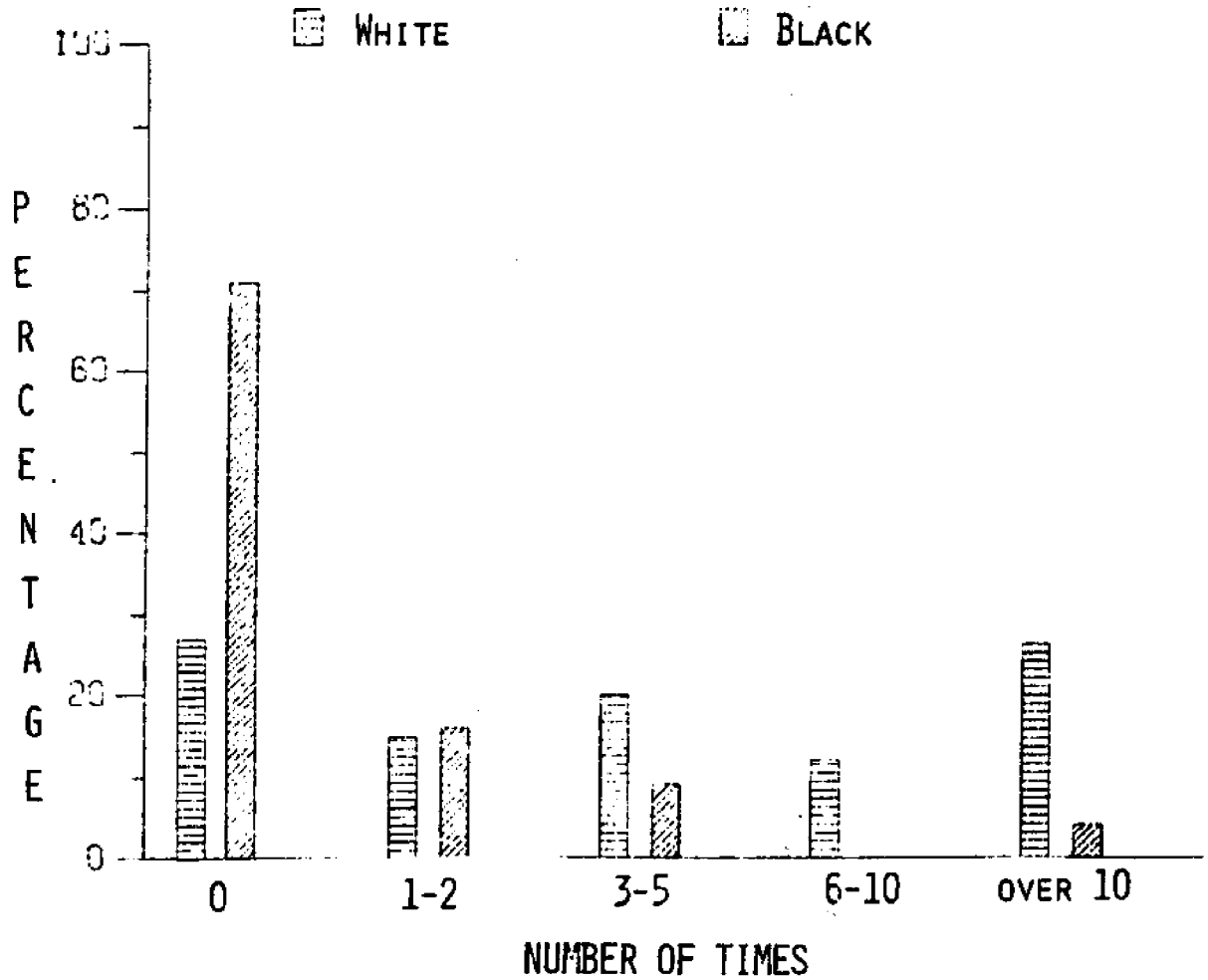


FIGURE 14

ACTIVITY: COLLECTED MARINE PLANTS ON THE BEACH

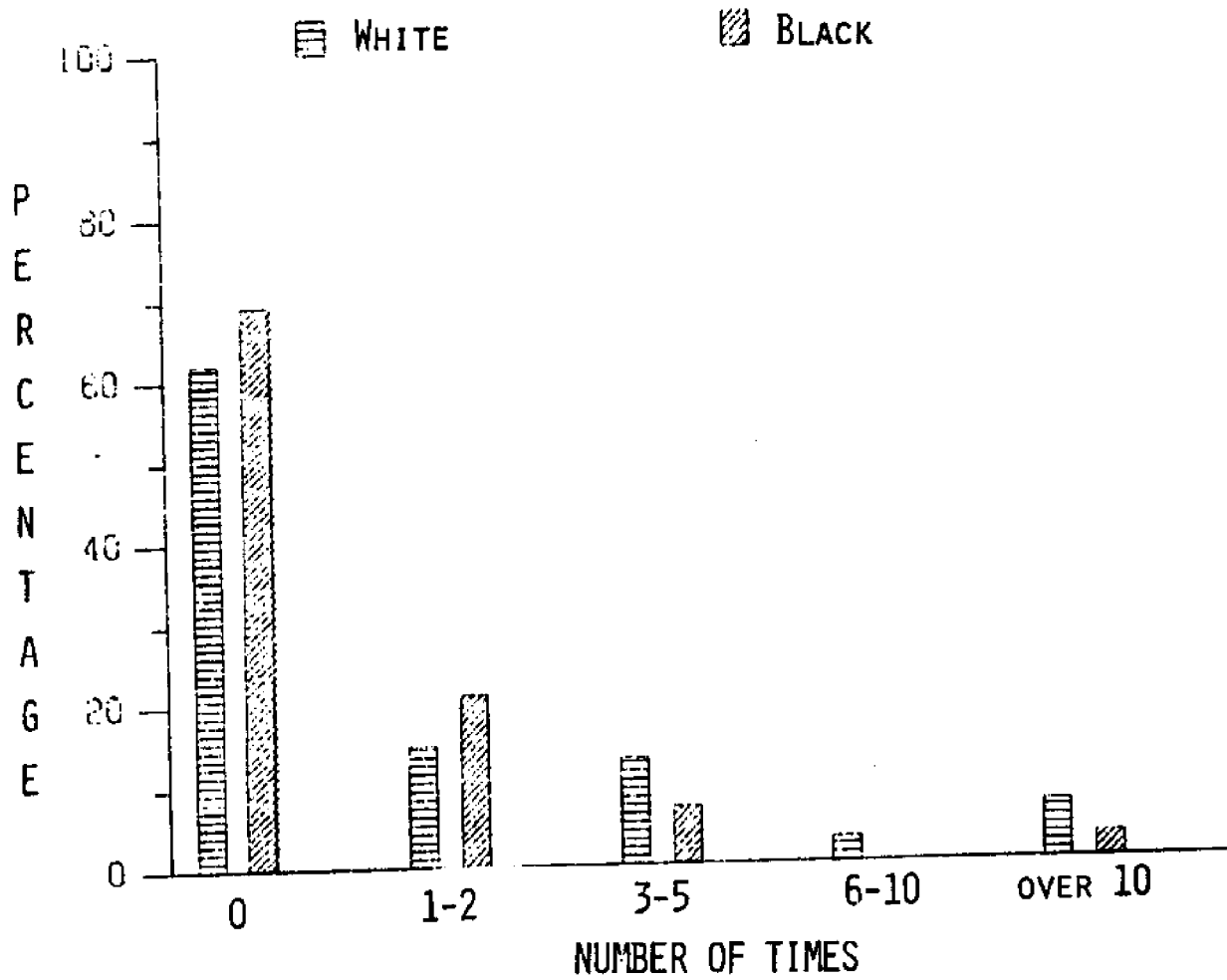


FIGURE 15

ACTIVITY: COLLECTED MARINE ANIMALS ON THE BEACH

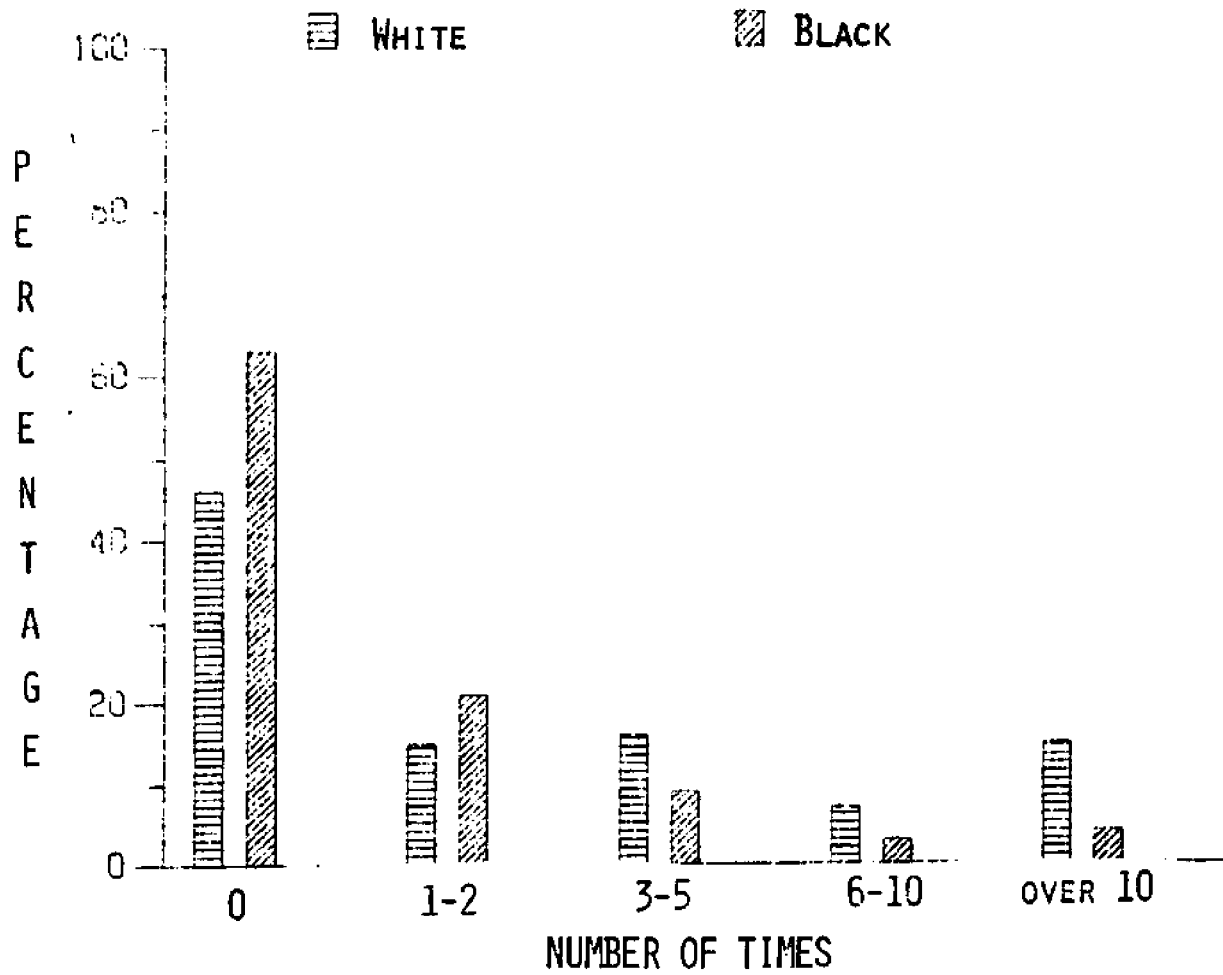


FIGURE 16

PERCENTAGE OF STUDENTS RESPONDING "YES" TO BEACH-RELATED FEARS

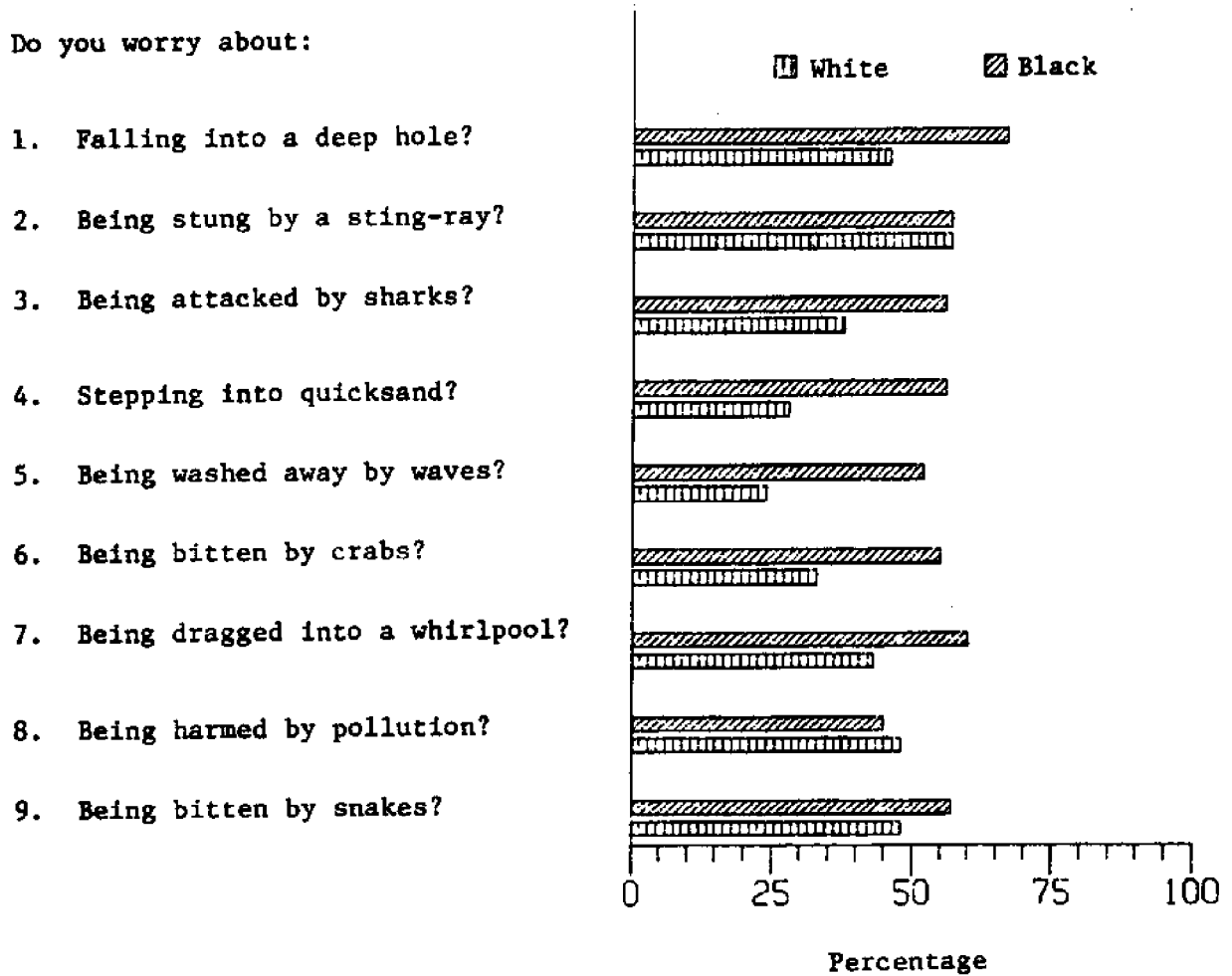


FIGURE 17

PERCENTAGE OF STUDENTS RESPONDING "YES" TO BEACH-RELATED FEARS OF THEIR PARENTS

When you go fishing or swimming in the Gulf, do your parents worry about you:

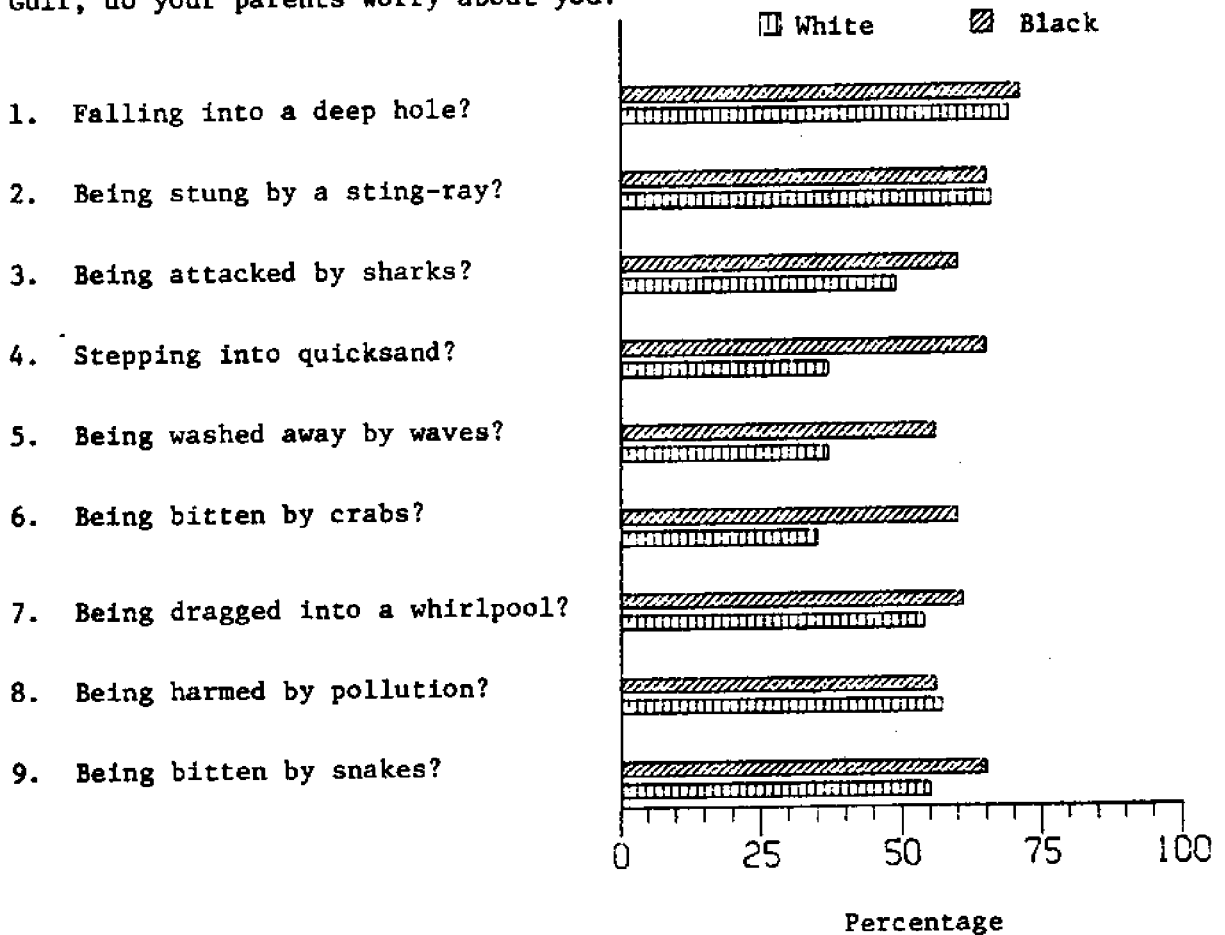


FIGURE 18

PERCENTAGE OF STUDENTS AGREE TO STATEMENTS RELATED TO THE USE OF THE BEACH

