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AUTHOR Griswold, Philip A.
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ABSTRACT

This study sought to identify the relationship between operationally-defined family outing activities and measures of achievement among fourth grade students from educationally disadvantaged backgrounds. The results, collected for four successive years from 1715 students in urban Los Angeles, indicated that: (1) participation in family activities differed across racial groups and may be related to socioeconomic factors and English language facility; (2) achievement score means were generally larger among activity participants than non-participants, regardless of racial grouping; (3) recollection of visiting the public library contributed the most to predicting achievement, regardless of race; (4) recollection of going on a picnic was a good predictor of Hispanic students' math concepts and math problems achievement; (5) recollection of visiting Disneyland was a predictor of vocabulary and math concepts achievement among Anglo students; and (6) from the activity variables used, prediction of Black students' achievement was the most elusive. With further research it may be possible to counsel parents on the family activities which augment achievement. (RDN)

# Family Outing Activities and Achievement among Fourth Graders in Compensatory Education Funded Schools



Philip A. Griswold

Northwest Regional Educational Laboratory

300 SW 6th Avenue

Portland, Oregon 97204

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## Abstract

Self-reported participation in activities operationally defined as family outings were compared across three racial groups and were used to predict reading and math achievement.. The results, collected in each of four successive years from 1715 fourth grade students indicated the following: 1) participation in family activities differed across racial groups; 2) achievement was greater among participants than non-participants; 3) visiting a public library was the best predictor of achievement regardless of race; 4) a good predictor of Hispanics' achievement was going on a picnic; 5) for Anglos it was visiting Disneyland; 6) but for Blacks there was no unique predictor of achievement.

# Family Outing Activities and Achievement among Fourth Graders in Compensatory Education Funded Schools

The cognitive benefits of environmental enrichment during childhood are well established (e.g., Rohwer, 1970; Ausbel, Sullivan, & Ives, 1980; Scott-Jones, 1984). Enrichment in terms of greater opportunity for children to have contact and conversation with parents was demonstrated to be crucial to language development (e.g., Cazden, 1966, 1972) and verbal ability (Jones, 1972). Enrichment seems to improve IQ among young children with a prior history of deprivation (e.g., Karnes, 1972) and successful education of disadvantaged children includes enriched curricula (e.g., Siegel, Secrist, & Forman, 1972).

At the elementary level, educational enrichment of disadvantaged students includes involvement of parents with their child's schooling and is among the advocated practices from the effective schooling research (e.g., Brookover & Lezotte, 1972; Stickney & Plunkett, 1982; Weibly, 1981). Parental involvement is a general description that encompasses the following activities: in-school tutoring, monitoring effective use of time for study at home, reinforcing behaviors established in school, participation in decision-making committees, and the training of parents to perform all of the above activities.

So much for direct activities, but what about more subtle less academically-oriented involvement by parents? Parent encouragement and support of their children to participate in activities of a scholastic nature would be expected to be related to improved achievement. Do family conversation and discussion during outings have an effect on academic success? Does the opportunity to visit public educational or recreational sites with family contribute to academic achievement? Do family gatherings stimulate thought and expression that enrich children which carries over to school learning? The answers to these questions remain elusive because of the complex nature of the relationships (Walberg & Marjoribanks, 1973; 1976) and limited research. However, Kellaghan (1977) reported on a study of disadvantaged Irish eight and nine year olds, in which the quality of language usage and the variety, frequency and educational value of the activities of the family were related to scholastic and cognitive ability.

Validation of these relationships is necessary to draw attention to the potential impact that extramural parent involvement with their child may have on academic improvement. This was the purpose of the present study: to identify the relationship between operationally-defined family outing activities and measures of achievement among fourth grade students from educationally disadvantaged backgrounds.

## Methods

### Subjects.

The participants were fourth grade children (N=1715) from urban Los Angeles (49% were males and 51% females). The student data were collected in each of four consecutive years (1976-1980) from schools receiving substantial amounts of state and federal compensatory education (CE) assistance. No data on family income or educational level were available. However, the assumption was made that the children had lower socioeconomic backgrounds, because CE funding was allocated on the basis of low family income and because most of the schools were located in inner-city neighborhoods. An exception was the population of Anglo children (M. Ragosta, personal communication, April, 1981). Blacks represented 33.9% of the population, Hispanics 37.8%, and Anglos 16.8%. The remainder included diverse ethnic groups, any single group not exceeding 5% were omitted from the study.

### Procedures.

All data were collected in the classroom during late October or early November (of each child's fourth grade). Achievement measures were raw scores from the Iowa Tests of Basic Skills (Form 5, Level 9). The subtests used in the present study were vocabulary, reading comprehension, math concepts, and math problem solving. Self-reported pencil and paper measures of participation in activities outside of school were collected.

Students were asked to respond "Yes," "Don't remember," or "No" to items asking if they had ever gone to the beach, been on a picnic, been to a public library, a museum, Marineland, or to Disneyland. These measures were operationally defined as indicators of family outing activity, because access to these facilities generally requires adult supervision and transportation. Whether the adult supervision was always a family member cannot be determined, because some students involved in special programs outside of school (e.g., boys'clubs, day care, etc.) may have had access to some of the activities.

A dummy variable representing gender was created: male=1, female=2. The activity variables were transformed to dummy variables: student recalled participating=1; don't remember or did not participate=0. This was done to simplify interpretation focusing on the affirmative.

The analyses were done separately by racial group. For each group, achievement subtest scores were regressed on gender and family outing activites. The regressions were constructed hierarchically such that the variance in achievemnt due to the family outing variables was computed after the influence of gender. It was assumed that sex differences would have their effects on achievement before activities in considering causal priority. It was also assumed that there was some a priori ordering of activity variables--more commonly experienced

activities preceding less commonly experienced ones. Thus, the relationship between achievement and family outings was determined for each racial group, controlling for sex differences.

## Results and Discussion

The percentages of Anglo, Black, and Hispanic fourth graders who responded affirmatively as to their participation in the family outing activities appear in Table 1. Chi squared tests of homogeneity demonstrated significant differences between racial groups for the activities going on a picnic, visiting a public library, museum, Disneyland, and Marineland.

Insert Table 1 here

Paired contrasts of the percentage participation between racial groups were computed using a 99% confidence interval (CI) (Marascuilo & McSweeney, 1977, pp. 141-147). The results are summarized in Table 1. Underscored percentages indicate that they fall within the CI. Anglo and Black students did not differ on the activity picnic; they were both larger than the percentage of Hispanic students. For the activities public library and museum, Anglos reported more participation than Blacks or Hispanics and Blacks reported more participation than Hispanics. For the activities Disneyland and Marineland, Anglos reported more participation than Blacks or Hispanics; there was no difference between Blacks and Hispanics.

Table 1

Percentage of Fourth Graders Affirming Participation in Family Outing Activities by Racial Group

| Activity | Anglos (N=301) | Blacks (N=599) | Hispanics (N=619) | Chi Squared[a] |
|---|---|---|---|---|
| Beach | .9867 | .9599 | .9628[b] | 4.84 |
| Pionic | .8937 | .8848 | .7964 | 30.64 |
| Public Library | .8804 | .6962 | .6074 | 71.39 |
| Museum | .8272 | .7379 | .6688 | 26.18 |
| Disneyland | .9203 | .7613 | .7480 | 39.92 |
| Marineland | .7809 | .5943 | .5444 | 29.66 |

[a]A value greater than 6.91 is significant at $p<.01$.

[b]Underscored percentages were within a 99% confidence interval.

The climate and proximity to the ocean may explain why all racial groups reported similarly high levels of participation in going to the beach. The finding that Hispanics reported participation in a picnic at a lower level than either Anglos or Blacks is curious. It may have a cultural explanation or merely mean that the Hispanic students did not live as close to places to picnic as the other groups.

The explanation for the public library and museum activity and visitation to Disneyland and Marineland are more speculative. More positive educational experience may have afforded Anglos an advantage over Blacks. More comfort with English usage may have afforded Anglos and Blacks an advantage over Hispanics in visiting a public library or museum. Economic factors (Anglos were from more affluent neighborhoods) may be related to Blacks and Hispanics reporting fewer visits to Disneyland or Marineland, because of the expense of admission.

The mean achievement scores for each racial group across family outing activities appear in Table 2. Several distinct patterns emerge from the comparisons. Anglo achievement was consistently higher by approximately one to two standard deviations than either Black or Hispanic achievement. The differences were more distinct in vocabulary and less distinct in math problems. Black student's achievement means differed from Hispanics' only on reading comprehension, where Blacks were slightly higher. English language difficulties may underlie the

lower achievement among Hispanics. The pattern of achievement levels was true regardless of the type of activity grouping.

Insert Table 2 here

Among those students who were non-participants in the activities, achievement was slightly lower for each racial group than among participants. However, the pattern remained the same: Anglos had higher achievement than either Blacks or Hispanics and type of activity grouping seemed unrelated. Participants in activities may have slightly higher achievement because their participation enhances language usage, or because those with higher achievement gravitate to activities related to achievement improvement like the library and museum.

The results of regressing the dichotomous gender and activity variables on each of four achievement measures for each racial group are displayed in Table 3. Present are the incremental multiple R squared, standardized regression coefficients (beta), and the simple correlation coefficients (r).

Insert Table 3 here

All regression models explained a significant level of variation in achievement ($p < .05$), although the amount did not exceed ten percent. Nevertheless, practical significance of the activity variables as predictors should not be discounted.

Table 2

Mean ITBS Raw Scores by Race and Family Outing Activity

| Family Activity | | Race | Vocabulary M | Vocabulary S | Vocabulary N | Reading Comprehension M | Reading Comprehension S | Reading Comprehension N | Mathematics Concepts M | Mathematics Concepts S | Mathematics Concepts N | Mathematics Problems M | Mathematics Problems S | Mathematics Problems N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beach | Yes | Black | 9.8 | 5.8 | 594 | 17.5 | 7.9 | 597 | 11.9 | 5.9 | 592 | 8.7 | 4.5 | 586 |
| | | Hispanic | 9.1 | 5.4 | 644 | 15.7 | 8.0 | 649 | 11.2 | 5.7 | 642 | 8.6 | 4.6 | 626 |
| | | Anglo | 18.6 | 7.4 | 305 | 27.9 | 13.0 | 307 | 18.6 | 6.7 | 305 | 13.1 | 5.7 | 299 |
| | No | Black | 6.9 | 4.4 | 26 | 14.5 | 6.5 | 27 | 9.6 | 5.0 | 25 | 7.3 | 3.1 | 25 |
| | | Hispanic | 8.4 | 4.7 | 27 | 14.3 | 8.2 | 27 | 8.6 | 4.7 | 26 | 7.2 | 3.7 | 24 |
| | | Anglo | 15.0 | 3.2 | 4 | 24.2 | 6.2 | 4 | 14.5 | 4.7 | 4 | 10.0 | 3.7 | 4 |
| Picnic | Yes | Black | 9.7 | 5.7 | 548 | 17.4 | 7.6 | 553 | 11.3 | 5.8 | 548 | 8.7 | 4.4 | 542 |
| | | Hispanic | 9.3 | 5.4 | 529 | 16.1 | 8.2 | 534 | 11.6 | 5.7 | 528 | 8.8 | 4.7 | 516 |
| | | Anglo | 18.8 | 7.4 | 277 | 28.3 | 12.9 | 279 | 18.1 | 6.7 | 227 | 13.3 | 5.8 | 271 |
| | No | Black | 9.5 | 6.2 | 72 | 17.0 | 9.5 | 71 | 12.4 | 6.4 | 69 | 8.3 | 4.6 | 69 |
| | | Hispanic | 8.2 | 4.9 | 142 | 14.0 | 6.9 | 142 | 9.2 | 5.1 | 140 | 7.6 | 4.2 | 134 |
| | | Anglo | 16.4 | 7.4 | 32 | 24.1 | 12.6 | 32 | 16.2 | 6.5 | 32 | 11.7 | 4.6 | 32 |
| Public Library | Yes | Black | 10.3 | 6.0 | 431 | 18.0 | 8.2 | 433 | 11.8 | 5.9 | 431 | 9.0 | 4.6 | 424 |
| | | Hispanic | 9.7 | 5.6 | 409 | 16.3 | 8.4 | 414 | 11.7 | 5.9 | 412 | 9.0 | 4.8 | 398 |
| | | Anglo | 18.8 | 7.4 | 272 | 28.8 | 13.0 | 274 | 18.4 | 6.6 | 272 | 13.4 | 5.6 | 267 |
| | No | Black | 8.3 | 4.9 | 189 | 15.9 | 6.8 | 191 | 10.7 | 5.7 | 186 | 7.7 | 4.0 | 187 |
| | | Hispanic | 8.1 | 4.7 | 262 | 14.6 | 7.1 | 262 | 10.2 | 5.0 | 256 | 7.8 | 4.2 | 252 |
| | | Anglo | 16.5 | 7.0 | 37 | 21.1 | 9.7 | 37 | 14.6 | 6.4 | 37 | 10.4 | 5.3 | 36 |
| Museum | Yes | Black | 9.9 | 6.0 | 452 | 17.6 | 8.3 | 455 | 11.7 | 6.1 | 455 | 8.7 | 4.6 | 451 |
| | | Hispanic | 9.4 | 5.6 | 446 | 16.1 | 8.3 | 449 | 11.4 | 5.9 | 447 | 8.7 | 4.7 | 436 |
| | | Anglo | 18.9 | 7.5 | 255 | 28.7 | 13.1 | 257 | 18.2 | 6.8 | 255 | 13.3 | 5.7 | 251 |
| | No | Black | 9.0 | 4.9 | 168 | 16.7 | 6.5 | 169 | 10.8 | 5.2 | 162 | 8.3 | 4.0 | 160 |
| | | Hispanic | 8.4 | 4.6 | 225 | 14.7 | 7.2 | 227 | 10.6 | 4.9 | 221 | 8.3 | 4.3 | 214 |
| | | Anglo | 16.7 | 6.6 | 54 | 24.0 | 11.4 | 54 | 16.6 | 6.0 | 54 | 12.0 | 5.4 | 52 |
| Disney-land | Yes | Black | 9.8 | 5.9 | 473 | 17.3 | 8.0 | 475 | 11.6 | 5.9 | 472 | 8.6 | 4.4 | 466 |
| | | Hispanic | 9.3 | 5.4 | 496 | 16.0 | 8.1 | 500 | 11.4 | 5.7 | 497 | 8.7 | 4.5 | 486 |
| | | Anglo | 18.9 | 7.2 | 284 | 28.5 | 12.8 | 285 | 18.3 | 6.6 | 284 | 13.3 | 5.7 | 278 |
| | No | Black | 9.4 | 5.3 | 147 | 17.4 | 7.4 | 149 | 11.0 | 5.8 | 145 | 8.5 | 4.6 | 145 |
| | | Hispanic | 8.4 | 5.0 | 175 | 14.5 | 7.5 | 176 | 10.3 | 5.4 | 171 | 8.3 | 5.0 | 164 |
| | | Anglo | 14.2 | 8.6 | 25 | 21.7 | 12.4 | 26 | 14.0 | 6.6 | 25 | 10.6 | 5.5 | 25 |
| Marine-land | Yes | Black | 9.7 | 5.8 | 370 | 17.1 | 7.8 | 372 | 11.4 | 5.9 | 360 | 8.5 | 4.4 | 365 |
| | | Hispanic | 9.4 | 5.6 | 361 | 16.3 | 8.4 | 363 | 11.1 | 5.8 | 366 | 8.8 | 4.6 | 355 |
| | | Anglo | 18.7 | 7.5 | 226 | 28.8 | 13.1 | 228 | 18.1 | 6.8 | 226 | 13.2 | 5.8 | 222 |
| | No | Black | 9.7 | 5.8 | 250 | 17.8 | 7.9 | 252 | 11.6 | 5.8 | 249 | 8.8 | 4.4 | 246 |
| | | Hispanic | 8.7 | 5.0 | 310 | 14.9 | 7.4 | 313 | 11.1 | 5.5 | 302 | 8.3 | 4.6 | 295 |
| | | Anglo | 18.0 | 7.0 | 83 | 25.5 | 12.1 | 83 | 17.3 | 6.4 | 83 | 12.8 | 5.4 | 81 |

Table 3

Regression Statistics for Achievement on Gender and Family Outing Activities by Racial Group

(Vocabulary Achievement)

| Activities | Anglos (N=301) | | | Blacks (N=599) | | | Hispanics (N=619) | | |
|---|---|---|---|---|---|---|---|---|---|
| | $R^2$ | Beta | r | $R^2$ | Beta | r | $R^2$ | Beta | r |
| Gender | .001 | .037 | .035 | .000 | .008 | .012 | .000 | -.004 | -.021 |
| Beach | .004 | .003 | .059 | .010 | .082 | .097* | .000 | -.021 | .006 |
| Picnic | .015 | .094 | .106 | .010 | -.028 | .007 | .009 | .065 | .090* |
| Pub. Library | .022 | .054 | .097 | .030 | .144* | .154* | .032 | .140* | .161* |
| Museum | .028 | .079 | .116* | .031 | .026 | .061 | .035 | .053 | .098* |
| Disneyland | .049 | .157* | .172* | .031 | .002 | .036 | .035 | .002 | .059 |
| Marineland | .051 | -.050 | .037 | .032 | -.036 | .000 | .036 | .032 | .077 |
| (Reading Comprehension Achievement) | | | | | | | | | |
| Gender | .008 | .095 | .091 | .002 | .044 | .048 | .000 | .007 | .007 |
| Beach | .009 | -.032 | .035 | .009 | .064 | .078 | .000 | -.021 | .007 |
| Picnic | .021 | .073 | .107 | .009 | -.005 | .016 | .010 | .077 | .102* |
| Pub. Library | .052 | .147* | .192* | .021 | .113* | .121* | .024 | .105* | .125* |
| Museum | .060 | .088 | .134* | .021 | .046 | .059 | .025 | .021 | .067 |
| Disneyland | .067 | .084 | .126* | .022 | -.017 | .007 | .026 | .019 | .070 |
| Marineland | .068 | .014 | .109 | .026 | -.063 | -.034 | .027 | .043 | .081 |
| (Math Concepts Achievement) | | | | | | | | | |
| Gender | .002 | .041 | .049 | .005 | .073 | .074 | .001 | .033 | .031 |
| Beach | .006 | .005 | .065 | .010 | .065 | .067 | .008 | .051 | .086 |
| Picnic | .017 | .093 | .103 | .015 | -.078 | -.050 | .035 | .151* | .174* |
| Pub. Library | .043 | .146* | .180* | .022 | .069 | .088* | .051 | .126* | .148* |
| Museum | .043 | .027 | .081 | .025 | .066 | .075 | .051 | .023 | .064 |
| Disneyland | .064 | .155* | .183* | .026 | .033 | .051 | .052 | .024 | .083 |
| Marineland | .066 | -.046 | .053 | .027 | -.042 | -.017 | .053 | -.041 | .017 |
| (Math Problems Achievement) | | | | | | | | | |
| Gender | .003 | .044 | .050 | .004 | .056 | .063 | .001 | .034 | .025 |
| Beach | .006 | .109 | .063 | .008 | .045 | .066 | .004 | .039 | .062 |
| Picnic | .013 | .075 | .085 | .008 | .016 | .031 | .016 | .094* | .115* |
| Pub. Library | .038 | .151* | .173* | .022 | .121* | .126* | .032 | .125* | .141* |
| Museum | .039 | .043 | .085 | .022 | .034 | .047 | .033 | .020 | .061 |
| Disneyland | .048 | .103 | .132* | .022 | -.007 | .013 | .033 | -.030 | .034 |
| Marineland | .051 | -.060 | .032 | .026 | -.065 | -.036 | .034 | .034 | .063 |

Note: All models explained a significant amount of variation.

*$p < .05$

First the very nature of the distribution of these dichotomous predictors limits the magnitude expected for the correlations, because theoretically, distributions must be identical to achieve a perfect correlation. Therefore, the point by serial nature of the relationships under study limits the magnitude of the correlation coefficient at the outset. Secondly, even though the variables might reflect only one instance of participation in the activity, several variables did contribute significantly to the prediction of achievement. This suggests the importance of considering family activities when studying achievement.

Sex differences, which would have been indicated by significant correlation or regression coefficients, were not evident. Thus, among this population of educationally disadvantaged students achievement differences were not related to gender.

Among Anglo students, visit to a public library was significantly correlated with reading comprehension, math concepts, and math problems. Museum was correlated with vocabulary and reading comprehension. Disneyland was correlated with all four subtests. In all models but math concepts, public library was the only significant predictor. Thus, the best predictor of vocabulary, reading comprehension, and math problems among the Anglo students was a visit to a public library. The best predictor of math concepts was visiting Disneyland, although public library also was a good predictor.

Among Black students, public library was significantly correlated with all four subtest achievement scores. In all regression models but math concepts, public library was the only significant predictor of achievement. For the math concepts model, none of the predictors made a significant contribution.

Among Hispanic students, picnic and public library were significantly correlated with all subtests. Museum was significantly correlated with only vocabulary achievement. When the effects of picnic were taken into account for all regression models, public library was the largest significant predictor. Picnic remained a significant predictor for math concepts and math problems. It is curious that being involved in a picnic is related to achievement. To speculate however, picnics require planning and organization which may involve discussion of what needs to be bought or prepared, how many people will be coming, how much needs to be prepared. Counting of items and people and matching needs with items already available involves computation and problem solving and may enhance these skills. An alternative explanation would be that those chidren who already are successful at problem solving and computation may be attracted to the tasks or may be given responsibility for the task, thus attributing for the relationship.

In comparing the predictive capacity of family outing activities across racial groups, visiting a public library was unquestionably the best predictor among the activities tested in

this population. In most cases it is the only predictor. The exceptions were with Anglos where visiting Disneyland was a predictor and among Hispanics where going on a picnic predicted math concepts and math problems achievement. The specific nature of the family activities that were recollected is unknown and most certainly differs across students. Moreover, the students' personal definitions of the activities and thus their perception of what was asked was also different. Finally, recall ability is captured in the measure and thus is a confounding variable.

## Summary and Implications

The results from these urban fourth grade children from compensatory education-funded schools may be summarized as follows:

1. Participation in family activities differed across racial groups and may be related to socioeconomic factors and English language facility.
2. Achievement score means were generally larger among activity participants than non-participants regardless of racial grouping.
3. Recollection of visiting the public library across three racial groups contributed the most to predicting achievement among gender and five other operationally defined family outing activities.

4. Recollection of going on a picnic was a predictor of Hispanic students' math concepts and math problems.

5. Recollection of visiting Disneyland was a predictor of vocabulary and math concepts achievement among Anglo students.

6. From the activity variables used, prediction of Black students' achievement was the most elusive.

The results are correlational so that any attempt to infer that encouraging students to visit the public library, or for certain racial groups to go on picnics or visits to Disneyland will improve achievement is inappropriate. It may very well be that students, already achieving at a higher level than others in this population, choose to visit the library, Disneyland or go on a picnic because they find that they can use their skills. A rival hypothesis is that family activity results in greater parent involvement in school, which is the true predictor of achievement.

Follow-up studies should include verification of the relationships reported and attend to the quality of activities which involve the family in usage of language, computation skills, and problem solving. This type of activity potentially reinforces behavior established in school, and it may offer an opportunity for parents to become more involved in their children's school learning. Moreover, with further research we may be able to counsel parents on the family activities which

augment achievement. Parent education would be a logical adjunct. Parent training would improve skills in identifying constructive activities and would encourage teachers to interact more with parents, assuming that the teachers would do the instruction. The proposal assumes that parents would be interested and able to participate, that academically-beneficial family activities can be fun not exclusively didactic and that teachers and schools are willing to make a commitment given the necessary resources.

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