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ABSTRACT

A summative evaluation of the final form of the first four episodes of Big Blue Marble, a television series for children, was conducted. Researchers examined children's perceptions of similarities and differences between themselves and children in other parts of the world; their opinions about the well-being of other children; their opinions about work and responsibility relative to children in other parts of the world; and their sense of ethnocentrism. Subjects were fourth, fifth, and sixth grade children. It was found that viewing the program influences children to perceive greater similarity between themselves and people from other parts of the world. The program affected viewers' perceptions of the well-being of children in other parts of the world such that, after viewing, those children were rated better off. There was a reduction in ethnocentrism after viewing the program, and children were less positive in attributing superiority to things which are American. Children's attitudes toward work and responsibility were affected by the program, but the effect varied depending on age and pre-viewing attitudes. The general response of the children to Big Blue Marble was positive. (CH)

Earth's a Big Blue Marble: A Report of the Impact of a Children's Television Series on Children's Opinions

by

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In May, 1974, a new television series for children was previewed on twenty U.S. stations. The show, called 'Big Blue Marble', is aimed primarily at fourth, fifth, and sixth graders. It takes its name from the photograph of Earth snapped from Moon orbit by Astronaut Frank Borman, a fitting symbol for the theme of the show:

> "... to encourage international awareness in children, showing how children in other lands live, work, play and grow up. It is about children all over the world and it will be shown to children all over the world." (Edward T. Garrity)

'Big Blue Marble' will be broadcast regularly in the U.S. beginning in September, 1974. It is a half-hour, weekly program produced in magazine format. Each program contains a number of segments, ranging in length and treatment, and as varied as animated folk tales, sight gags, and "mini-documentaries" on some aspect of childrens' lives in various parts of the world. These latter segments form the bulk of each program and touch on such topics as a Swiss boy caring for cows in the Alps, a German girl captaining a whip-cracking team in Bavaria, and a Tunisan child helping with the family farm.

A good deal of "formative evaluation" (research prior to and during production) went into the formulation of 'Big Blue Marble.' In addition

to advice and consultation from a number of educational consultants, the pilot film was classroom tested with both children and teachers. Children were tested on their comprehension of the material contained in the film and were asked for their reactions to the program. Teachers were asked to evaluate the show and their impressions of children's responses to the show. Information gained from these studies was incorporated into later programs.

"Summative evaluation" (tests of whether the final programs accomplish the goals at which they aim), however, must always await completion of a final product. Only after a program is "in the can" is the researcher legitimately able to test its success or failure on whatever dimensions are deemed relevant. The following report summarizes one such attempt at summative evaluation of the final form of the first four episodes of 'Big Blue Marble.'

General Research Focus

The research reported here was aimed at examining whether and how 'Big Blue Marble' affected the general areas of U.S. children's

a) perceptions of similarities and differences between themselves and children in other parts of the world;

b) opinions about the general state of "well-being" of children in other parts of the world;

c) opinions about work and responsibility relative to children in other parts of the world;

d) sense of ethnocentrism or feelings that the U.S. and things connected with the U.S. are superior to conditions in other parts of the world.

Several factors engendered selection of these general topic areas.

First, on the basis of our screening of the first four episodes of the program, it seemed to us that a major theme of the series has to do with the interdependence of man. By this we do not mean that all men are portrayed as identical or that conflict and differences are ignored. Indeed, among the concepts explored by the program the producers list:

-Cooperation

-Conflict (differing commitments - competing principles)

-Change (awareness and adaptability to social change)

-Life Style (manifestations of personal goals)

-Morality (self-imposed social order inherent to all peoples)

-Differences (social and attitudinal)

-Interdependence (satisfying human needs through dependence among persons and groups)

Such diversity is clearly exemplified in the various segments. However, given the title and symbol of the show, it is also clear that such diversity does not preclude portrayal of fundamental similarities among men (similarities in needs, aspirations, etc.). This is perhaps best summed up by several lines from the program's theme song:

Folks are folks and kids are kids,
We share a common aim,
We speak a different name,
But work and play the same.

We sing pretty much alike,
Enjoy Spring pretty much alike;
Peace and love we all understand,
And laughter, we use the very same brand.

Our differences, our problems, from out there there's not much trace,
Our friendships they can place,
While looking at the face,
Of the big blue marble in space.

For this reason it seemed important to us to determine whether the program influenced viewers' perceptions of similarities and differences between themselves and children in other countries.

Second, screening of the programs made it abundantly clear that life in other lands (as well as in the U.S.) is portrayed as interesting, exciting, attractive, and often just plain fun. We felt that such portrayals might influence children's opinions in two areas: their perceptions of the general state of well-being of children in other parts of the world, and something like their ethnocentric attachment to the U.S. and/or their evaluation of others. That is, we felt that viewing might make life in other lands seem more attractive than originally thought, thus reduce the degree of attributed superiority of U.S. life styles relative to alternative life styles. (By this we do not mean a denigration of the U.S., but simply a decrease in the sense that the U.S. offers the only attractive life style, or an increase in the perceived attractiveness of life in other lands.)

Third, again based on our screening of the programs, it seemed to us that an implicit theme of many of the segments could be categorized under a heading of "work and/or responsibility." That is, at least some portion (if not all) of many of the segments portraying the life of children in other countries shows many of them in some form of gainful employment. Moreover, many of the jobs they engage in demand the acceptance of adult-like responsibilities and frequently their jobs are a necessary

component of their family or community life. Thus, we felt that viewing the programs might influence viewers' attitudes toward work and/or responsibility, at least in terms of the relative responsibilities assumed by U.S. children and those from other lands. This became the fourth general area of research focus.

Finally, in addition to testing whether 'Big Blue Marble' affected children's opinions in the preceding areas, we also included a number of questions dealing specifically with children's reactions to the program itself.

The following sections detail our research procedures, the results of the evaluation, and a short discussion of the implications of those results.

Procedures

Overview. This evaluation of the effect on children of 'Big Blue Marble' is based on a before-after study of elementary school children attending schools in the vicinity of Palo Alto, California, in the spring of 1974.

Children first responded to a questionnaire which provided baseline information about perceptions of and/or opinions about life in other parts of the world relative to life in the U.S. Changes in responses to the questions from before to after viewing serve as the basic indicators of the effect of viewing the program.

Unfortunately, the research design is quasi-experimental. That is, due to the time constraints under which we worked it was not possible to arrange for subjects who would respond to the questionnaires but not view the programs (the school year was drawing to an end and school administrators were hesitant to let us intrude on valuable classroom time on such short

notice). The absence of such a control group precludes the strong causal inferences available to the true experiment. Thus, a critic of the research could argue that, since there is no control group with which to compare the obtained results, any changes manifested in the viewers' responses to the questions might be due to factors totally unrelated to viewing 'Big Blue Marble.' However, given the nature of the items included in the questionnaires, the relatively short time span between administration of the before questionnaire and the after questionnaire, and our inability to discover any other events which occurred between the two testings that might have logically affected responses to the questionnaire, it seems reasonable to assume that what changes did occur are attributable to the program (and/or to subsequent peer-group, classroom, or family discussion stimulated by the program).

Subjects. Subjects were fourth, fifth, and sixth grade children attending three different types of schools in the vicinity of Palo Alto, California.[2]

School A is a private school administered by the Episcopal Church. Although a parochial school in terms of church affiliation, the students manifest a diversity of religious backgrounds (all the Protestant faiths, Catholic, Buddhist, etc.) such that no single faith is represented by more than 25% of the students. School B, a public school and the smallest of the three, employs the open classroom concept. Third, fourth, fifth, and sixth graders all participate together, sharing classroom space and lessons, helping to plan their own curriculum, and so forth. School C, also a public school, is organized along more traditional lines, with segregation by grade the general rule, and distinct curricula for each grade.

Although students from low income areas do attend all of the schools, the location of all three schools in middle to upper-middle income areas, and the fact that School A charges tuition, indicates that the participating children came predominantly from middle-class families.

A total of 285 children participated in one or another phase of the study. Of these, 102 came from School A, 36 from School B, and 147 from School C. Combining the schools, 70 of the children were fourth graders, 95 were fifth graders, and 120 were sixth graders. There were 158 boys and 127 girls.

Absences on the day of questionnaire administration, however, reduces the number of children for whom change score data are available. Among fourth graders, 12 children did not complete the before-questionnaire and 5 children did not respond to the after-questionnaire; among fifth graders, 9 children were absent for the before-questionnaire and 11 for the after-questionnaire; among sixth graders, 15 missed the before-questionnaire and 13 the after-questionnaire. The maximum number of children for whom change scores are available, then, is 53 fourth graders, 75 fifth graders, and 93 sixth graders (numbers which vary slightly in some analyses due to the failure of a few children to answer some of the questions. Table 1 presents the number of children of each sex and from each school and grade for whom change scores are available.

Insert Table 1 about here

Administration of the questionnaires and television programs. An attempt was made to administer the questionnaires several days before and several days after presentation of the programs, and to present the programs on four consecutive days. Because of the demands of school

TABLE 1

NUMBER OF CHILDREN FOR WHOM CHANGE SCORES WERE OBTAINED BY SCHOOL, GRADE, AND SEX

	School A		School B		School C	
	Boys	Girls	Boys	Girls	Boys	Girls
Fourth Grade	20	8	3	2	9	11
Fifth Grade	21	13	3	9	19	10
Sixth Grade	12	12	3	2	35	29

schedules, however, the time sequences followed at each of the three schools, although similar, vary slightly. At schools A and B, the before-questionnaire was administered on a Tuesday. Children viewed the television programs on Wednesday, Thursday, Friday, and the following Tuesday (Monday was a school holiday). The after-questionnaire was administered to these children on Thursday, the second day following completion of viewing. In school C, the before-questionnaire was administered on a Friday; tele-viewing took place the following Wednesday, Thursday, Friday, and Monday. The after-questionnaire was administered two days later, on Wednesday. Table 2 presents a schedule of the study in which "Day One" is counted as the day on which the before-test was administered.

Insert Table 2 about here

All questionnaires were administered in classrooms, usually with the teacher present. Parts of the before-questionnaire were read aloud to fourth graders. However, in most cases the children requested that they be allowed to read themselves and work at their own pace, and this procedure was followed, for most of the before-questionnaire and for all of the after-questionnaire. When children had a question about one of the items, they raised their hand and the researcher administering the questionnaire helped them. For School A, the after-questionnaire was administered by teachers.

The television programs were presented to intact classes in recreation rooms or all-purpose rooms available at each school. The programs were presented via color, video-tape on either a 17" or 19" television receiver. Although viewing took place in groups, none of the children indicated that they had trouble seeing the screen or hearing the sound.

TABLE 2

TIME SCHEDULE OF QUESTIONNAIRE ADMINISTRATION AND PROGRAM VIEWING FOR THREE SCHOOLS

School	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13
School A	Before test	TV	TV	TV				TV			After test		
School B	Before test	TV	TV	TV				TV			After test		
School C	Before test					TV	TV	TV			TV		After test

Questionnaires. Questionnaires were composed of two basic types of attitude or opinion scales (Appendix A presents a copy of the questionnaire).

Part I of each questionnaire included three sets of semantic differential scales (cf. Osgood, Suci & Tannenbaum, 1957) on which children were asked to rate "Kids in California," "Kids in Other Parts of the World," and "The World," respectively. Semantic differential scales are simply pairs of bi-polar adjectives separated by seven scale spaces. Respondants are asked to think about the particular concept they are to rate, then to mark the space for each pair of adjectives that comes closest to describing the concept for them. Thus, for example, when rating "Kids in California" on the first pair of adjectives, children had to decide whether they felt California children are best described as "Happy" or "Sad," then how happy or sad, and mark the appropriate space.

The sets of bipolar adjectives for "Kids in California" and for "Kids in Other Parts of the World" were identical so that the former scales could serve as a comparison to the latter. That is, we expected the program to have larger influence on perceptions of children in other parts of the world and included the items on California children as a check on this expectation. For both of these concepts subjects were instructed, both verbally and by means of the written instructions, to try to respond in terms of "children in general," not specific children or children from one specific part of California or the world.

The bi-polar adjectives on which children rated "The World" are somewhat different, our attempt being to use descriptions which might change as a function of viewing the programs.[3]

Part II of the questionnaire comprised thirty-two opinion statements (see Appendix A). Children were asked to read each statement and to indicate how much they agreed or disagreed with it by writing a number

from 1 (agree very much) to 6 (disagree very much) in the space following the statement. On the basis of earlier attitude research with children (Roberts, 1968; Hawkins, Pingree, and Roberts, 1973), it was decided to provide no opportunity to indicate "no opinion." When "no opinion" response opportunities are provided young children, they tend to be over-selected and to be systematically biased as a function of age.

For these questions, too, we stressed that subjects should respond in terms of "children in general." This was reinforced by including a variety of examples in many of the items. That is, some questions made comparisons to specific other countries or to specific other continents in order to make salient to the children that we were interested in how they felt about children in other lands, in general. The somewhat "slangy" wording of many of the items is a result of pre-test discussions with several children in the same age-range as those who participated in the study proper. Our attempt was to produce a questionnaire with which children would be comfortable, not one designed to teach proper grammar or word usage.

Finally, the after-questionnaire contained a third section of 13 items asking specific questions about 'Big Blue Marble' (see Appendix A). There was also an open-ended question on which children could indicate what parts of the program they most enjoyed.

Most of the analyses that follow are based on scales formed by combining two or more items designed to measure a similar concept. Such combinations increase the reliability of measurement of whatever concept is being measured. Our rationale for combining items into scales was based on the face validity of the items and on the intercorrelations among responses to these items produced on the before-questionnaire. That is, items were designed to ask questions about a particular concept. They had to meet

the criterion of logically relating to that concept. Once this criterion was met, intercorrelations (Pearson product moment correlations) among responses to items on the before-questionnaire were computed. If an item did not correlate with others that seemed to tap the concept of interest, it was excluded from the multiple item scale. For this reason, we report several scales comprised of only one item. In most cases we had expected such items to be included in multiple-item scales, but minimal correlations precluded such combination. It should be kept in mind, then, that scales based on a single item are likely to be much less reliable than those based on multiple items. Results derived from single item scales should be approached with more than the usual caution. Appendix B presents the intercorrelations among items for all multiple-item scales used in this report.

For purposes of clarity, specific wording of particular questions and scale construction for each of the various concepts measured will be presented in the results section.

Results

Since there is a good deal of evidence for age located differences in children's responses to television and film mediated stimuli (cf. Roberts, 1973), all analyses were performed separately for each grade. Between grade comparisons are made where appropriate. Results will be reported independently for each grade.

Because of the small number of children from School B who participated in the study, and since primary interest is not in differences between schools, data from the three schools were pooled in all of the following analyses.

Changes from before to after viewing were tested via t-tests for

correlated groups (cf. McNemar, 1962), comparing mean before-scores with mean after-scores. The probabilities reported for the obtained t-values are two-tailed. Differences between grades were tested by analysis of variance performed on mean change scores. Again, all reported probability values are two-tailed.

Perceived similarity between self and others. Changes in subjects' perceptions of similarity between themselves and people in other parts of the world were assessed by means of three scales. The first was formed by the single pair of bi-polar adjectives, SAME AS ME - DIFFERENT THAN ME, on which children rated the concept "Kids in Other Parts of the World." A score of 1 indicated high perceived similarity and a score of 7 indicated high perceived difference. For convenience, this is labeled the "Same-Different" scale. For purposes of comparison, the Same-Different scale was also computed for responses obtained when the concept which children rated was "Kids in California."

The second scale also dealt with children and was composed of two of the agree-disagree statements in part II of the questionnaire. The two items were (question numbers refer to the number of the question as it appears in the questionnaire included in Appendix A):

> Question #23. Kids in other countries don't believe in the same things that I believe in.
>
> Question #27. There is very little difference between children in America and in other parts of the world such as Europe or Africa.

Children indicated their extent of agreement or disagreement with these statements on a scale ranging from 1 (agree very much) to 6 (disagree very much). Question 23 was reverse scored such that a low score indicated more similarity, and the two scores were added to form a scale, called "Child Similarity," ranging from high similarity (=2) to high difference (=12).

(The intercorrelations for all items included in this scale and in all other multiple-item scales used in the study are presented in Appendix B.)

The referent for the two items forming the third scale was "people" rather than children. Moreover, these items are more general than those used for the Child Similarity scale in that they refer to similarities and differences among people in general, not to specific comparisons between U.S. children and other children. The items for this third scale, called "People Similarity," read as follows:

Question #12. People all over the world are pretty different.

Question #31. People all over the world are pretty much the same.

Question 12 was reverse scored and the two items were added such that a low score indicated more perceived similarity and a high score perceived differences.

For each of these scales, change scores were computed by subtracting each child's response to each item on the after-questionnaire from his or her response to the same item on the before-questionnaire, then adding the changes. Thus, for the similarity scales, a positive change score indicates a change in the direction of more perceived similarity and a nagative change score a change in the direction of more perceived differences (less similarity).

The mean scores obtained for these scales on the before-questionnaire and the after-questionnaire, and the mean change scores are presented in Table 3. (For those interested in the results of the statistical analyses performed, the table also includes t-values, degrees of freedom, and the probability levels at which one could consider the obtained differences to have occurred by chance.)

Insert Table 3 about here

TABLE 3

MEAN BEFORE SCORES, AFTER SCORES AND CHANGE SCORES FOR PERCEIVED SIMILARITY SCALES[1]

	Before Score	After Score	Change Score	t Value[2]	df[3]	p Value[2]
A. Same-Different Scale: Kids in Other Parts of the World						
Fourth Grade	5.92	4.30	1.62	5.76	49	.001
Fifth Grade	5.86	5.59	.27	1.40	73	ns
Sixth Grade	5.55	4.80	.75	4.26	92	.001
B. Same-Different Scale: Kids in California						
Fourth Grade	4.92	3.84	1.08	3.66	50	.001
Fifth Grade	4.92	4.89	.03	<1	73	ns
Sixth Grade	4.20	3.91	.29	1.80	92	.10
C. Child Similarity Scale						
Fourth Grade	7.78	7.14	.64	1.59	50	ns
Fifth Grade	8.45	8.01	.43	1.24	72	ns
Sixth Grade	7.71	7.53	.18	<1	83	ns
D. People Similarity Scale						
Fourth Grade	8.51	7.27	1.24	3.12	50	.01
Fifth Grade	9.68	8.18	1.50	4.55	70	.001
Sixth Grade	8.15	7.27	.88	3.45	84	.001

1. For each scale, the lower the before-score or the after score, the more perceived similarity.

2. All t-tests are for correlated groups. Values of less than one are not reported. All t-tests are two-tailed; probability levels of less than .10 are indicated by ns (not significant).

3. Degrees of freedom vary slightly from one analysis to another because some children occassionally failed to respond to an item included in a scale. These children were omitted from the analysis.

As Table 3A indicates, there was a highly significant change from before to after viewing for fourth and sixth graders on the Same-Different scale referring to "Kids in Other Parts of the World." After viewing 'Big Blue Marble,' children in both grades saw themselves as more similar to children from other lands. Indeed, the difference was large enough ($p<.001$) that it might have occurred by chance only one time in a thousand. There was also a minimal change in this direction among fifth graders, but the change was so small that, statistically, it must be attributed to chance.

Somewhat surprisingly, a similar change also occurred on the Same-Different scale when the referent was "Kids in California" (Table 3B). That is, fourth graders saw themselves as significantly more similar to children in California after viewing ($p<.001$), and sixth graders manifested a change in this direction which approached (but did not reach) statistical significance ($p<.05$ is the minimal significance level employed in this report). We had not expected this change to occur. Indeed, the specific items referring to "Kids in California" were included in order to compare stability on that concept with change when the referent was "Kids in other parts of the world." However, these results do not necessarily mitigate the evidence that the program had a dramatic impact on perceptions of similarity with children from other lands. First, it should be noted that within each grade the change toward more perceived similarity was greater when the referent was children in other lands than when it was children in California. In fact, among sixth graders the difference in the amount of change on the two concepts was statistically significant ($t=2.12$, $df=92$, $p<.05$), more change occurring when the referent was children in other parts of the world. Second, the mean before-scores

when the referent was "Kids in California" were much higher than we had expected. Since a value of 4 was the mid-point of the scale, children in all three grades initially rated other California children as more different than similar to themselves. When we consider that the program is meant for children in all lands, its theme is not so much that "children in other parts of the world are like children in the U.S.," as it is that "all children have some basic similarities." Thus, in retrospect it is not surprising that there should have been changes toward more perceived similarity even when our subjects compared themselves to other California children, particularly considering their initial perceptions of low similarity with other Californians.

Turning to the Child Similarity scale (Table 3C), no significant changes were obtained from before to after viewing. Although the mean change scores indicate a slight move in the direction of more perceived similarity, the differences were so small as to be attributable to chance alone.

This was clearly not the case, however, for the People Similarity scale (Table 3D). On this scale children in all three grades dramatically changed in the direction of more perceived similarity ($p<.01$ for fourth graders and $p<.001$ for fifth and sixth graders). That is, after viewing 'Big Blue Marble' children in the fourth, fifth, and sixth grades all indicated that they perceived more similarity (less difference) among people from all parts of the world. It appears, then, that when questions are phrased more generally as in the People Similarity scale, as opposed to more specifically as in the Child Similarity scale, the program has a more dramatic impact on perceptions of similarity.

Finally, in order to test whether the program had a differential effect on perceptions of similarity for children in different grades,

analyses of variance were performed on the mean change scores produced for each grade. There were no significant differences between children in the three grades in the amount of change manifested on either the Child Similarity scale or the People Similarity scale. On the former scale, none of the three grades changed a significant amount; on the latter scale, all three grades changed significantly; in both cases, the changes were roughly equal across grades.

On the Same-Different scales, however, both for "Kids in Other Parts of the World" and for "Kids in California," there was a significant effect located by grade ($F_{2,214}=8.82$, $p<.001$ and $F_{2,215}=6.21$, $p<.01$, respectively). In both cases the effect was due to the large amount of change manifested by fourth graders, who changed more than fifth and sixth graders both when the referent for the scale was "Kids in Other Parts of the World" ($t_{122}=4.09$, $p<.001$ and $t_{141}=2.72$, $p<.01$, respectively) and when it was "Kids in California" ($t_{123}=9.54$, $p<.001$ and $t_{142}=2.57$, $p<.05$, respectively).

To summarize, then, it appears that viewing four episodes of 'Big Blue Marble' significantly influenced children's perceptions of similarities and differences between themselves and people in other parts of the world. The effect was in the direction of encouraging perception of greater similarities (or less differences) than had been perceived before viewing The influence was strongest among fourth graders and weakest among fifth graders. Changes were greatest on items refering to people in general and least (failing of statistical significance) on items which made specific comparisons between U.S. children and children from other countries.

Perceptions of others' well-being. The phrase "others' well-being" is used to cover perceptions of the health, happiness, and general well-being of children in other countries. These items were included because of a feeling that U.S. children frequently think of children in other

countries as being less fortunate than themselves -- an impression derived from influences as diverse as parental scoldings to "Eat your vegetables! Think of the starving children in Europe/Africa/Asia/etc.", and television images of suffering children in war-torn countries. Given 'Big Blue Marble's' portrayal of life in other lands as interesting and attractive, we felt that changes in such impressions might be engendered.

Perceptions of the well-being of children in other lands were assessed by means of three scales. The first, called for convenience the "Well-Being" scale, was composed of 5 of the pairs of bipolar adjectives on which children rated "Kids in Other Parts of the World." These were: HAPPY-SAD, RICH-POOR, WELL FED-HUNGRY, FORTUNATE-UNFORTUNATE, and HEALTHY-NOT HEALTHY. Scores on these five pairs of adjectives were added to form a scale which ranged from 5 (perceived high well-being) to 35 (perceived low well-being), such that change scores obtained by subtracting responses on the after-questionnaire from the responses on the before-questionnaire were positive if there was a move in the direction of more well-being and negative if in the direction of less well-being. For comparative purposes, the same scale was computed for "Kids in California."

The single, bipolar adjective pair HUMBLE-PROUD formed the second scale. (It had been expected that this adjective pair would be included in the preceding scale. However, correlations of responses to this item with responses to the preceding items were so minimal that it made more sense to deal with Humble-Proud independently.) This "Humble-Proud" scale was scored from 1 (Humble) to 7 (Proud). Thus, a negative change score indicates a move from the before to the after-questionnaire in the direction of perceiving children in other lands as more proud, while a positive

change score indicates the reverse. As above, the same scale was computed for "Kids in California."

The third scale comprised three items from Part II of the questionnaire which explicitly or implicitly compared U.S. children and children from other countries. The items were:

Question # 6. I feel sorry for most children in other countries.

Question #20. Children in other countries are not as healthy as American children.

Question #24. Most children in other countries often have to go hungry.

Scores from the three items were added to form a "Comparative Well-being" scale on which scores could range from 3 (low well-being) to 18 (high well-being). Change scores carry a positive sign if, after viewing, children in other lands are perceived as less well off and a negative sign if perceived as more well off.

The mean scores for children in each grade on each of the preceding scales are presented in Table 4. The change scores presented in this table reveal dramatic differences in perceptions of the well-being of

Insert Table 4 about here

children in other lands from before to after viewing 'Big Blue Marble.' On all three scales where subjects were asked to respond in terms of children in other countries (Tables 4A, 4C, and 4E), there was a change in the direction of rating these children as better off. With the single exception of the scores for fourth graders on the "Humble-Proud" scale, all changes were statistically significant. Indeed, on the two multiple-item scales (Table 4A and 4E), which can be assumed to be the more reliable measures, the changes were well beyond the $p < .001$ level.

TABLE 4

MEAN BEFORE SCORES, AFTER SCORES AND CHANGE SCORES FOR PERCEIVED WELL-BEING SCALES[1]

	Before Score	After Score	Change Score	t Value	df	p Value
A. Well-Being Scale: Kids in Other Parts of the World						
Fourth Grade	19.80	16.10	3.70	5.72	49	.001
Fifth Grade	21.66	17.77	3.89	5.67	70	.001
Sixth Grade	21.70	18.14	3.56	6.92	90	.001
B. Well-Being Scale: Kids in California						
Fourth Grade	13.49	13.47	.02	<1	50	ns
Fifth Grade	14.23	13.58	.65	1.57	73	ns
Sixth Grade	12.74	12.53	.21	<1	89	ns
C. Humble-Proud: Kids in Other Parts of the World						
Fourth Grade	4.47	4.76	- .29	1.21	50	ns
Fifth Grade	4.18	4.73	- .55	3.14	72	.01
Sixth Grade	4.12	4.71	- .59	3.01	92	.01
D. Humble-Proud: Kids in California						
Fourth Grade	4.75	5.00	- .25	1.17	50	ns
Fifth Grade	5.05	5.21	- .14	<1	72	ns
Sixth Grade	4.97	4.92	.05	<1	92	ns
E. Comparative Well-Being Scale						
Fourth Grade	9.36	11.92	-2.56	6.27	52	.001
Fifth Grade	9.01	11.24	-2.23	6.26	71	.001
Sixth Grade	9.71	11.36	-1.64	5.49	79	.001

1. For scales A and B, a lower after-score indicates more well-being; for scales C, D, and E, a higher after-score indicates more perceived pride and well-being.

The impact of 'Big Blue Marble' on perceptions of the well-being of children from other countries is further shown by the lack of a significant difference from before to after viewing ratings of California children. In no instance did subjects in any grade increase their perceptions of the well-being of children in California. There is, of course, the possibility that this difference in the amount of change obtained for the two referents is a function of the differential amount of change possible for the two referents. That is, examination of the mean before-scores in Table 4A through Table 4D shows that, before viewing, children in California were perceived both as much better off than children in other parts of the world (the difference was significant beyond the .001 level for all three grades) and as prouder than children in other parts of the world (the difference was not significant for fourth graders but was beyond the .001 level for fifth and sixth graders). Thus, there was more room on the scales for perceptions of children in other parts of the world to change and/or less room for perceptions of California children to change. However, it should be recalled that this was also the case for the Same-Different scale discussed in the preceding section, and in that instance perceptions on both referents changed significantly.

Regardless of the reasons underlying the differential amounts of change obtained for the two referents, it is abundantly clear that the program greatly affected viewers' perceptions of the well-being of children in other parts of the world.

Finally, one way analyses of variance for grade performed on each of the five scales presented in Table 4 revealed no differences among grades in the amount of change from before to after viewing. Statistically, fourth, fifth, and sixth graders were all equally influenced by the program.

Ethnocentrism and evaluation of others. Included under the heading of ethnocentrism are a number of scales aimed at measuring whether the program increased viewers' evaluations of children in other countries thus leading to a decrease in what we have called, for lack of a better term, ethnocentrism. By this we mean something like a narrow view of the superiority of or preference for the U.S. To a large extent, the items comprising the following scales provide the best description of the general concept we were trying to examine.

Four items form what we have labeled the "Ethnocentrism" scale. Three of the four explicitly compare U.S. children with children from other countries, while the fourth pertains to willingness to move from the U.S. The four items were worded as follows:

Question #13. I would be very sad if my family and I lived in another country.

Question #14. It is easier to make friends in American than in other countries such as Spain or China.

Question #19. The kids in my class are probably more interesting than kids from another country.

Question #28. American kids have more fun than kids in other countries.

Responses to these items were added to form a scale ranging from 4 (high ethnocentrism) to 24 (low ethnocentrism).

A second scale also explicitly compared U.S. and other children, but this time on a dimension which we have called "Cognitive Superiority." The scale, ranging from 2 (high perceived superiority) to 12 (low perceived superiority), was formed by adding responses to the following items:

Question # 2. If my class had to solve the energy crisis with a class from another country like France or Brazil, my class would give better answers.

Question #22. If my class had a contest with kids in a class from another country like England or Egypt, about how to stop pollution, my class would win.

For both of the preceding scales, change scores with negative signs indicate a move in the direction of less ethnocentrism and less perceived cognitive superiority.

A third scale dealt with attributes of the desirability of the U.S. to children from other countries. It included the following two items.

Question #15. Most kids in the world think America is the best place to live.

Question #17. Most kids in other countries would like to live in America.

Combining responses to the two items produced an "Attributed Preference for the U.S." scale which ranged from 2 (high attributed preference) to 12 (low attributed preference), such that a negative change score indicated a reduction in the propensity to attribute a desire to live in the U.S. to other children.

Finally, two single items were analyzed separately. The first, question number 11, read, "The U.S. has more problems than places like Africa or South America," and was scored from 1 (agree very much) to 6 (disagree very much). The second, question number 21, was worded: "I would like children in other parts of the world to see how I live." It, too, was scored from 1 to 6 indicating high agreement to high disagreement. (It had been planned to include these two items in the preceding multiple-item scales, but the intercorrelations with other items were so low as to cause us to analyze them separately.)

Mean scores for all of the preceding scales are included in Table 5.

Insert Table 5 about here

Although the changes obtained on these scales are neither as large nor as consistent as those for perceptions of Well-being (preceding section),

TABLE 5

MEAN BEFORE SCORES, AFTER SCORES AND CHANGE SCORES FOR ETHNOCENTRISM AND EVALUATION OF OTHERS SCALES[1]

	Before Score	After Score	Change Score	t Value	df	p Value
A. Ethnocentrism Scale						
Fourth Grade	16.67	17.76	-1.09	2.09	50	.05
Fifth Grade	15.77	16.88	-1.11	2.55	72	.01
Sixth Grade	17.56	18.44	- .88	2.26	79	.05
B. Cognitive Superiority Scale						
Fourth Grade	7.52	8.83	-1.31	3.93	51	.001
Fifth Grade	8.42	8.74	- .32	1.32	72	ns
Sixth Grade	8.55	8.75	- .20	<1	80	ns
C. Attributed Preference for the U.S.						
Fourth Grade	7.44	8.40	- .96	3.01	51	.01
Fifth Grade	7.17	6.70	.46	1.32	70	ns
Sixth Grade	7.01	7.75	- .74	3.16	78	.01
D. "The U.S. Has More Problems"						
Fourth Grade	3.75	4.28	- .47	2.42	52	.05
Fifth Grade	3.89	3.79	.10	<1	72	ns
Sixth Grade	4.08	4.00	.08	<1	88	ns
E. Desire to have Others View Own Life Style						
Fourth Grade	2.06	2.60	- .54	2.71	51	.01
Fifth Grade	2.63	2.66	- .03	<1	72	ns
Sixth Grade	2.28	2.31	- .03	<1	88	ns

1. Higher scores indicate less ethnocentrism, superiority, etc.

Table 5 nevertheless presents good evidence that 'Big Blue Marble' affected viewers' sense of ethnocentrism and/or evaluations of children in other parts of the world.

This is best illustrated in Table 5A, which summarizes results for what we labeled the Ethnocentrism scale. In each of the three grades there was a significant decrease in "ethnocentrism" from before to after viewing. That is, the children were less positive in attributing superiority to things American. An analysis of variance for mean change scores revealed no significant differences between grades in the amount of change in ethnocentrism; statistically, fourth, fifth, and sixth graders all changed equally.

Mean change scores on the Cognitive Superiority scale (Table 5B) indicate that, after viewing, children in all three grades were less likely to agree that U.S. children would be superior to others at a problem-solving task. However, the amount of change was significant only for fourth graders. The change manifested among fifth and sixth graders could be attributed to chance. As would be expected, this between-grade differential was revealed in a significant F ratio when an analysis of variance for grade was performed on change scores ($F_{2,203}=5.05$; $p<.01$). That is, not only were fourth graders the only group to change significantly from before to after viewing, but they changed significantly more than both fifth graders ($t_{123}=2.48$; $p<.05$) and sixth graders ($t_{131}=2.97$; $p<.01$). With regard to the Cognitive Superiority scale it is interesting to note that, prior to viewing, fourth graders were much more likely than their older counterparts to state that U.S. children would win any problem-solving competition. After viewing, however, they were the least likely group to agree with such a statement, although the differences between grades on after-scores were trivial.

Both fourth and sixth graders manifested significant decreases in their willingness to assume that children from other countries perceive the U.S. to be the best of all possible worlds (Table 5C). For these two grades, the obtained changes from before to after viewing might have occurred by chance only one time in a hundred. Somewhat surprisingly, fifth graders changed in the other direction, their mean change score indicating an increase in willingness to state that other children would prefer the U.S. This "reverse" change, however, did not approach statistical significance and can be reasonably attributed to chance and interpreted as no change at all. Given the differential amounts and directions of change produced by children in the three grades, it is not surprising that an analysis of variance for grade produced a significant F ratio ($F_{2,199}$= 6.39; $p<.01$) with no difference between fourth and sixth graders ($t<1$) and significant differences between fourth and fifth graders (t_{121}=2.90; $p<.01$) and between fifth and sixth graders (t_{148}=2.90; $p<.01$).

Turning to the two single item scales, fourth graders maintained their role of being the most influenced viewers of 'Big Blue Marble'. Only they differed significantly from before to after viewing in their response to the statement that "The U.S. has more problems than other places like Africa or South America" (Table 5D) and in their willingness to have other people see the way they lived (Table 5E). After viewing, they disagreed more that the U.S. has more problems ($p<.05$) and were less willing to have other children see how they live ($p<.01$).

However, a good deal of caution must be exercised when interpreting the results of these last two "scales." It should be kept in mind that both are based on a single item, which implies decreased reliability. Moreover, that the significant changes occurred only among fourth graders points to another possible source of decreased reliability. We would

expect the younger children to be less consistent in their responses to all scales than their older counterparts.

On the before-questionnaire, children in all three grades tended to disagree slightly with the statement that the U.S. has more problems than other parts of the world. We had thought that, after viewing, the tendency to disagree with such a statement might be less, not because of an increased sense of U.S. problems but rather due to a decreased sense of the problems in other parts of the world. That is, we felt that the program's rather attractive portrayal of life in other lands might imply fewer problems elsewhere, which could, in turn, lead to a reduction in the tendency to disagree with the statement. Among fourth graders, of course, just the opposite occurred while for fifth and sixth graders the changes were trivial. We are at something of a loss to explain why fourth graders should have responded in this way. Certainly nothing we can find in the programs would seem to influence a change in this direction.

Similarly, the decrease in fourth graders' desire to have children in other parts of the world see how they live is also difficult to explain (Table 5E). This item was quite frankly exploratory and possibly does not even belong in the section on ethnocentrism. Our expectation had been that all viewers would like to have their lives portrayed. There is, of course, the possibility that, at least for fourth graders, the program's interesting and attractive portrayal of life in other lands made their own lives seem somewhat palid. This is a possibility deserving further research. It should be noted, however, that after viewing children in all three grades remained positive about having others see their lives. Even fourth graders, who decreased in agreement with the statement, produced after-scores on the "Agree" side of the scale.

To summarize, then, after viewing 'Big Blue Marble', children in

all three grades showed a significant reduction in what we have called ethnocentrism. Fourth and sixth graders showed a significant decrease in their willingness to attribute a preference for life in the U.S. to children from other parts of the world. Fourth graders were less sure of their "cognitive superiority" over children in other countries, more certain that the U.S. has less problems than other countries, and less willing (although still willing) to have children in other parts of the world see how they live. All in all, the results provide relatively convincing support to the conclusion that viewing 'Big Blue Marble' influenced children's perceptions of the positive dimensions of life in other lands and somewhat decreased feelings of "ethnocentrism."

Perceptions of work and responsibility. A number of scales were used to assess the impact of viewing 'Big Blue Marble' on children's perceptions of and opinions about various dimensions of work and responsibility.

The first of these scales was based on three of the pairs of bi-polar adjectives on which children were asked to rate both "Kids in California" and "Kids in Other Parts of the World." The items -- HELPFUL-NOT HELPFUL, RESPONSIBLE-NOT RESPONSIBLE, HARWORKING-LAZY -- were scored so that a low score indicated more helpful, responsible, and hardworking. The "Other Children's Helpfulness" scale that resulted from adding the scores together ranged from 3 (very helpful and hardworking) to 21 (very unhelpful and lazy).

A second scale, labeled "Comparative Responsibility," was formed by adding together the scores from six of the agree-disagree statements in Part II of the questionnaire. The six items were:

Question # 1. Kids in other countries have to work a lot harder than American Kids.

Question # 3. Children in other countries are more responsible than children in America.

Question # 7. Children in other countries work too much.

Question # 8. Kids in other countries like India and Holland have more responsibilities than kids in America.

Question # 9. Kids in other countries are more help to their parents than kids in the U.S. are.

Question #25. The jobs kids in other countries have are more important than the jobs kids in America do.

This scale was designed to assess a comparison between U.S. and other children on the dimension of work and responsibility. Scores on the scale could range from 6 (other children are more responsible and helpful) to 36 (other children are not more helpful or responsible).

A third scale, called "Work Attitude," attempted to measure children's attitudes toward work with explicit reference to the kinds of jobs children can do. It was composed of three items.

Question # 4. Most jobs that kids do are boring.

Question #16. Kids who work don't have any time for fun.

Question #30. Only adults have real responsibilities.

Scores could range from 3 (seeing children's work in a negative light) to 18 (seeing children's work in a positive light).

Still another scale attempted to tap children's opinions about the jobs and/or responsibilities available to them. The thrust of the two items forming this scale was that U.S. children are restricted from having jobs as interesting as those held by children in other countries. The items forming this "Job Availability" scale were:

Question #26. Parents in America don't let kids have as much responsibility as parents in other countries do.

Question #29. The jobs kids in other countries can get are better than the jobs kids in the United States can get.

The range of possible scores on this scale was 2 (belief that other children have better jobs available) to 12 (belief that other children

do not have better jobs available).

Finally, because segments of the program portrayed girls doing as well as boys at many tasks, and children engaged in adult-like tasks, two single items scales were included.

Question #10. Girls can do the same jobs as boys.

Question #18. Children can do the same kinds of jobs as adults. Responses to these two items were analyzed separately, with a score of 1 indicating high agreement and a score of 6 indicating disagreement with each statement.

Mean scores obtained on each of these scales are presented in Table 6.

Insert Table 6 about here

Given what we perceived to be the program's relatively strong (albeit implicit) emphasis on the theme of work and responsibility, we were initially surprised to find as few significant changes on scales relevant to this as are shown in Table 6. However, it is on these scales that age differences appear to have their strongest effect, and they may help to explain some of the lack of change.

For the Other Children's Helpfulness scales (Table 6A and 6B), only fourth graders manifested a significant change in the direction of perceiving "Kids in Other Parts of the World" to be more helpful/responsible/hardworking. Fifth graders produced a small (not significant) change in this direction, and sixth graders did not change at all. When the referent for this scale was "Kids in California," fifth graders significantly increased their perception of California children's helpfulness. Fourth and sixth graders showed minimal, but not significant, changes in this direction.

TABLE 6

MEAN BEFORE SCORES, AFTER SCORES AND CHANGE SCORES FOR WORK AND RESPONSIBILITY SCALES[1]

	Before Score	After Score	Change Score	t Value	df	p Value
A. Other Children's Helpfulness: Kids in Other Parts of the World						
Fourth Grade	8.04	7.06	.98	2.28	49	.05
Fifth Grade	7.60	7.25	.35	<1	74	ns
Sixth Grade	6.73	6.73	0.0	<1	92	ns
B. Other Children's Helpfulness: Kids in California						
Fourth Grade	9.06	8.53	.53	1.28	46	ns
Fifth Grade	10.95	10.12	.83	2.28	73	.05
Sixth Grade	11.05	10.64	.41	1.55	90	ns
C. Comparative Responsibility Scale						
Fourth Grade	23.14	24.06	- .92	1.22	50	ns
Fifth Grade	20.54	21.12	- .58	1.10	71	ns
Sixth Grade	20.96	21.70	- .74	1.51	76	ns
D. Work Attitude Scale						
Fourth Grade	12.26	14.51	-2.25	4.65	50	.001
Fifth Grade	12.56	13.50	-1.00	2.21	71	.05
Sixth Grade	13.94	13.72	.22	<1	84	ns
E. Job Availability Scale						
Fourth Grade	8.02	8.14	- .12	<1	50	ns
Fifth Grade	7.89	7.66	.23	<1	70	ns
Sixth Grade	8.48	7.37	1.11	4.35	80	.001
F. "Girls Can Do the Same Jobs as Boys"						
Fourth Grade	3.02	2.85	.17	<1	52	ns
Fifth Grade	3.00	3.01	- .01	<1	73	ns
Sixth Grade	2.76	2.60	.16	1.06	88	ns
G. "Children Can Do the Same Kinds of Jobs as Adults"						
Fourth Grade	4.19	3.31	.88	3.59	51	.001
Fifth Grade	4.39	3.47	.92	4.62	73	.001
Sixth Grade	4.14	3.89	.25	1.69	89	.10

1. For scales A,B,F, and G, lower scores indicate more perceived helpfulness or more agreement: for scales C, D, and E, higher scores indicate more perceived responsibility, more positive attitudes toward work, and more restricted job opportunities, respectively.

There are several interesting points to be noted about responses to these two scales. First, examining the scores produced prior to viewing the program (before-scores), a clear age difference is apparent. Fourth graders attributed the least helpfulness to children in other parts of the world and the most helpfulness to children in California, while sixth graders attributed the most helpfulness to children from other lands and least helpfulness to California children. When children in other lands were the referent, analysis of variance on the before-scores produced a significant F ratio for grade ($F_{2,215}=4.18$, $p<.05$), with sixth graders rating others as significantly more helpful than either fourth graders ($t_{141}=2.79$, $p<.01$) or fifth graders ($t_{166}=1.98$, $p<.05$), among whom there was no difference. When California children were the referent, analysis of variance on before-scores again revealed a significant effect for grade ($F_{2,209}=9.04$; $p<.001$). In this case, however, it was fourth graders who rated California children as significantly more helpful than fifth graders ($t_{119}=3.55$, $p<.001$) and sixth graders ($t_{136}=4.23$, $p<.001$), among whom there was no difference.

A second point to note is that, in spite of significant age differences in the rating of children from other lands, all viewers rated them as extremely helpful, hardworking, and responsible. Thus, there was very little room on the scale for the program to produce an effect. That is, it is difficult to see how elements of the program could increase perceptions of the helpfulness of children in other parts of the world since they were perceived as very helpful to begin with. This argument is supported in that the only children to change significantly were the fourth graders, the very children who had the most room to change. Indeed, the effect of viewing the program seems to have been to wipe out age differences in perceptions of the helpfulness of other children on the after-measure ($F<1$),

an effect which did not occur when the referent was California children ($F_{2,209}$=7.74, p<.001).

In other words, 'Big Blue Marble' does seem to influence viewers to perceive children in other parts of the world to be more hardworking and helpful, provided that they are not already thought of as so helpful that there is no room to change.

On the Comparative Responsibility scale (Table 6C), which was composed primarily of items making explicit comparisons between U.S. and other children, there were no significant differences from before to after viewing. Although all three grades changed in the direction of perceiving children in other parts of the world to be more responsible than U.S. children, none of the differences were of a magnitude that enables us to eliminate chance variation as the source of the change.

Viewing the program does appear to have influenced fourth and fifth graders' opinions about children's work (Table 6D). The younger children responded to 'Big Blue Marble's' portrayal of children engaged in interesting jobs and assuming adult responsibility by perceiving work in a more positive light. Fourth graders changed a great deal, fifth graders changed moderately, and sixth graders changed not at all (producing, in fact, a trivial mean change score in the direction of a more negative attitude). The influence of age was continued on this scale, where analysis of variance on change scores revealed a significant effect for grade ($F_{2,205}$=8.06; p<.001). The difference in amount of change manifested by fifth and sixth graders did not reach statistical significance; however, fourth graders changed more than fifth graders to a degree which approached significance (t_{121}1.84; p<.10) and changed much more than did sixth graders (t_{134}=3.44; p<.01). In other words, amount of change on the Work Attitude scale was inversely related to grade.

A reverse of this pattern appeared on the Job Availability scale (Table 6E). On this scale sixth graders were the only viewers to change significantly from before to after viewing, the program leading them to perceive that relative to children in other countries, U.S. children are somewhat restricted in the jobs/responsibilities available to them. Again an analysis of variance on change scores revealed an effect for grade ($F_{2,200}$=5.24; p<.01), but this time the sixth graders accounted for the differences. That is, t-tests revealed no difference between fourth and fifth grade change scores (t<1), but that sixth graders changed more than either fourth graders (t_{130}=3.00; p<.01) or fifth graders (t_{150}=2.39; p<.05).

On the item asking whether girls and boys can do the same jobs (Table 6F), there were no significant differences from before to after viewing. Children began by agreeing slightly with the statement and ended by agreeing slightly with the statement. There were no age differences on this scale.

Both changes from before to after viewing and age differences did appear on the item measuring whether the program influenced viewers' perceptions of whether children could take on adult responsibilities (Table 6G). As the before-scores indicate, prior to viewing children in the three grades disagreed slightly with the statement. After viewing, the mean scores for each grade had moved toward the "agree slightly" side of the scale, the change reaching statistical significance for fourth and fifth graders (p<.001) and approaching significance for sixth graders (p<.10). The F ratio for analysis of variance for grade on the change scores was significant ($F_{2,213}$=4.23; p<.05), with no difference between fourth and fifth graders, but both changing significantly more than sixth graders (t_{140}=2.30; p<.05 and t_{162}=2.87; p<.01 for fourth and fifth graders respectively). In other words, the younger viewers seem to have

been particularly affected by 'Big Blue Marble's' portrayal of children engaged in adult-like jobs. We must emphasize, however, that results on this last scale are based on responses to a single item. There is reason to be cautious about such results.

In summary, then, there is evidence that children's attitudes toward work and responsibility were affected by the program. The effect, however, seems to vary depending on viewers' ages (located by grade) and on their pre-viewing attitudes. Younger children, who on the basis of before-scores had the most "room" to change, were influenced to perceive children in other parts of the world as more helpful. It was also the younger viewers (fourth and fifth graders) who developed a more positive attitude toward children's work and who began to believe that children can do the same sorts of jobs that adults engage in. For sixth graders, the only significant change was in their opinion that children in other lands are less restricted in job availability than are U.S. children.

Responses to 'Big Blue Marble'. Section III of the after-questionnaire contained a number of items asking specific questions about what children thought of 'Big Blue Marble'. For the most part, straightforward percentages of children in each grade who liked or did not like the program, who did or did not talk to others about it, and so forth, provide unambiguous evidence of highly positive response to the program. For this reason, we will present the results for this section of the questionnaire in terms of percentages. In the interest of clarity and brevity, response categories on each item have been collapsed. Thus, for example, on the question asking children how much they like the program, children responding "liked it very much," "liked it," or "liked it a little bit" have been combined into a category of those who like the program, while those marking one of the three options at the other end of the scale have been collapsed

into a category of those who dislike the program.

In addition to percentage summaries, however, we also present mean scores on each question for each grade. This is possible because most of the items formed at least ordinal scales, and is necessary because we are interested in age differences in responses to the program. Statements about age differences are based on two-tailed t-tests for differences among these means.

Responses to each item in part III of the questionnaire are summarized separately, the tables including percentages, means, and superscripts indicating whether or not mean scores differ significantly.

Three items dealt directly with children's evaluative responses to 'Big Blue Marble'. Table 7 presents results for items asking how much the program was liked, how much children would watch it if it was broadcast daily, and how interesting it was found to be. A highly positive response to the program is revealed in responses to these questions. An overwhelming proportion of the children indicated that they liked 'Big Blue Marble' and three quarters or more found it to be interesting. Although the percentage of children indicating that they would watch 'Big Blue Marble' frequently were it to be broadcast on a daily basis is somewhat lower than on the other two questions, it should be noted that the proportion of children who indicate they would not view it never surpasses 31%. Indeed, this item probably indicates that children are somewhat realistic about their televiewing--that there are few programs which they would watch on a daily basis.

Insert Table 7 about here

Clearcut age differences were manifested on each of these three questions. In each case, the most positive responses were given by fourth

TABLE 7

EVALUATIONS OF 'BIG BLUE MARBLE':
PERCENTAGES AND MEANS BY GRADE

Question and Response[1]	Fourth Grade	Fifth Grade	Sixth Grade
1. How much did you like 'Big Blue Marble'?			
Liked it	95.4%	93.7%	84.8%
Dislike it	4.6%	6.3%	15.2%
Mean liking score[2]	1.58[a]	1.69[a]	2.39[b]
2. If 'Big Blue Marble' was on television every day, how often would you watch it?			
Always or a lot	66.2%	45.6%	27.9%
Sometimes	20.0%	32.9%	41.3%
Seldom or never	13.8%	21.5%	30.8%
Mean viewing score	2.25[a]	2.72[b]	3.11[c]
3. How interesting did you find 'Big Blue Marble'?			
Interesting	89.2%	84.8%	75.0%
Not interesting	10.8%	15.2%	25.0%
Mean interest score	1.55[a]	1.70[a]	2.01[b]

1. Question numbers refer to the number of the question in Part III of the after-questionnaire. Questions have been paraphrased and response categories collapsed in this and all following tables.

2. In this and all subsequent tables, mean scores with differing superscripts differ at at least the $p<.05$ level of significance by two-tailed tests.

graders and the least positive responses by sixth graders. This is indicated by the differences between mean scores for each item, as indicated by the superscripts attached to each mean. While the mean liking score did not differ between fourth and fifth graders, both liked the program more than did sixth graders (t_{168}=4.05, and t_{183}=3.68, respectively, both $p<.001$). An identical pattern appeared on the mean interest score, sixth graders indicating less interest than either fourth graders (t_{167}=3.29; $p<.01$) or fifth graders (t_{181}=2.21; $p<.05$), and no difference between the latter two groups. In spite of these age differences, however, it should be noted that sixth graders, who indicated the least liking and interest, nevertheless manefested a good deal of liking and interest. In other words, the program seems to have appealed more to the younger children in our sample, but appealed to all children regardless of age.

Table 8 presents the results of three questions which asked children to indicate how much they felt they had been influenced by 'Big Blue Marble.' On the question asking how much viewers felt they had learned from the program, 84% of the fourth graders, 71% of the fifth graders, and 63% of the sixth graders indicated that they had learned some or a lot. Again there was an effect for age, fourth graders indicating that they had learned more than did fifth graders (t_{142}=3.64; $p<.001$) or sixth graders (t_{168}=4.93; $p<.001$).

Although a smaller proportion indicated that 'Big Blue Marble' had changed their ideas about children in other parts of the world, only among fifth graders did less than 50% admit to such changes. (Indeed, if we include in our computations those children who indicated that they changed their ideas at least a little bit, the percentage admitting to at least a minimal effect becomes 93.9%, 83.8%, and 88.4% for the three

grades, respectively.) On this item, fourth graders admitted to significantly more change than either fifth graders ($t_{143}=2.53$; $p<.05$) or sixth graders ($t_{166}=2.20$; $p<.05$).

Insert Table 8 about here

Finally, almost all of the children felt that the program gave a good idea of what people in other parts of the world are like, 85% being the lowest proportion of children (among sixth graders) to agree with this statement. The only significant difference between grades on this item was that between fourth and sixth graders ($t_{163}=2.90$; $p<.01$).

Still another three items attempted to determine whether 'Big Blue Marble' functioned as a stimulus for further conversation. We felt that many of the effects of a program such as this might be mediated by discussions engendered by viewing, rather than directly by viewing itself. It is clear from Table 9, where results for the three items are presented, that the program was more successful in stimulating discussion among fourth graders, and that discussion was more likely to occur among friends than with family or teacher. It should also be noted that sixth graders were significantly less likely to engage in conversations about the program with their family and to report that their teachers talked less about the program. We feel that further research should be aimed at teasing out the effect of such discussion on attitudes.

Insert Table 9 about here

Still another measure of children's response to 'Big Blue Marble' can be derived from their answers to the item asking if they planned to write for the pen-pal advertised in the program. Here it is worth noting

TABLE 8

ASSESSMENTS OF THE EFFECT OF 'BIG BLUE MARBLE': PERCENTAGES AND MEANS BY GRADE

Question and Response	Fourth Grade	Fifth Grade	Sixth Grade
5. How much do you feel you learned from 'Big Blue Marble'?			
Some or a lot	84.6%	70.9%	62.9%
Little or nothing	15.4%	29.1%	36.1%
Mean score	1.58[a]	2.09[b]	2.27[b]
10. Did 'Big Blue Marble' change ideas about kids in other countries?			
Some or a lot	66.2%	45.0%	54.4%
Little or not at all	33.8%	55.0%	45.6%
Mean score	2.08[a]	2.51[b]	2.41[b]
11. Did 'Big Blue Marble' give a good idea of what people in other parts of the world are like?			
Gave a good idea	93.5%	93.9%	85.4%
Didn't give good idea	6.5%	6.1%	14.6%
Mean score	1.77[a]	2.05[ab]	2.35[b]

TABLE 9

DISCUSSION ABOUT 'BIG BLUE MARBLE':
PERCENTAGES AND MEANS BY GRADE

Question and Response	Fourth Grade	Fifth Grade	Sixth Grade
7. Frequency of discussion with friends.			
Often or sometimes	52.3%	46.2%	40.8%
seldom or never	47.7%	53.8%	59.2%
Mean score	2.51[a]	2.70[a]	2.77[a]
8. Frequency of discussion with family.			
Often or sometimes	43.1%	32.5%	32.7%
Seldom or never	56.9%	67.5%	67.3%
Mean score	2.52[a]	2.90[b]	3.05[b]
9. Frequency of discussion by teacher.			
Often or sometimes	65.1%	28.8%	23.8%
seldom or never	34.9%	71.2%	76.2%
Mean score	2.24[a]	2.98[b]	3.18[b]

that by the time the after-questionnaire was administered, 3 fourth graders, 5 fifth graders, and 9 sixth graders indicated they had already written. Of the remaining children, 68.9% of the fourth graders, 65% of the fifth graders, and 48.5% of the sixth graders expressed intentions to write for a pen-pal. This is a rather remarkable proportion of children indicating intentions to follow through on the program's offer (although it remains to be seen whether they will follow through).

A single item was included to deal with the pace of the program. Several of the researchers working on the study and several teachers who previewed the program indicated that while 'Big Blue Marble's' relatively rapid pacing seemed excellent for maintaining attention, it might well be perceived as being too fast to some of the children. As Table 10 illustrated, such fears were unfounded. Over 50% of the children in each grade indicated that the pacing was about right, and the mean scores were all very near a value of 3, the score for the "about right" category.

Insert Table 10 about here

Finally, the results for the question asking children to indicate what they felt the appropriate age-group for the program was will not be reported. The question was totally unsuccessful, indicating ages ranging from 1 to 100. Whether the children did not take this question seriously or whether some of them honestly believed that infants and elders would enjoy the program, we cannot say.

In summary, then, it is clear that the response to 'Big Blue Marble' among our viewers was overwhelmingly positive. They liked it, were interested in it, said they learned from it, and talked about it. The program appears to have made a more positive effect on younger children,

TABLE 10

PERCEPTION OF PACING OF 'BIG BLUE MARBLE':
PERCENTAGES AND MEANS BY GRADE

Question and Response	Fourth Grade	Fifth Grade	Sixth Grade
6. Do you think 'Big Blue Marble' went too fast or too slow?			
Too fast	29.2%	23.8%	21.4%
About right	58.5%	66.3%	62.1%
Too slow	12.3%	9.9%	16.5%
Mean score	2.77[a]	2.76[a]	2.97[a]

but even the oldest among our subjects were favorably impressed. And recalling, for a moment, the results obtained on our various opinion measures, even the oldest were influenced by the program.

Discussion

From the foregoing it is clear that the children who participated in this study liked 'Big Blue Marble', and that their opinions about and perceptions of life in other parts of the world were strongly influenced by it.

At least five general conclusions seem warranted by our results:

1. Viewing 'Big Blue Marble' influenced children to perceive greater similarity between themselves and people in other parts of the world.
   a. This effect was most pronounced among fourth graders and least pronounced among fifth graders.
   b. The effect was stronger on measures dealing with similarities among people in general and weaker when items made specific comparisons between U.S. children and children from other lands.
   c. The effect of increased perceived similarity seems to be somewhat general in that fourth graders (and to a small extent, sixth graders) tended also to perceive other children in California to be more similar to themselves.
2. Viewing 'Big Blue Marble' produced large changes in perceptions of the well-being of children in other countries such that after viewing those children were rated as significantly better off.
   a. This effect was large and consistent across all grades.

b. The effect was more specific than that found on the perceived similarity scales in that no changes in the perceived well-being of California children occurred.

3. Viewing 'Big Blue Marble' influenced reductions in children's "ethnocentrism" such that they were less strong in their attribution of superiority to things American and less likely to assume that children in other lands would prefer the U.S.
   a. Over all the ethnocentrism scales, changes were most pronounced for fourth graders and least pronounced for sixth graders.
   b. On several of the scales, fourth graders were the only children to manifest statistically significant changes.
   c. Changes on these scales were not as large as on the preceding scales.
4. Viewing 'Big Blue Marble' had a somewhat varied influence on children's attitudes toward and perceptions of work and responsibility.
   a. Fourth graders were most likely to manifest changes on the various scales relevant to this dimension. After viewing they saw children in other parts of the world as more helpful, saw children's jobs in a more positive light, and increased in their belief that children can manage adult-like jobs.
   b. Sixth graders manifested a significant change on a single scale, increasing their belief that relative to children in other lands, work opportunities for U.S. children are somewhat restricted.

c. The lack of changes on some of the work/responsibility scale
scales is probably attributable to a lack of room to change. Children in all three grades perceived children in other lands to be very helpful, responsible, and hardworking prior to viewing.

5. Children in all three grades liked the program and indicated that they felt they were affected by it (learned from it; changed their ideas because of it). Responses related specifically to the program were consistently related to age, younger children expressing the most positive attitudes toward the program.

If we consider that one of the basic themes of 'Big Blue Marble' is (as expressed in the words of the song cited earlier) that in spite of differences, all men are fundamentally the same, then it must be concluded that the program is remarkably successful at transmitting this idea. Not only do the scales dealing explicitly with Perceived Similarity manifest significant changes subsequent to viewing, but the changes revealed on the Well-being scales and the Ethnocentrism scales are also relevant to this point. That is, the increase in perceived well-being that followed viewing of the program had the effect of making perceptions of the well-being of children in other lands more similar to perceptions of the well-being of California children.-- a move in the direction of more perceived similarity. And while a decrease in ethnocentrism need not imply an increase in perceived similarity, it can be argued that if changes in ethnocentrism were mediated by the perception that children in other lands are better off, or more capable, or more happy with their life style than originally thought, then changes in perceived similarity might be functioning here too.

Whatever the underlying mechanisms mediating the various changes reported in these pages, it is clear that subsequent to viewing children

in other lands are seen in a more positive light and that perceived differences among men seem to have been somewhat reduced. In other words, 'Big Blue Marble' had a significant effect on the attitudes and perceptions of viewers -- an effect that is congruent with what we feel to be at least some of the implicit goals of the program.

There is, however, a fundamental question which has not been answered by this research and which is basic to understanding how and why this or any other children's program influences children's attitudes and opinions. That question has to do with whether 'Big Blue Marble was effective in influencing attitude formation or attitude change. There is some evidence that the results reported here are more reflections of attitude formation than change. For example, many of the mean before-scores on various scales hovered quite near to a hypothetical scale mid-point; children were neither strongly pro nor con on many of the items. This might well indicate that they simply hadn't thought much about the dimensions we were attempting to measure -- that they really didn't have any articulated opinions or well developed impressions of life in other countries. This possibility is certainly supported by the many changes from before to after viewing found in this research. Roberts (1971), for example, has argued elsewhere that it is much easier to induce formation of a new attitude or belief than to change an existing one.

From a pragmatic point of view, such a question may seem irrelevant to the producer of a children's television program. His or her immediate concern must understandably be with whether or not the program achieved a specific end result (eg., caused children to see others as more similar). However, to the extent that the end result might differ depending on whether it demanded attitude formation or attitude change, and to the extent that achieving these two outcomes might depend on different

production and dramaturgical techniques, it would be helpful to know which of the tasks the producer is faced with. Unfortunately, we know of little research that has investigated the nature of children's attitudes in the areas dealt with in this study. We believe that knowledge in this and similar areas is necessary if we are ever to meaningfully assist the producers of children's television programming to influence the social attitudes and behavior of children.

Finally, in the face of the relatively large changes engendered by 'Big Blue Marble' (regardless of whether those changes reflect attitude formation or attitude change), we feel that it is necessary to raise several questions concerning the implications of the changes that were achieved.

From one perspective it is a laudable goal to attempt to convince U.S. children that there are more similarities than dissimilarities among the people of the world, and that children in other parts of the world are better off than they were initially thought to be. From another point of view, however, there is reason to consider whether such changes might not also produce dysfunctional outcomes. This is not to say that dysfunctional outcomes will follow, but simply that the possibility should be considered.

We may ask, for example, given a society which has in recent years at least paid lip service to the idea of a multicultural world, of recognizing, valuing, and attempting to maintain acceptance of a multiplicity of world views and life styles, what are the implications of convincing children that, basically, all people are similar? Is it possible that in creating such a belief we might simultaneously create conditions under which a person who is perceived as different for any of a vast array of reasons might be more likely to be labeled a deviant? Treated as a deviant? It is clear that different sub-cultural groups do differ in a wide variety

of ways. And while it seems to us to be important that children recognize the fundamental similarities among men, it also seems to us to be important to teach children to recognize, accept, and value differences.

We do not mean to imply that this perspective has gone unrecognized by the producers of 'Big Blue Marble.' Quite the contrary! The list of program goals cited in the opening pages of this report clearly state the intention of portraying differences and conflict; our own screening of the programs indicates that such portrayals are evident. However, a very subtle concept is being dealt with here -- the existence of fundamental differences within the context of fundamental similarities. Perhaps it is a concept that cannot be dealt with in a subtle manner when the audience is children. Or perhaps it is a concept which our research questions were too insensitive to measure. Whatever the case, whether portrayals of differences should be given more emphasis or whether our test instrument needs to be refined, the results of this study indicate that children were more influenced to perceive similarities than differences. The possible implications of this outcome need to be given a good deal of thought, both by people engaged in the production of children's television programming and by people engaged in research of the effects of such programming.

A similar point can also be raised with regard to the changes in viewers' perceptions of the well-being of children in other countries. It is our suspicion (which can be substantiated only by further research) that these changes may well have been instrumental in the decrease in "ethnocentrism" also found in the study. This, we feel, is a highly functional outcome. But again, there may be dysfunctional implications of such a change in perceived well-being.

We have commented several times on 'Big Blue Marble's' portrayal of the life of children in other countries. Various segments of the programs show children engaged in interesting, exciting, and enjoyable activities. They portray a world of happy, healthy children living in attractive, appealing surroundings. It is difficult to criticize this approach. It is the kind of world most of us would like to see. Indeed, those of us who carried our the research enjoyed such scenes as much as the children who participated as subjects in the study. However, we are also concerned with whether such portrayals, and the demonstrated effect of such portrayals, might not lead to a somewhat distorted image of the world which could have less than desirable effects. That is, it is easily demonstrable that there are many children in the world who are neither happy nor healthy; that there are many settings and life styles that are not attractive or appealing; that there is a good deal of hunger and hardship with which we should be concerned.

We are by no means suggesting that these children and tnese settings should form the substance of a children's program. We do think it is important, however, to raise the question of what to us appears to be a very real dilemma. That is, how does any communicator, be it the producer of a children's television program or the teacher of a fifth grade social studies unit, demonstrate that life in many other countries is to be admired without running the risk of <u>either</u> leading children to believe that life everywhere is "good" <u>or</u> being forced to illustrate some of the horrors that do exist for some people? If our hypothetical communicator concentrates only on the well-being of children in other countries, he runs the risk that the child audience will come to believe that life is universally good, which might lead to a lessening of concern (sympathy?) for those who are less well off simply because they are not perceived

to exist. If we include portrayals of the bad, we may disturb some children to an unacceptable extent, and simply lose the attention of many others, thus defeating the total purpose of the communication. This is the dilemma.

We must add, of course, that we may be creating a false dilemma. children's beliefs about and image of the world are developed from many sources. No single television series, no individual teacher is going to dictate exactly what the child believes on any dimension. Given children's exposure, both intentional and incidental, to parental and peer group beliefs, to television news, drama, and so forth, it is quite possible that they will develop a relatively balanced and realistic image of the world regardless of the demonstrated impact of a program like 'Big Blue Marble.' But since there is so little research directly relevant to this possibility, it seems important that the question be raised.

We should like to emphasize that the preceding several pages of discussion pose what we consider to be important <u>questions</u>. We do not have the answers. To some extent, partial answers can be provided by further research. However, they would be only partial answers -- additional information to help with but not provide what must ultimately be a value judgment. For at bottom, any final decision about what children should be taught, about what beliefs and behaviors should be encouraged and what image of the world should be promulgated is a value judgment. In our view, it will always remain so. Our purpose here is simply to point to what we believe to be some important dimensions that should be considered in making that value judgment.

As for our own particular judgment about 'Big Blue Marble', on the basis of the data reported here we can conclude that it is highly effective at influencing children's perceptions of various dimensions

of life in other lands and highly enjoyable to elementary school children. On the basis of our own values and biases, we feel that it is an attractive and long overdue example of the kind of children's programming that the television industry needs.

Footnotes

1. Donald F. Roberts is an Assistant Professor in the Department of Communication and Theresa Silverman is a PhD. candidate in that department. The other authors were students in a course in Communication and Children offered by the department.

2. We express our gratitude for their cooperation and assistance to the principals, teachers, and children of St. Andrews School in Saratoga, California, the Crescent Park Elementary School in Palo Alto, California, and the Escondido Elementary School in Stanford, California.

3. Comments offered by the children and examination of their responses when attempting to rate "The World," indicated that subjects had a great deal of difficulty using the bi-polar adjectives to rate this concept. Some children appear to have conceived of the question in term of 'the world as a place to live,' others as a planet or geological entity, and still others simply skipped many of the adjective pairs. For this reason, results on this measure are almost uninterpretable and will not be reported here.

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Appendix A

After-Questionnaire

(The before-questionnaire was identical to the after-questionnaire with the exception that the before-questionnaire did not contain Part III.)

We are going to ask you some questions about what you think about kids in all different parts of the world. As you read the questions you might think of children in places like South America, Africa, Europe, and Asia. We don't want you to think about any particular kids, just kids in general in all the other parts of the world.

These are opinion questions. That is, there are no right answers to these questions. We just want to see what you think. We also want to be sure that you give us your own opinions, so please do not pay any attention to what your neighbors are doing. Each person has their own opinions and should pay no attention to what others might think about these questions.

Before we start, please put your name on this paper, and check what grade you are in and whether you are a boy or a girl. Then turn the page and follow the directions.

Name: _____

Grade: ____Second Grade

____Third Grade

____Fourth Grade

____Fifth Grade

____Sixth Grade

____Boy

____Girl

First, we would like you to tell us what you think about KIDS IN CALIFORNIA by using the pairs of words below. Between each pair of words there are seven lines. You should place a mark on the line that comes closest to what you think kids in California are like. For example, suppose the pair of words was QUIET and NOISY. It would look like this:

QUIET____:____:____:____:____:____:____NOISY

First you decide whether you think kids in California are quiet or noisy. If you think they are quiet you will mark one of the first three spaces. If you think they are noisy you will mark one of the last three spaces. If you think they are neither quiet nor noisy, you will mark in the middle. Once you have decided whether you think kids in California are quiet or noisy, you then must decide HOW quiet or noisy. Suppose you decide they are noisy. Now, if you think they are VERY NOISY, you would mark the space right next to noisy. If you think they are just NOISY, you would mark in the space one step from the end. If you think they are just a LITTLE BIT NOISY, you would mark in the space right next to the center. The person who marked our example thinks that children in California are Quiet. Remember, all you have to do is decide which word in each pair of words best describes what you think of kids in California, then decide how much it describes them. Now, go ahead and mark what you think about KIDS IN CALIFORNIA on the following pairs of words.

HAPPY____:____:____:____:____:____:____SAD

HUNGRY____:____:____:____:____:____:____WELL-FED

LAZY____:____:____:____:____:____:____HARDWORKING

RICH____:____:____:____:____:____:____POOR

RESPONSIBLE____:____:____:____:____:____:____NOT RESPONSIBLE

HUMBLE____:____:____:____:____:____:____PROUD

HELPFUL____:____:____:____:____:____:____NOT HELPFUL

UNFORTUNATE____:____:____:____:____:____:____FORTUNATE

SAME AS ME____:____:____:____:____:____:____DIFFERENT THAN ME

HEALTHY____:____:____:____:____:____:____NOT HEALTHY

On this page we want you to tell us what you think about KIDS IN OTHER PARTS OF THE WORLD. That is, which word in each of the pairs listed below do you think is most like kids from places like Europe, Africa, Asia, and South America?

KIDS IN OTHER PARTS OF THE WORLD

HELPFUL____:____:____:____:____:____:____NOT HELPFUL

RESPONSIBLE____:____:____:____:____:____:____NOT RESPONSIBLE

NOT HEALTHY____:____:____:____:____:____:____HEALTHY

HUMBLE____:____:____:____:____:____:____PROUD

HAPPY____:____:____:____:____:____:____SAD

POOR____:____:____:____:____:____:____RICH

SAME AS ME____:____:____:____:____:____:____DIFFERENT THAN ME

WELL FED____:____:____:____:____:____:____HUNGRY

FORTUNATE____:____:____:____:____:____:____UNFORTUNATE

HARDWORKING____:____:____:____:____:____:____LAZY

Now we want you to do the same thing for THE WORLD. Think about the world in general and mark the words you think describe it best.

THE WORLD

SAD_____:_____:_____:_____:_____:_____:_____HAPPY

EASY_____:_____:_____:_____:_____:_____:_____HARD

BIG_____:_____:_____:_____:_____:_____:_____LITTLE

DIRTY_____:_____:_____:_____:_____:_____:_____CLEAN

PEACEFUL_____:_____:_____:_____:_____:_____:_____DISTURBED

HOPEFUL_____:_____:_____:_____:_____:_____:_____HOPELESS

FRIENDLY_____:_____:_____:_____:_____:_____:_____UNFRIENDLY

DANGEROUS_____:_____:_____:_____:_____:_____:_____SAFE

POOR_____:_____:_____:_____:_____:_____:_____RICH

HEALTHY_____:_____:_____:_____:_____:_____:_____NOT HEALTHY

Now you are going to read some sentences about different things. After each sentence there is a space. We want you to read each sentence, and decide whether you AGREE or DISAGREE with it, then write a number in the space telling us how much you agree or disagre . If you AGREE VERY MUCH with the sentence, you should write a 1 in the space. If you AGREE with the sentence, you should write a 2. If you AGREE A LITTLE BIT you should write a 3. A 4 means you DISAGREE A LITTLE BIT; a 5 means you DISAGREE; a 6 means you DISAGREE VERY MUCH.

For example, here are two sentences like the ones you will be reading:

Summer vacation is not much fun.....____

American kids watch television more than kids in other parts of the world.....____

The person who answered those questions DISAGREED VERY MUCH with the first sentence and AGREED with the second one. You might have put some other number in the space. Remember, decide whether you agree or disagree with the sentence, then decide how much you agree or disagree and write the number that comes closest to your answer in the space. Don't forget:

1= AGREE VERY MUCH
2= AGREE
3= AGREE A LITTLE BIT
4= DISAGREE A LITTLE BIT
5= DISAGREE
6= DISAGREE VERY MUCH

Now read each sentence and write in how you feel about it.

1. Kids in other countries have to work a lot harder than American kids.....____

2. If my class had to solve the energy crisis with a class from another country like France or Brazil, my class would give better answers.....____

3. Children in other countries are more responsible than children in America.....____

4. Most jobs that kids do are boring.....____

5. Children in other countries are more polite than American children.....____

6. I feel sorry for most children in other countries....____

7. Children in other countries work too much.....____

8. Kids in other countries like India and Holland have more responsibilities than kids in America.....____

Keep doing the same thing for these sentences. Remember:

1= AGREE VERY MUCH
2= AGREE
3= AGREE A LITTLE BIT
4= DISAGREE A LITTLE BIT
5= DISAGREE
6= DISAGREE VERY MUCH

9. Kids in other countries are more help to their parents than kids in the U.S. are.....____

10. Girls can do the same jobs as boys.....____

11. The U.S. has more problems than places like Africa or South America.....____

12. People all over the world are pretty different.....____

13. I would be very sad if my family and I lived in another country.....____

14. It is easier to make friends in America than in other countries such as Spain or China.....____

15. Most kids in the world think America is the best place to live.....____

16. Kids who work don't have any time for fun.....____

17. Most kids in other countries would like to live in America.....____

18. Children can do the same kinds of jobs as adults....____

19. The kids in my class are probably more interesting than kids from another country.....____

20. Children in other countries are not as healthy as American children.....____

21. I would like children in other parts of the world to see how I live.....____

22. If my class had a contest with kids in a class from another country like England or Egypt, about how to stop pollution, my class would win..... ____

23. Kids in other countries don't believe in the same things that I believe in.....____

24. Most children in other countries often have to go hungry.....____

25. The jobs kids in other countries have are more important than the jobs kids in America do.....____

Continue to tell us whether you agree or disagree with these sentences. Remember, 1=AGREE VERY MUCH; 2=AGREE; 3=AGREE A LITTLE BIT; 4=DISAGREE A LITTLE BIT; 5=DISAGREE; 6=DISAGREE VERY MUCH.

26. Parents in America don't let kids have as much responsibility as parents in other countries do.....____

27. There is very little difference between children in America and in other parts of the world such as Europe or Africa.....____

28. American kids have more fun than kids in other countries.....____

29. The jobs kids in other countries can get are better than the jobs kids in the United States can get.....____

30. Only adults have real responsibilities.....____

31. People all over the world are pretty much the same.....____

32. Kids in other countries celebrate holidays the same way American kids do.....____

Now we would like to ask you a few questions about "Big Blue Marble," the television show you watched last week. Each question is followed by a list of answers and numbers. All you have to do is write in the number of the answer that comes the closest to how you feel. Write the number of your answer on the line that follows each question.

1. How much did you like Big Blue Marble? (1=I liked it very much; 2=I liked it; 3=I liked it a little bit; 4=I disliked it a little bit; 5=I disliked it; 6=I disliked it very much) ____

2. If Big Blue Marble was on television at home every afternoon, how often do you think you would watch it? (1=I would always watch it; 2=I would watch it a lot; 3=I would watch it sometimes; 4=I would not watch it too often; 5=I would never watch it) ____

3. How interesting did you find Big Blue Marble? (1=Very interesting; 2=Somewhat interesting; 3=Not too interesting; 4=Not interesting at all) ____

4. What age children do you think most enjoyed Big Blue Marble? (Write in age in years) ____

5. How much do you feel you learned from Big Blue Marble? (1=I learned a lot; 2=I learned some things; 3=I learned a little bit; 4=I learned nothing) ____

6. Do you think Big Blue Marble went too fast or too slow? (1=It went way too fast; 2=It went a bit too fast; 3=It was just about right; 4=It went a bit too slow; 5=It went way too slow) ____

7. I discussed things that I saw in Big Blue Marble with my friends. (1=Very often; 2=Sometimes; 3=Once in a while; 4=Never) ____

8. I discussed things that I saw in Big Blue Marble with my family. (1=Very often; 2=Sometimes; 3=Once in a while; 4=Never) ____

9. Did your teacher ever talk about some of the things you saw in Big Blue Marble? (1=Talked about it often; 2=Talked about it sometimes; 3=Talked about it once in a while; 4=Never talked about it) ____

10. Big Blue Marble changed some of my ideas about kids in other parts of the world. (1=It changed my ideas a lot; 2=It changed my ideas somewhat; 3=It changed my ideas a little bit; 4=It didn't change my ideas at all) ____

11. Big Blue Marble gave me a good idea about what people in other parts of the world are like. (1=Strongly agree; 2=Agree; 3=Slightly agree; 4=Slightly disagree; 5=Disagree; 6=Disagree strongly) _____

12. I plan to write for a pen pal. (1=Agree strongly; 2=Agree; 3=Slightly agree; 4=Slightly disagree; 5=Disagree; 6=Strongly disagree) _____

13. I have already written for a pen pal. YES_____ NO_____

14. What parts of Big Blue Marble did you enjoy the most?

_____

_____

_____

_____

_____

Appendix B

Intercorrelations Among Items Used to Construct Scales

Note: In the following tables, all coefficients are Pearson Product Moment correlations. Computations refer to responses made by the children on the before-questionnaire. For semantic differential items, scales were based on responses when "Kids in other parts of the world" were the referent.

TABLE B-1

INTERCORRELATIONS[1] FOR ITEMS COMPRISING PERCEIVED SIMILARITY SCALES BY GRADE

A. Child Similarity Scale: Item #23 with Item #27[2]

Fourth Grade	r=-.13
Fifth Grade	r= .23
Sixth Grade	r= .11

B. People Similarity Scale: Item #12 with Item #31

Fourth Grade	r= .16
Fifth Grade	r= .30
Sixth Grade	r= .30

1. Coefficients are based on Pearson product moment correlations.

2. In this and all following tables, item numbers refer to the questions as numbered in Part II of the questionnaire. All intercorrelations are based on responses to the before-questionnaire.

TABLE B-2

INTERCORRELATIONS FOR ITEMS COMPRISING PERCEIVED WELL-BEING SCALES BY GRADE

A. Well-Being Scale

		Happy/ Sad	Rich/ Poor	Fortunate/ Unfortunate	Well-fed/ Hungry	Healthy/ Not Healthy
Fourth Grade	Happy/ Sad	---	.18	.49	.24	.20
	Rich/ Poor		---	.38	.54	.23
	Fortunate/ Unfortunate			---	.34	.17
	Well-fed/ Hungry				---	.14
	Healthy/ Not Healthy					---
Fifth Grade	Happy/ Sad	---	.42	.43	.50	.39
	Rich/ Poor		---	.40	.59	.43
	Fortunate/ Unfortunate			---	.47	.32
	Well-fed/ Hungry				---	.47
	Healthy/ Not Healthy					---
Sixth Grade	Happy/ Sad	---	.22	.34	.26	.32
	Rich/ Poor		---	.55	.50	.47
	Fortunate/ Unfortunate			---	.52	.40
	Well-fed/ Hungry				---	.38
	Healthy/ Not Healthy					---

TABLE B-2 (Continued)

B. Comparative Well-Being Scale

		Item #6	Item #20	Item #24
Fourth Grade	Item #6	---	.07	.36
	Item #20		---	.21
	Item #24			---
Fifth Grade	Item #6	---	.30	.38
	Item #20		---	.46
	Item #24			---
Sixth Grade	Item #6	---	.25	.35
	Item #20		---	.25
	Item #24			---

TABLE B-3

INTERCORRELATIONS FOR ITEMS COMPRISING ETHNOCENTRISM SCALES BY GRADE

A. Ethnocentrism Scale

		Item #13	Item #14	Item #19	Item #28
Fourth Grade	Item #13	---	.18	.27	.32
	Item #14		---	.02	.48
	Item #19			---	.08
	Item #28				---
Fifth Grade	Item #13	---	.29	.42	.29
	Item #14		---	.44	.31
	Item #19			---	.31
	Item #28				---
Sixth Grade	Item #13	---	.55	.48	.43
	Item #14		---	.50	.41
	Item #19			---	.35
	Item #28				---

B. Cognitive Superiority Scale: Item #2 with Item #22

Fourth Grade	r= .50
Fifth Grade	r= .36
Sixth Grade	r= .52

TABLE B-3 (Continued)

C. Attributed Preference for U. S. Scale: Item #15 with Item #17

Fourth Grade	r= .62
Fifth Grade	r= .46
Sixth Grade	r= .63

TABLE B-4

INTERCORRELATIONS FOR ITEMS COMPRISING WORK AND RESPONSIBILITY SCALES BY GRADE

A. Other Children's Helpfulness Scale

		Helpful/ Not Helpful	Responsible/ Not Responsible	Hardworking/ Lazy
Fourth Grade	Helpful/ Not Helpful	---	.50	.23
	Responsible/ Not Responsible		---	.19
	Hardworking/ Lazy			---
Fifth Grade	Helpful/ Not Helpful	---	.55	.30
	Responsible/ Not Responsible		---	.28
	Hardworking/ Lazy			---
Sixth Grade	Helpful/ Not Helpful	---	.53	.42
	Responsible/ Not Responsible		---	.36
	Hardworking/ Lazy			---

B. Job Availability Scale: Item #26 with Item #29

Fourth Grade r= .31

Fifth Grade r= .35

Sixth Grade r= .23

TABLE B-4 (Continued)

C. Comparative Responsibility Scale

		Item #1	Item #3	Item #7	Item #8	Item #9	Item #25
Fourth Grade	Item #1	---	.46	.29	.32	.52	.38
	Item #3		---	.27	.62	.52	.37
	Item #7			---	.23	.44	.12
	Item #8				---	.57	.30
	Item #9					---	.60
	Item #25						---
Fifth Grade	Item #1	---	.46	.16	.40	.17	.35
	Item #3		---	.22	.31	.37	.25
	Item #7			---	.02	.10	.06
	Item #8				---	.20	.24
	Item #9					---	.45
	Item #25						---
Sixth Grade	Item #1	---	.38	.43	.26	.48	.32
	Item #3		---	.33	.32	.59	.40
	Item #7			---	.22	.33	.22
	Item #8				---	.	.29
	Item #9					---	.49
	Item #25						---

TABLE B-4 (Continued)

D. Work Attitude Scale

		Item #4	Item #16	Item #30
Fourth Grade	Item #4	---	.36	.10
	Item #16		---	.41
	Item #30			---
Fifth Grade	Item #4	---	.44	.34
	Item #16		---	.37
	Item #30			---
Sixth Grade	Item #4	---	.16	.00
	Item #16		---	.25
	Item #30			---