



## Cultural Uniformity in Reaction to Physical Disabilities

Stephen A. Richardson; Norman Goodman; Albert H. Hastorf; Sanford M. Dornbusch

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olic countries of origin a value of .20. Further confirmation of the hypothesis is obtained when we compare groups which have roughly the same socio-economic status index but differ in the predominant religion of their country of origin. The hypothesis predicts correctly that in the groups from non-Catholic countries of origin the proportion never married will be less, given an equal socio-economic status index, than in the groups from Catholic countries. Conversely, given an equal proportion never married, the socio-economic status index is always higher for the groups coming from non-Catholic countries than from Catholic countries.

The corollary hypothesis predicted that, holding constant the predominant religion in the country of origin, the degree of correlation between the proportion never married and the socio-economic status index would be higher for men than for women. For

groups from predominantly non-Catholic countries of origin, this proves to be the case. For men, Kendall's *Tau* has a value of .95 and for women, only .20. Somewhat surprisingly, in the case of ethnic groups from predominantly Catholic countries of origin, Kendall's *Tau* has the same value for women as for men.

Thus the data shown in Table 4 support our functional hypothesis that the proportion of persons in each ethnic group who marry at an early age is related to attitudes within the group toward attainment of high socio-economic status and toward birth control. However, this support depends on the assumption that the relevant attitudes are correlated in specified ways with the non-attitudinal variables which we have measured. Further research to test the hypothesis by directly measuring these attitudes would be desirable.

## CULTURAL UNIFORMITY IN REACTION TO PHYSICAL DISABILITIES \*

STEPHEN A. RICHARDSON  
*Association for the Aid of Crippled Children*

ALBERT H. HASTORF  
*Dartmouth College*

NORMAN GOODMAN  
*Association for the Aid of Crippled Children*

SANFORD M. DORNBUSCH  
*Stanford University*

*This paper reports a consistent preferential order when children are asked to rank pictures of children with various physical disabilities. This cultural uniformity, which is not explicitly taught, persists when comparisons of subgroups are made. Rankings are not affected by characteristics of the rater, such as sex; presence of a physical handicap; socioeconomic status; race; urban-rural differences; or setting of the interview. Despite the identity of rankings, girls more than boys show a tendency to emphasize social handicaps more than functional handicaps. Various explanations of the basic uniformity are considered.*

THIS paper deals with an unexpectedly uniform reaction of children to the physical disabilities of other children. A small pilot study conducted in 1957 on children's categories of interpersonal per-

ception<sup>1</sup> showed a consistent preference pattern in evaluating various physical disabilities. This consistency was striking be-

New York City Board of Education; and the several superintendents of schools in New York, Montana, and California, for their cooperation and interest in this study. This research was supported in part under a grant from the National Institute of Mental Health, No. M-2480.

<sup>1</sup>For a discussion of the basic conceptual approach, see A. H. Hastorf, S. A. Richardson, and S. M. Dornbusch, "The Problem of Relevance in the Study of Person Perception," in R. Tagiuri and L. Petrullo, editors, *Person Perception and Interpersonal Behavior*, Stanford, Calif.: Stanford University Press, 1958, pp. 54-62.

\*We gratefully acknowledge the assistance of James Block, Anne L. Constant, Rebecca Vreeland, Baba Abu-Laban, and Abraham Ross in the collection and analysis of the data. We wish to acknowledge especially the assistance of Caroline Conklin for her aid throughout the study. Barbara F. Dornbusch drew the pictures used as stimuli. In addition we wish to express our gratitude to the New York Herald Tribune Fresh Air Fund, especially its executive director, Frederick H. Lewis; the

cause there was no evidence that the pattern of preferences was explicitly taught to children in our culture. This paper reports an extensive replication to determine the consistency of this finding given considerable variation in the background of the children reporting preferences.

Evidence from a variety of sources suggests that a person's physical characteristics and appearance strongly influence the judgment of those who perceive him.<sup>2</sup> In conducting experimental studies of reactions to physical handicaps, it is imperative that the stimuli presented to different groups be uniform and unambiguous. Children in our study were asked to give a preference ranking of a standard set of drawings of children who differed only with respect to physical disability. Specifically, we tested two hypotheses:

1. The rank order of preferences for pictured children with various types of visible physical handicaps and without a handicap will be culturally uniform. Children of diverse backgrounds will give the same rankings.
2. The hypothesized rank order of preferences will be:
  - Rank 1.—A child with no physical handicap (drawing A).
  - Rank 2.—A child with crutches and a brace on the left leg (drawing L).
  - Rank 3.—A child sitting in a wheelchair with a blanket covering both legs (drawing W).
  - Rank 4.—A child with the left hand missing (drawing H).
  - Rank 5.—A child with a facial disfigurement on the left side of the mouth (drawing F).
  - Rank 6.—An obese child (drawing O).

<sup>2</sup> P. G. Barker, B. A. Wright, L. Meyerson, and M. R. Gonick, *Adjustment to Physical Handicap and Illness: A survey of the social psychology of physique and disability*, New York: Social Science Research Council Bulletin No. 55, 1953; J. Granofsky, "Modification of Attitudes toward the Visibly Disabled: An experimental study of the effectiveness of social contact in producing a modification of attitudes of non-disabled females toward visibly disabled males," unpublished Ph.D. dissertation, Yeshiva University, 1955; M. H. Ray, "The Effect of Crippled Appearance on Personality Judgments," unpublished M.A. thesis, Stanford University, 1946; P. F. Secord, "Facial Features and Inference Processes in Interpersonal Perception," in Tagiuri and Petrullo, *op. cit.*, pp. 301-315; B. A. Wright, *Physical Disability—A Psychological Approach*, New York: Harper & Brothers, 1960.

The second hypothesis, which specifies the order, is derived from data collected on the first set of subjects and was subsequently tested on all additional sets of subjects.

#### METHODS

The subjects were boys and girls, 10 and 11 years of age, with and without physical handicaps. They included Negroes, whites, and Puerto Ricans from diverse social and cultural backgrounds. They were studied in public schools or in summer camps in New York, Montana, and California.

*Sets 1 and 2.* Children from a summer camp that provides under-privileged boys and girls of various races and religions from New York City with a two or three week vacation. Half of the children have handicaps (e.g., post-polio, cerebral palsy, cardiac, asthma, etc.) and half do not. Set 1 consists of all children studied during the summer of 1958 (N=163). Set 2 consists of all children studied during the summer of 1959 (N=114).

*Set 3.* Boys and girls from a summer camp operated by the same organization. This camp, however, does not contain any children with handicaps (N=104).

*Set 4.* Boys and girls, aged 10 and 11, of various races and religions, from New York City public schools in areas of generally low socioeconomic status. Half of the children had handicaps; the other half did not and were matched as closely as possible on other relevant characteristics, such as age, sex, number of siblings, and I.Q. (N=42).

*Set 5.* Boys and girls who attend rural public schools in the vicinity of Missoula, Montana. No children with handicaps were included. No systematic selection procedure other than control on age was attempted (N=113).

*Set 6.* Boys and girls attending public schools on the San Francisco Peninsula. This set contains children of middle and high socioeconomic status. As in Montana, no children with handicaps were included and no systematic selection procedure other than control on age was attempted (N=104).

The uniform stimuli were a series of drawings of children who were identical in all respects except for the presence or absence of various types of visible physical handi-

TABLE 1. RANK ORDER OF DRAWINGS FOR ALL SETS OF SUBJECTS

Rank Position	Sets of Subjects					
	Set 1	Set 2	Set 3	Set 4	Set 5	Set 6
1	A	A	A	A	A	A
2	L	L	L	L	L	L
3	W	W	W	W	W	W
4	H	H	H	H	H	H
5	F	F	F	F	F	F
6	O	O	O	O	O	O
Number of subjects	163	114	104	42	113	104

caps. To hold constant the relationship between the sex of the subject and that of the child in the picture, male and female drawings were prepared, and subjects were shown drawings of children of their own sex. To obtain a preferential rank ordering, the drawings were placed in random order from left to right in front of the subject and the following instructions were given: "Look at all these pictures." After children were given plenty of time to examine all pictures, the experimenter said, "Tell me which boy (girl) you like best?" The subject would point at a drawing, which was then removed. "Which boy (girl) do you like next best?" This procedure was continued until the complete ranking was obtained.

#### RESULTS

Hypothesis 1. *The rank order of the drawings will be culturally uniform.*

The data in Table 1 support this hypothesis. The rank order of the drawings is uniform across all sets of subjects. Moreover, as Table 2 indicates, there is significant agreement on the rank order within each set of subjects ( $p < .001$ ).

In order to perform detailed comparisons, it would be useful to combine children of similar backgrounds regardless of the set of which they are a part. For example, boys and girls are found in all six sets, and we would like to see whether there is a sex difference in ranking. Such combinations are reasonable, for a Kruskal-Wallis analysis of variance<sup>3</sup> did not lead to the rejection of the null hypothesis of no difference between sets of subjects in their rank orderings. Further, a Kruskal-Wallis analysis of variance on each specific subgroup, such as boys, shows no significant difference between sets for any subgroup.

The results of this combination can be seen in Table 3. The obvious similarity of rankings for all subgroups overwhelmingly supports our first hypothesis of considerable cultural uniformity among ten- and eleven-year-old children.

Hypotheses 2. *The rank order of preferences will be:*

Rank 1.—A child with no physical handicap (drawing A).

<sup>3</sup>S. Siegal, *Non-parametric Statistics for the Behavioral Sciences*, New York: McGraw-Hill, 1956, pp. 184-193.

TABLE 2. MEAN RANK OF EACH DRAWING FOR ALL SETS OF SUBJECTS

Drawings	Sets of Subjects					
	Set 1	Set 2	Set 3	Set 4	Set 5	Set 6
A	2.68	2.45	2.20	2.00	2.44	2.43
L	2.96	3.03	3.04	3.00	2.79	2.95
W	3.28	3.40	3.38	3.19	3.20	3.18
H	3.50	3.70	3.64	3.67	3.59	3.83
F	3.82	3.94	3.95	4.33	4.40	4.03
O	4.57	4.33	4.67	4.81	4.58	4.58
Coefficient of concordance	.13	.13	.20	.31	.21	.18
Significance level	<.001	<.001	<.001	<.001	<.001	<.001
Number of subjects	163	114	104	42	113	104

TABLE 3. RANK POSITION OF DRAWINGS FOR THE VARIOUS SUBGROUPS

Rank Position	Sex		Disability		Race		Urban-Rural			Socio-Economic Status			Setting		
	Total	Boys	Girls	Handi-capped	Non-Handi-capped	White	Negro	Puerto Rican	Urban	Sub-Urban	Rural	Low		Middle and Upper	
															A
1	A	A	A	A	A	A	A	A	A	A	A	A	A		
2	L	L	L	L	L	L	L	L	L	L	L	L	L		
3	W	W	W	W	W	W	W	W	W	W	W	W	W		
4	H	H	H	H	H	H	H	H	H	H	H	H	H		
5	F	F	F	F	F	F	F	F	F	F	F	F	F		
6	O	O	O	O	O	O	O	O	O	O	O	O	O		
N	640	317	323	144	496	351	183	104	423	104	113	559	104	381	259

TABLE 4. COMPARISON OF MEAN RANK OF SOCIAL AND FUNCTIONAL HANDICAPS BY SEX IN EACH SET

Sets of Subjects	Social Handicap				Functional Handicap				Hypothesis Supported	Hypothesis Not Supported	Tie		
	Drawing F		Drawing O		Drawing L		Drawing W					Drawing H	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls				Boys	Girls
Set 1	3.64	4.02	4.45	4.68	3.11	2.81	3.37	3.23	3.63	3.47	5	0	0
Set 2	3.75	4.18	4.18	4.90	3.12	2.90	3.49	3.27	3.74	3.65	5	0	0
Set 3	3.88	4.03	4.39	4.88	3.22	2.86	3.57	3.17	3.69	3.65	5	0	0
Set 4	4.25	4.38	4.81	4.81	2.75	3.15	3.19	3.19	3.81	3.58	2	1	2
Set 5	4.19	4.62	4.34	4.82	2.86	3.00	3.43	2.96	3.78	3.40	4	1	0
Set 6	4.03	4.38	4.51	4.77	3.03	2.71	3.41	3.23	3.71	3.85	4	1	0
Mean Rank	4.03	4.25	4.57	4.80	2.99	2.85	3.33	3.15	3.71	3.65			

- Rank 2.—A child with crutches and a brace on the left leg (drawing L).  
 Rank 3.—A child sitting in a wheelchair with a blanket covering both legs (drawing W).  
 Rank 4.—A child with the left hand missing (drawing H).  
 Rank 5.—A child with a facial disfigurement on the left side of the mouth (drawing F).  
 Rank 6.—An obese child (drawing O).

The data presented in Table 1 support the hypothesis for all sets of subjects. In Table 3 support is indicated in 14 out of 15 subgroups. The Puerto Rican children provide the only divergence from the pattern by reversing the rank order of two adjacent drawings. Since this is a reversal of only one rank, it does not seem to represent an important variation. It suggests, however, the possibility that there is somewhat more variability associated with ethnic differences than with any of the other background characteristics.

All sets rank the able-bodied child as first choice. In fact, it is significant that, as Table 3 indicates, handicapped and non-handicapped children both rank the non-handicapped child first. Table 3 indicates that children both with and without physical handicaps present the identical rank order of preferences for all drawings. In the three sets which included children with and without physical handicaps we compare the average rankings of the two subgroups. In these sets the handicapped and non-handicapped give identical rankings in two sets, and there is a reversal of one rank in the third set.

Inspection of Table 3 shows that identical rankings are given for subgroups differing on other variables: sex, urban-rural, socioeconomic status, and setting of interview. For race, the rankings are almost identical.

There is evidence that the rank order obtained for the drawings is not a function of the particular drawings used here. The results of the small pilot study conducted in 1957, although not reported here, provide data bearing upon this point. In this pretest, two series of drawings<sup>4</sup> were used—five in each series. Although the series contained drawings of different children and did not in all cases contain the identical disabilities used

in the present study, there is complete agreement in the preferential ordering of those drawings that are comparable.

Analysis of sex differences in children's categories of interpersonal perception in our larger study led us to hypothesize that girls more than boys would be concerned with handicaps that affected social relationships, and boys would place more weight than girls on limitations of physical activity. We consider that two handicaps, obesity and facial disfigurement, affect social relationships more than physical activities.

Although the rank order of preferences for the drawings are the same for boys and girls, we can examine differences by sex in the average ranks for each drawing. In order to look more closely at these differences, a mean rank for each sex was computed by averaging all the individual ranks within each set of subjects and across all sets.

These data indicate that there are sex differences in the average rank for each picture. The girls in comparison to the boys like the children with social impairments less. Those drawings of children with functional impairments (child with no left hand, child with a brace and crutches, and child in a wheelchair) are less liked by boys than by girls. These contrasting sex differences for the various drawings are reflected in the mean rank for boys and girls for each drawing across all sets of subjects. Within each set we report the number of comparisons that support our hypothesis. These data support our view that, though both boys and girls rank children with social impairments lowest, the girls emphasize social disabilities even more than the boys.

An attempt was made to determine the types of verbal explanations which children gave for their rankings.

A group of 20 children in Connecticut was asked to rank the six drawings. The experimenter then held a discussion with the children as a group prior to revealing the results of the rankings. The children were asked to state the factors they considered in making their decisions. There was widespread expression, in various guises, of the opinion that they had not judged the drawings on the basis of physical appearance and that children with handicaps were just as nice as children without handicaps. These state-

<sup>4</sup>The drawings were contained in *Understanding the Disabled*, New York: The National Foundation for Infantile Paralysis, Publication No. 9, 1956.

ments were written on a blackboard. The rank preferences, then tabulated on the blackboard, were generally similar to results presented in this paper.

Confronted with the discrepancies between their rankings and reasons they had given for the rankings, there was an awkward silence. Then two children made an additional comment. One of them said that he did not feel comfortable with a handicapped child and the other reported he did not know what to say to a handicapped child.<sup>5</sup> The verbal discussion certainly did not provide a basis for the detailed rank order of the pictures.

#### DISCUSSION

The results indicate remarkable uniformity in the hierarchy of preferences which the children exhibited for pictured children with and without various visible physical handicaps.

The simplest common-sense explanation of the preferential hierarchy is that those disabilities that are functionally more impairing will be least liked. Those children will be ranked lowest whose disabilities limit and circumscribe their physical activities at an age in which great emphasis is placed on physical activities. Our data negate this interpretation.

An alternative explanation stresses that the face is of primary importance in an initial assessment of another person. The data indicate that increased liking is shown for the child whose disability is more distant from his face. This interpretation finds support in the fact that the facial disfigurement is ranked quite low. Unless the subjects had scrutinized the face with some care, the disfigurement might have been missed. Additional support is found in a study reported by Dr. Alexander H. Luria of the Institute of Defectology in Moscow<sup>6</sup> in which eye movements were recorded in scanning a picture of a person. His report states that the eyes fixated on the face initially and returned

to the face often during the scrutiny. This explanation would account for the obtained rankings except that the bottom position is occupied by the obese child rather than the facially disfigured child. This, however, does not necessarily contradict the hypothesis because the obesity of the child also affects his facial appearance to some degree.

It is interesting to note that in all sets of subjects and for all subgroups the child with no handicap is ranked first. A possible explanation might be a preference for the familiar as opposed to the alien. But the fact that groups in which the child with a handicap was as familiar as the child without a handicap (sets 1 and 2) did not differ from groups containing no handicapped children (sets 3, 5, and 6) seems to refute this explanation, as does the identical rank order obtained from children both with and without handicaps within each set.

The finding that children with physical handicaps ranked the six drawings in the same way as children without physical handicaps is in line with other evidence in support of Kurt Lewin's notion that the minority culture assimilates values of the majority culture. For handicapped children such assimilation is even more probable, since they associate predominantly with the non-handicapped. It should be noted, however, that handicapped children used in this study were able to attend a summer camp where they were required to look after most of their own needs. Different results might be obtained with children who are more severely handicapped. A small sample of severely handicapped children exhibited a somewhat different hierarchy of preferences. At this time we do not know whether this is a function of the severity of the handicap, the social isolation of these children, or the small number of cases studied.

The widespread uniformity found in the study raises an interesting question as to how this behavior could have been learned. Although no explicit training is known to have been given these children, there is considerable evidence in our culture of a deprecatory evaluation of persons with physical disabilities. This evaluation is commonly found in the mass media, in which cultural stereotypes of physical beauty are identified with goodness and those of physical ugliness are iden-

<sup>5</sup> This particular point is discussed more fully in relation to adults in a forthcoming paper by Fred Davis, "Problems of the Handicapped in Everyday Social Situations."

<sup>6</sup> As reported in Earl Ubell's column in the *New York Herald Tribune* of Feb. 29, 1960.

tified with evil. In children's literature, persons with a handicap are frequently shown in an unfavorable light—e.g., Captain Hook, Long John Silver, Pinochio, Rumpelstiltskin, and witches.<sup>7</sup>

Increasingly in recent years, national health organizations, through the use of

<sup>7</sup> A systematic review of the reaction to physical appearance in literature has been made. E. Maisel, "Meet a Body," New York: Institute for the Crippled and Disabled, 1953, unpublished manuscript.

poster campaigns and television, have exposed the general public to children with handicaps. In almost all cases, the children portrayed resemble the drawing of the child with crutches and a leg brace (drawing L) and the child in the wheel-chair (drawing W). Although we do not know the effect of this differential exposure to these types of handicapped children, it is interesting to note that these children are ranked higher than the children who have other physical handicaps.

## THE SOCIAL MOBILITY/FERTILITY HYPOTHESIS RECONSIDERED: AN EMPIRICAL STUDY \*

H. YUAN TIEN

*University of Wisconsin—Milwaukee*

*Fertility information collected from 126 university teachers in Australia permits a re-examination of the social mobility/fertility hypothesis. Variations in the average intervals between marriage and first birth are analyzed, along with differences in the number of children ever born. A division of the respondents into two marriage cohorts is made to test whether mobility is related to fertility under both favorable and unfavorable socio-economic circumstances. Results imply that family size is not related to mobility under as different socio-economic conditions as those under which the respondents are presumed to have conducted their married lives. They also create a reasonable doubt concerning the propriety of using the number of children itself as an adequate measure in studies of mobility and reproductive behavior. Yet, although the general acceptance of contraceptive practice has tremendously minimized the possible variability in the number of children born to couples investigated, social mobility may still be regarded as a significant factor in relation to fertility behavior, i.e., the regulation of reproduction at chosen intervals in keeping with social advancement.*

**P**ATTERNS and trends of variations in the reproductive behavior of individuals occupying different socio-economic statuses have long been extensively studied and, since the 1930's, intensively examined in relation to their possible social and psychological correlates. Included on the list of such social and psychological variables is the factor "social mobility" or "intergenerational mobility."

Social mobility and fertility presumably are related to one another from two principal viewpoints. On the one hand, from the standpoint of the social class system as a whole, the under-reproduction of persons with higher socio-economic status contributes to

the maintenance of an open-class system.<sup>1</sup> On the other hand, social mobility may also occupy an important place among factors affecting fertility behavior. For example, Dumont's theory of "social capillarity" asserted that "just as a column of liquid has to be thin in order to rise under the force of capillarity, so a family must be small in order to rise in the social scale."<sup>2</sup>

The present article reports a statistical study which seeks to investigate further the dynamic relationship between social mobility

<sup>1</sup> Elbridge Sibley, "Some Demographic Clues to Stratification," *American Sociological Review*, 7 (June, 1942), pp. 322-330.

<sup>2</sup> A. Dumont, *La morale basée sur la démographie*, Paris: Schleicher Frères, 1901. The present quotation is from Warren S. Thompson, *Population Problems*, 4th edition, New York: McGraw-Hill, 1953, p. 43.

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