

Literature on child rearing was sent to mothers during the infancy of first-born children. This study was made to determine the effects. Health department literature was received and read. Little or no change in child-rearing behavior could be detected. Possible explanations for the findings are explored.

REACTION OF MOTHERS TO LITERATURE ON CHILD REARING

Melvin S. Brooks, Ph.D.; Douglas L. Rennie, Ph.D.; and Roger F. Sondag, M.D., F.A.P.H.A.

THE objective of this study is to determine the effects of sending unsolicited literature on child-rearing practices to mothers during the infancy of their first-born children.¹ This objective is approached by two methods, the survey and the experimental approach. In the case of the survey, the focus is upon the degree to which the mothers read the literature. In the case of the experimental approach, the focus is upon the degree of conformity of the experimental as compared with the control mothers to the practices recommended in the literature.

Three articles pertaining to the effectiveness of sending by mail recommendations for rearing children were found which seem most relevant to our study. Two are reports of field studies and one is a review of generalizations made from such studies. Summaries of these three will now be presented.

The most recent reported research which is highly comparable to one phase of our study is a series of studies in California by Nathan Maccoby and others involving investigation of several aspects of the effectiveness of literature on child rearing. Literature recommending that toilet-training of children

be delayed until after children were two years of age was distributed by mail to mothers. These mothers and a control group of mothers were interviewed in their homes at intervals concerning their attitude toward this issue. Findings of these experimental field studies pertaining to mothers with infants but no older children include the following: (1) 71 per cent of mothers who were sent letters offering them a pamphlet on toilet-training upon return of an enclosed post card returned the post card, (2) almost nine-tenths of a sample of mothers who were sent unsolicited copies of the booklet on toilet-training read the booklet, (3) most of these mothers discussed its contents subsequently with people they expected to agree with the booklet's late-training position as contrasted with the earlier-training attitude of the mothers, (4) about six months after receipt of the booklet, half of the mothers expressed a position closer to the one advocated in the booklet than they had expressed prior to receiving the booklet. The mean months changed, however, was only 2.3.²

Another elaborate and very well-designed study, which had virtually the same objective as our "experimental ap-

proach," was carried out in North Carolina about ten years ago.³ In that study, no significant difference was obtained in reported child-rearing practices between the experimental group of mothers, who had been sent a series of informational pamphlets on child-rearing practices, and the closely equated control group, who had not been sent the pamphlets. Half of the experimental group, however, indicated favorable reception of the pamphlets by returning questionnaires and expressing a desire to continue receiving the pamphlets.

Carl I. Hovland recently reviewed studies of communications effects, comparing generalizations derived from "experimental" studies with those derived from survey or "correlational" studies. In general, experimental studies have found important effects of exposure to communication material whereas survey⁴ studies have revealed little modification of attitudes. Hovland believes that the difference in findings is due to methodological differences, including the following typical characteristics of survey studies as opposed to experimental studies: (1) In survey studies there is self-selection of exposure and hence persons in initial agreement with the message constitute a much higher per cent of the cases exposed, (2) surveys reach people in their natural habitat, with effects being partly determined by discussion with friends and family, (3) surveys include a far more representative cross-section of the general population, (4) in surveys "socially significant attitudes which are deeply rooted in prior experience and involve much personal commitment are typically involved."⁵ Each of these factors tends to result in experimental studies finding more attitude change than surveys do.

Hovland went on to state that an adequate understanding of the effects of communication on attitudes requires the use of both survey and experimental procedures. He strongly urged that

studies be made which combine the advantages of the experimental approach with important advantages of the survey approach, particularly the use of widely representative samples of the population in naturalistic situations and the use of complex and deeply-involving social issues. He stated that it was important to understand the lack of modifiability of opinion concerning such issues.

The present study, although it was begun prior to publication of the Hovland article, utilizes in its experimental approach a combination of methodological features recommended by him to offset the limitations found in the experimental studies he reviewed. The procedures followed in each approach and the findings are presented separately below.

The Survey Approach

Procedure—Half of the mothers residing in Jackson County, Illinois, who gave birth to their first child in 1957 were sent a series of 12 letters containing information and advice on how to rear children. The letters were prepared by a psychiatrist and were sent by the Jackson County Health Department. Following the birth of her first child, each mother was sent a letter a month until she received all 12 letters.

When these first-born children were between 15 and 24 months of age, each of the mothers who was available was interviewed in her home. Among the questions asked were several regarding the letters and reactions to them. The data for the "survey" approach to the evaluation of the effect of the letters are based upon these responses.

Not all of the mothers who had been sent the Health Department letters were included in the final sample used. In addition to the cases from which interviews could not be obtained, two numerically very small categories—nonwhite

mothers and unmarried mothers—were excluded in order to increase homogeneity. The sample thus obtained consisted of 69 mothers. Their responses to questions related to the letters will now be presented.

Findings of the Survey Approach—When asked if they had read the letters, 40 of the mothers said they had read all of the letters, 16 said they had read most of the letters, and ten said they had read a few. Only three said they had read none of the letters. Even if allowance is made for those mothers who might have exaggerated by one category the number of letters they read, the percentage of receivers who read (and so could have been influenced by) the recommendations is high.

Since the letters made recommendations concerning the role of fathers in child rearing, data on the extent to which they read the letters were obtained. Far fewer fathers than mothers read the letters. Only seven were reported to have read all, 14 most, and 26 a few of the letters. Twenty read none of the letters.

When asked if they felt these letters were helpful to mothers and fathers, 27 mothers replied that the letters were very helpful and 24 that they helped quite a bit. Nine said that they helped a little and six said they did not consider the letters helpful.

Another approach to obtaining the reaction of the mothers to the letters was to ask them what information they found most useful. Fifty-two of the 69 mothers mentioned one or more phases of child rearing in which information or advice appeared in the letters. Of these 52 mothers, 29 mentioned one phase, 14 mentioned two, and 9 mentioned three, four, or five phases. Twenty-four of the 52 mothers indicated that they found information on fears and attitudes most helpful, 15 or 16 found information on feeding, on toilet-training, and on illness most helpful, and 10

found information on sleeping conditions most helpful. The writers interpret the responses to this question as constituting substantial validation of the answers to the preceding direct question on whether the letters were considered helpful. It appears that roughly three-fourths of the 69 mothers who were sent the Health Department letters had considered with approval one or more of the recommendations presented in them. Unfortunately, we do not know how many of these mothers encountered ideas they regarded with approval which were new to them. For mothers who regarded the recommendations favorably before reading the letters, the effect, of course, would be reinforcement of attitude rather than change of attitude.

The mothers who read none or only some of the letters were given an opportunity to tell why they had not read those letters they had not read. Only one replied that reading the letters would have been a waste of time and three said they did not need the information. Six said they did not have enough time to read them and one said she did not know why she had not. The remaining 58, who had read at least some of the letters, did not answer this question.

When the mothers were asked if they had read any of the other materials on child rearing which had been suggested by the Health Department letters, only 11 replied affirmatively and 51 gave a negative reply. The titles of four of these publications were then read to the mothers and they were asked if they were familiar with them. Forty said they were familiar with *Infant Care*, 32 with *Baby and Child Care*, 11 with *Your Child From One to Six*, and four with *Babies Are Human Beings*. Fourteen mothers did not indicate familiarity with any of the four publications. The accuracy of these responses is not known.

Table 1—Differences Between Receivers and Nonreceivers as to Whether Baby Was Breast-Fed (C), Bottle-Fed (NC), or Both (I).

	Number				Per cent			
	C	I	NC	Total	C	I	NC	Total
Receivers	17	4	48	69	25	6	69	100
Nonreceivers	3	8	54	65	5	12	83	100
Total	20	12	102	134				
Difference in Per cent					+20	-6	-14	—

When asked whether they had read any other material on child development, 42 said they had and 27 that they had not.

The last question on this topic asked of the mothers was whether they had ever lent or recommended the Health Department letters on child rearing to any other parents to read. Twenty-four replied they had done so and 45 that they had not.

The general conclusion drawn from the above findings is that the letters were read rather than ignored, that at least part of the contents aroused the interests of the mothers, and that a substantial number discussed ideas presented in the letters with adults outside their immediate families. In other words, the letters "reached" their audience.

The Experimental Approach

Another way of assessing the effects of sending unsolicited literature on child-rearing practices to new mothers is to compare the behavior of mothers who received such literature with that of a comparable group who had not. The procedure which was followed in using this experimental approach will now be described.

Procedure—Not all of the Jackson County mothers who bore their "first child" in 1957 were sent the Health

Department letters. Only about half—those who gave birth during odd-numbered months—were. All of these who were interviewed and were white and married comprised the group of 69 described above in the "survey" approach. These same 69 constituted the experimental group in this approach. The corresponding control group consisted of the 65 Jackson County mothers who were interviewed and were white and married but who bore their "first child" in an even-numbered month of 1957 and therefore were not sent the Health Department letters. Allocation of cases between the experimental (receiver) and control (nonreceiver) groups solely on the basis of whether the birth occurred in an odd-numbered or an even-numbered month was considered to be a random method of selection.⁶ Allocation of cases to experimental and control groups by a random method does not, however, guarantee that the two groups will be evenly matched as to all pertinent characteristics. As will be pointed out later, it did not for us.

Of the many questions which the mothers were asked in the interviews, 14 pertained clearly to child-rearing practices recommended in the Health Department letters. The responses to each of these 14 questions were classified into three categories: conformance with the practice recommended (C), non-

conformance with the practice recommended (NC), and an intermediate response (I).

For each question a table was made containing the numerical and the percentage distribution of responses which were conformant, intermediate, and non-conformant for the 69 mothers who had received the Health Department letters (receivers) and for the 65 mothers who had not (nonreceivers).

Findings of the Experimental Approach—Of the 14 questions pertaining to child-rearing practices recommended in the Health Department letters, the one for which there was the greatest difference between the answers of receivers and nonreceivers is: "Was he (or

she) a breast-fed or a bottle-fed baby?" Twenty-five per cent of the 69 receivers replied that their children were breast-fed (conformant) compared to 5 per cent of the nonreceivers who gave this reply.⁷ The difference (+20 per cent) appears in Table 1, which illustrates how the data for each of the 14 questions were handled. It is not feasible to present the corresponding tables for the other 13 questions, but the results for all of the questions are presented in summary form in Table 2. For each question the difference between the receivers and the nonreceivers in the per cent of conformant responses is presented in the first column of Table 2. Likewise, the difference between the

Table 2—Differences Between Receivers and Nonreceivers in the Percentage of Mothers Who Conformed and Who Did Not Conform with Recommended Child-Rearing Practices.

Child-rearing Practice Question	Percentage by Which Receivers Exceed Nonreceivers in:	
	Conforming	Not Conforming
Was he a breast or a bottle-fed baby?	+20	-14
How often did you find it necessary to rush the baby through his feedings?	+7	-5
During meals do you allow your child to feed himself when he wants to?	+2	-5
Did you ever awaken him for feeding?	+1	0
What do you do when he has an accident while being toilet trained?	0	0
How often does your husband play with the baby?	-4	+1
Did you ever warn the baby that you would tell his father on him or that his father would punish him when he came home?	+1	+6
Did you ever tell the baby that you would not love him any more if he was naughty?	-5	+1
What duties does your husband perform for the baby at least twice a week?	-7	+1
What do you usually do when the baby refuses to accept a new food?	-13	0
If bottle-fed, was the baby held during his feedings when he was 3-10 months old?	+1	+13
How often do you have him checked by a doctor?	-10	+10
What do you usually do during feeding when baby does not seem hungry?	-12	+9
How old was the baby when you started toilet-training?	-12	+10
Mean	-2	+2

receivers and the nonreceivers in the per cent of nonconformant responses is presented in the second column of Table 2.

In Table 2 the child-rearing questions are arranged in the order of the degree to which the receivers (the experimental group) were the more conformant and the nonreceivers (the control group) were the more nonconformant, considering the two columns together. The range of differences runs from 20 per cent more receivers than nonreceivers conformant, and 14 per cent fewer nonconformant in regard to methods of feeding during infancy to 12 per cent fewer receivers than nonreceivers conformant, and 10 per cent more nonconformant in the matter of age for commencing toilet training.⁸

The hypothesis, implicit in the objective of this study, that sending mothers letters recommending child-rearing practices will result in a net increase in the degree to which these practices are followed by these mothers is not supported by the data obtained. In fact, on the average, the receivers were slightly less conformant than the nonreceivers. They were more conformant on only five child-rearing practices compared with the nonreceivers who were more conformant on seven. Similarly, the receivers were more nonconformant on only three practices compared with the nonreceivers who were more nonconformant on eight. For none of the 14 practices are the differences between the groups statistically significant.

Averaging all 14 practices, 2 per cent fewer of the receivers than of the nonreceivers were conformant and 2 per cent more were nonconformant. This difference, although negligible, is in the opposite direction of what was expected. To try to determine whether chance differences between the two groups could account for the negative findings, and possibly for the absence of positive find-

ings, the receivers were compared with the nonreceivers as to three characteristics—age, education, and residence. The average age of the receivers was less than a year younger than that of the nonreceivers, and this factor was not considered likely to account for the negative findings.

In regard to the second characteristic, education, the mean for highest grade completed by the receivers was 11.5 as compared with 12.3 by the nonreceivers. Only 12 of the 69 receivers, however, in contrast with 24 of 65 nonreceivers had completed at least a year of college work. Furthermore, as was anticipated, the college mothers were the more conformant. On the average for the 14 questions, 8 per cent more of them than of the noncollege mothers were conformant. To see whether these differences could account for the nonreceivers being slightly more conformant than the receivers, multivariate attribute analysis was employed using education as the control variable. On the average, the 12 college receivers were over 5 per cent less conformant than the 24 nonreceivers. This appears to be a chance difference because it is illogical to expect that the receivers reacted negatively to the recommendations of the Health Department letters on child rearing. The 57 noncollege receivers, on the other hand, were slightly more conformant—one half of a per cent on the average—than the 41 noncollege nonreceivers.

Residence category was the third characteristic on which the receivers were compared with the nonreceivers. Briefly, (1) a much higher proportion of the receivers than of the nonreceivers were urban, (2) the rural-nonfarm mothers were less conformant than either the urban or farm mothers, and (3) urban receivers were less conformant than urban nonreceivers. Farm receivers were more conformant than farm nonreceivers; and there was no differ-

ence in conformance between rural-nonfarm receivers and nonreceivers.

Despite the random method of selection, nearly three times as high a proportion of receivers as nonreceivers were urban mothers who had attended college. The finding that receivers were slightly less conformant than nonreceivers was confined to this category. In fact, for the cases not in this category receivers were slightly more conformant than nonreceivers. The findings regarding the effect of the Health Department letters are, therefore, inconclusive. The letters might have induced some of the receivers to adopt some of the recommended child-rearing practices, but our data do not indicate any net change.

Conclusion

We accept as reasonably accurate and valid our "survey approach" findings that the Health Department letters were well received and given some serious consideration by a majority of the receivers. The similar findings of the North Carolina and the California field studies mentioned support this interpretation.

Concerning change in child-rearing behavior produced by the letters, the empirical evidence of this study, as of the North Carolina study, does not reveal net change toward the practices advocated in the letters. What are the possible explanations of these findings if the letters were well received by the mothers? It is possible, but not likely (especially in the elaborate North Carolina study) that chance differences between the experimental and control groups cancelled out evidence of a substantial change in the child-rearing behavior of the experimental mothers. It is quite possible, of course, that chance differences between the experimental and control groups prevented small net changes in the behavior of the experimental group from being revealed.

Another possible explanation of the

failure to find the receivers more conformant to the recommended child-rearing practices than the nonreceivers is that the letters did affect the child-rearing behavior of the receiver mothers, but that the process of measuring the behavior was inadequate. Here the matter of degree or amount of change is potentially crucial. The writers do not believe, however, that the letters caused a substantial proportion of the experimental mothers to employ child-rearing practices which deviated widely from what they would otherwise have employed.⁹ It may be, however, that the letters caused many of the receivers to behave a little differently in their child-rearing behavior than they would have had they not received the letters. The response categories in our study and probably to some degree in the North Carolina study were likely too broad to detect most of the minor or "slight degree" changes which might have occurred. Findings of the California studies tend to support this interpretation.¹⁰

The only other reasonable explanation which occurs to the writers for the lack of difference between the receivers and the nonreceivers in child-rearing behavior, assuming the correctness of our interpretation that the receivers in general regarded recommendations of the Health Department letters with approval, is that the changes in overt behavior in highly involved areas such as child-rearing practices tend to lag behind and be less extensive than changes in attitudes or opinions. Possibly it is very common for people to regard favorably behavior which is recommended to them, yet though inertia, habit, or other psychological or social factors fail to make comparable change in their overt behavior.

Conclusions and recommendations for future research in this area, based upon the foregoing, are:

1. Most women commencing the task of rearing children will read and give considera-

tion to unsolicited recommendations regarding child-rearing practices which are sent by prestigious authorities, such as public health departments.

2. Experimental studies involving representative cross-sections of local populations in their natural habitat either fail to reveal that sending such literature affects the child-rearing behavior of the mothers (as in our study) or indicate that such literature results in smaller changes in practices employed than in attitudes expressed.
3. Future analytic research in this field, as contrasted with evaluative research, should employ high quality experimental designs and highly discriminating and valid measures of change so that small changes, if they occur, will be revealed.
4. Such studies should involve representative segments of the population in their natural habitat and at least one measure of attitude or behavior should be taken several months or longer after the sending of the literature.
5. Such studies should involve more than one child-rearing practice because some practices may be considerably easier to change than others. This was a limitation of the California studies which in other respects were unusually thorough.
6. Some studies should supplement sending unsolicited literature through the mail with reinforcement of the child-rearing recommendations via such media as radio, TV, newspapers, magazines, and speeches by prestigious persons before local organizations to determine how a multiple approach compares with a single approach. It is conceivable, for example, that for many mothers one approach may cause much thinking and consideration but that a follow-up may be necessary to break through the barriers of resistance to change in overt behavior.
7. Most future studies in this field should have sufficient resources to permit good quality interviewing and to obtain fairly large random samples for experimental and control groups. The latter is particularly important when no measurement precedes sending of literature in order to reduce the chance of misinterpretation resulting from the possibility of important chance differences between the experimental and control groups.

FOOTNOTES

1. What is referred to as "this study" is one aspect of a larger project investigating interrelationships between the social adjustment of children, selected child-rearing practices,

stress within families, and various control factors such as education, size of family, race, nationality, religion, income, employment of father, employment of mother, social mobility, and rural-urban residence.

2. Maccoby, Nathan. *The Communication of Child-Rearing Advice to Parents*. Merrill-Palmer Quarterly of Behavior and Development, Vol. 7, No. 3, 1961. Some of the information presented appeared in a paper entitled "Critical Periods in Seeking and Accepting Information" read at the American Psychological Association Convention in Cincinnati, Ohio, Sept. 4, 1959. Its central findings, not closely related to our study, was that mothers who are involved—who have, in this case, children about to be toilet trained—are much more affected by pamphlets on child training distributed by mail than are either women who have no children or women whose children are older.

3. Greenberg, B. G.; Harris, Mary Ellen; MacKinnon, C. Francis; and Chipman, Sidney S. *A Method for Evaluating the Effectiveness of Health Education Literature*. A.J.P.H. 43,9: 1147-1155 (Sept.), 1953.

4. Hovland uses the term survey to refer to correlational studies. This is a restricted meaning of the term and the studies he classifies as survey are not at all comparable with what we label as our "survey approach."

5. Hovland, Carl I. *Reconciling Conflicting Results Derived from Experimental and Survey Studies of Attitude Change*. *Am. Psychologist* (Jan.), 1959, pp. 9-10.

6. Approximately 700 women residing in Jackson County bore children in 1957. By the time of the interviewing (about one and one-half or two years after the birth of the children), 20 per cent had moved from the county, 7 per cent more could not be located (they had moved without leaving a forwarding address and presumably most of them no longer lived in the county), and 1 per cent of the children had died. Only 1 per cent of the mothers refused to be interviewed and an additional 1 per cent were not interviewed for miscellaneous reasons. The remaining 69.4 per cent—a total of 486 mothers—were interviewed. All but the 134 cases referred to above were excluded from this study because the mother had one or more older children, was nonwhite, or was unmarried.

7. The cases in which the mother said that her child was breast-fed were classified as conformant—conforming to the recommendations in the Health Department letters—the cases in which the mother said that her child was bottle-fed were classified as nonconformant, and the cases in which the mother said that her child was breast-fed but supple-

mented by bottle-feeding or began on breast but changed to bottle were classified as intermediate. If the child was reported as breast-fed less than three weeks and thereafter bottle-fed, the case was classified as nonconformant.

8. Of the 14 questions, the one on age of toilet training is the one in which the wording and the classification of the mother's responses to it correspond least to the recommendation in the Health Department letter. The recommendation was that toilet training should not start until the child is ready for it, as indicated by regularity of his bowel movements. The questions asked the mothers was "When did you start toilet-training?" and the responses in months of age of the child were classified as follows: Mothers who said that they started toilet training before the fifteenth month were classified as nonconformant, those who said they started toilet training between 15 and 18 months of age were classified as intermediate, and those who said they did not start before the eighteenth month were classified as conformant. The writers recognize that—due to the variability of children in age at which they develop sphincter control—the arbitrariness of this classification results in an unknown number of misclassified cases.

9. There are two reasons for this position. One is confidence in the quality of the interviewing and in the honesty and frankness of the responses of the mothers to these questions. The questions were carefully worded to avoid eliciting conventional and ego-supporting responses.

The other reason is that a mother's tendencies in child-rearing behavior are largely the product of a long process of socialization. By the time she becomes a mother, normally she has had years of opportunity to observe, think about, and be molded by the methods of child rearing practiced in her parent's home. She has probably come either to accept

or to reject many child-rearing behavior patterns. If she has had academic training in this or closely related areas, she has had time to integrate into her thinking those ideas which she finds congenial or acceptable and to dismiss or "immunize" herself against those which conflict too seriously with her previous attitudes. Indeed, her entire system of habits, attitudes, and values has been in a process of gradual formation and modification since early infancy.

For these reasons it is logical to expect that one unsolicited pamphlet or small series of letters would not produce major modifications in so basic and involved an area of behavior.

10. Mothers were asked shortly before being sent a pamphlet recommending late toilet-training, shortly after receiving it, and again about six months after receiving it what they considered the best age to begin toilet training. About half of these mothers gave a later age during the third than during the first interview. As noted above, the mean change, however, was only 2.3 months, which is only a modest degree of change and was far short of fully accepting the recommended age of 24 months. Too, this was an attitude or opinion question. When later asked when they did start toilet training their children, the replies were close to those of the immediately preceding interview rather than those of the first interview. However, the control group who were not sent literature also commenced training later than they stated was the best age for it when these mothers were first interviewed.

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Drs. Brooks and Rennie are members of the Department of Sociology of Southern Illinois University, Carbondale. Dr. Sondag, former health officer of Jackson County, Ill., is chief, Division of Hospitals and Chronic Illness, Illinois Department of Public Health, Chicago, Ill.

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