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Broken Appointments at a Comprehensive Clinic for Children

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PROMPT ATTENTION to a child's acute illness, ascertainment of recovery, maintained immunizations, advice at important stages of development, and optimal care of chronic disorders require an ongoing cooperative relationship between parent and physician. When a parent breaks an appointment, the cooperative system is interrupted. When a parent breaks appointments repeatedly, we assume that there is a problem that may be amenable to correction.

The Problem

Errors in appointment making, forgetting, being out of town, having a sick member of the family, fearing a long wait, and just bad weather have been studied as reasons for breaking appointments.^{1,3,8} The feeling that the physician is not interested, or that clinic care is impersonal, a feeling of powerlessness to help one's situation, and a feeling of alienation may be deterrents to appointment-keeping for well-child care.¹¹ The ability of the physician to communicate the urgency of a return

visit has been found to be the most important factor in clinic care of acute illness.²

Broken homes, working mothers, Negro race, medical debts, psychiatric diagnoses, and absence of hospital insurance are associated with appointment breaking. They also occur more frequently in lower-social-class groups. Each of these characteristics may partly explain the increased frequency of broken appointments found among lower-social-class patients.^{1,3}

The impact of broken appointments upon the continued participation of children in a pediatric clinic has been studied by two groups giving care to children who had had rheumatic fever. Elling⁶ found that "upward mobility," residential stability, harmony of family relationships and ethnic background were related significantly to the degree of participation. They found no significant association between family income or family social class and participation. McDonald¹⁰ found only low levels of association between the degree of participation and individual social characteristics; illness of other persons in the family and problems in interpersonal relationships within the family were the best predictors of poor cooperation. When a series of factors were combined in a single score a high degree of association was found. These findings point out a need for study of other populations that require a sustained relationship with a pediatric service in regard to their total appointment-

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keeping experience. They suggest that the study of several variables together may describe more accurately the active processes.

Finding sufficient association between the social characteristics of the parent and the frequency of appointment-breaking would permit prediction of the likelihood of appointment-breaking in a given family in the future and would provide a rationale for efforts to change parental information, attitudes, or habits.

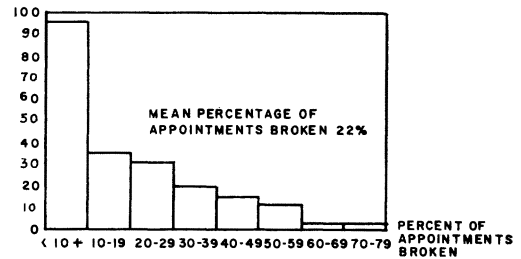
Procedures

The Service Attended by the Population

The Maternal and Child Health Clinic of the School of Hygiene and Public Health of Johns Hopkins University served children of a selected sample of low-income families. All appointments and professional contacts with these families were recorded between January 1, 1952, and December 31, 1961. The services qualified as comprehensive because they included: well-child office visits; immunizations; sick-child office visits; night calls and other home visits by physicians; routine public health nursing visits for selected pre-school ages; home nursing and social case work for specific health education and counselling situations recognized in the clinic; psychological testing, and counselling for recognized behavior problems; referral to specialty clinics; referral for hospitalization for ward care and post-referral follow-up for all conditions not cared for within the clinic. These services were provided without charge to maximize their use and minimize barriers to obtaining care.

The clinic was housed on the second floor of a very old building across the street from the hospital. The building had features attractive to clients: air conditioning, and a playroom for the children. The

NUMBER OF
FAMILIES
WITH GIVEN
PERCENTAGE



+ 40 FAMILIES BROKE NO APPOINTMENTS OUT OF 1093

GRAPH 1. Number of families with given percentages of appointments, by intervals of 10 per cent—203 families broke 3,163 out of 14,373 appointments.

staff maintained a friendly atmosphere. Calling the child by name and addressing parents as “Mr.” or “Mrs.” helped to emphasize personal attention and respect. Scheduling patients for an assigned or requested physician for all routine visits, and the staffing by physicians for a full year and usually for a two-year period, promoted personal interest and feeling between physician and family.

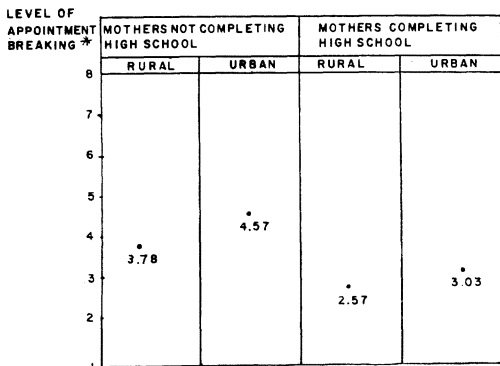
When two consecutive appointments were broken, a letter and a public health nursing visit urged use of services and sought dissatisfaction or other reasons for failure to attend.

The Population

The population included 203 low-income Negro families living in an urban neighborhood. All were enrolled in the clinic for at least two years.

The general criteria for admitting a family when the clinic was opened were: (1) residence in a low-income urban area of the city of Baltimore, (2) Negro race, (3) low family income, but no welfare assistance, (4) father and mother living at home.

A majority of the enrolled families improved their economic conditions during



ANALYSIS OF VARIANCE

SOURCE OF VARIATION	SS	df	MS	F
EDUCATION	62.74	1	62.74	20.30
RURAL-URBAN	12.74	1	12.74	4.20
INTERACTION	.91	1	.91	
ERROR	396.63	128	3.09	

THE VALUE OF F FOR STATISTICAL SIGNIFICANCE :
 .01 = 3.95

* THE FIRST LEVEL ON THE SCALE OF BROKEN APPOINTMENT IS NO BROKEN APPOINTMENTS.

THE DOTS REPRESENT THE MEANS OF EACH GROUP AS DISTRIBUTED ON THE 8 LEVEL SCALE

GRAPH 2. Appointment-breaking according to mother's education and mother's rural or urban origin.

Data Collection

The clinic staff designed a detailed questionnaire concerning social and economic characteristics that have been described in the literature or found by clinic experience to be helpful in understanding utilization of medical services. Answers were recorded as mutually-exclusive alternatives.

Four part-time male social workers were trained to complete the questionnaire from structured interviews. The social workers had had no previous contact with the parents they interviewed; they had no information about appointment-keeping of the families.

Two hundred and three mothers were interviewed in their homes. Twenty other mothers could not be reached in three attempts to visit them at home; this excluded them from the study.

Data Development

The scales were derived from the questionnaire to describe: (1) mother's education, (2) father's social activities, (3) rural or urban origin of the mother, (4) attitude of the mother toward her husband, (5) reaction of the mother toward the children's misbehavior.

The mother's education was judged on the basis of grade completed at time of becoming the household mother, and two groups were formed: high school graduates and those who had not graduated from high school. Information about social activities was elicited by a series of eight questions under the subtitle, "household parents' memberships in groups." The parent received one point for belonging to a group, two points for attending annually, three for attending monthly, and four for attending weekly meetings of union, lodge, political, civic, recreational, racial advancement, or other community groups. This

the time they were enrolled. At the end of ten years of observation 92 families earned between \$5000 and \$10,000 a year. Twenty-two families experienced adverse changes which resulted in support by the welfare department. Eighty-eight families were buying their homes at the close of the observations. Thirty-one fathers and 49 mothers advanced their educational status during the period of clinic enrollment.

Instability of family composition resulted in thirty-three mothers' being widowed, separated, or divorced without remarriage; eight others remarried, and ten others were living with another man but had not remarried. Eight mothers had left their children by death, divorce, or desertion. In 33 families one or more children were living in another home or institution. In contrast to the stereotype of extended families, only 52 of the 203 families had more than two generations in the home.

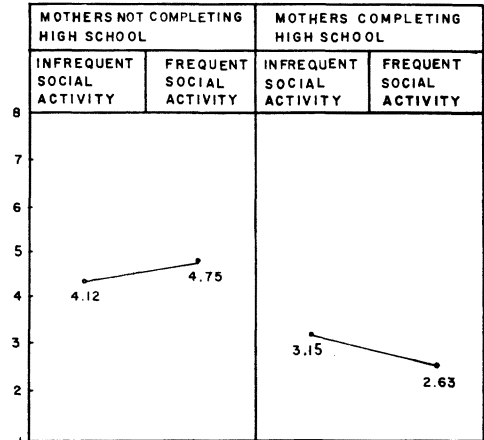
point system arranged the fathers along one scale. The scale was divided at its median value into low-activity and high-activity groups.

Rural or urban origin was defined by the question: "Where is the 'best-remembered' home . . . before age 15?" The two categories were: "city over 25,000" and "rural or town with less than 25,000."

A scale of the attitude of the mother toward her husband was developed from the following questions: "When mother and father disagree, who usually gives in, mother, father, or do they solve their problems jointly?" "How often are man-wife relationships disrupted by disagreement?" "What is the 'usual length of disruption due to disagreement?'" The design of this scale has been presented in detail elsewhere.⁴ Broken homes were included at the "poor" end of the scale.

The scaling of the mother's reaction to the behavior of her children was based on the mother's report of what she does "when children fight," "when child talks back," and "when child has temper tantrums." A high score reflects punitive responses: "ignore the child" received one point; "start a new game" or "talk things over" received two points; "separate," "talk back" received three points; "scold" received four points; "punish without anger" or "scold with strong feeling" received six points; "punish with anger" received seven points.

The dependent variable is a continuum given by the quotient of the number of broken appointments over the total number of appointments made for each mother. This continuum was divided into eight levels, the first being the lowest rate of broken appointments. Cancelled appointments were not included in the dependent variable. The additional behavior of telephoning to cancel an appointment deserved separate study.



ANALYSIS OF VARIANCE

SOURCE OF VARIATION	SS	df	MS	F
EDUCATION	78.82	1	78.82	23.45
SOCIAL ACTIVITY	.12	1	.12	
INTERACTION	10.98	1	10.98	3.25
ERROR	431.48	128	3.25	

THE VALUE FOR F FOR STATISTICAL SIGNIFICANCE
 $\alpha .05 = 3.92$

GRAPH 3. Families' appointment-breaking according to mother's education and frequency of social activity of the father.

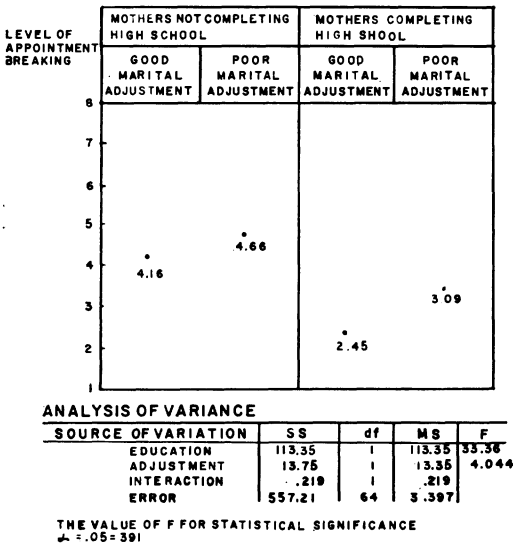
Analysis

We used analysis of variance to test associations of the selected items with the broken-appointment rate. This technique measured the effect that each of the variables had on the dependent one.

We used the factorial arrangement described by Edwards⁵ and illustrated in a thesis by Chuaqui.⁴ The source of the main effect, as well as the interaction and additive effect, was computed.

To satisfy the requirements of this arrangement, all variables were dichotomized. A continuous variable was divided at its median point. The mutually-exclusive answers of certain variables were arranged according to severity and divided into two groups as nearly equal as possible. For each analysis, two variables were divided into two levels for comparison with the levels of the dependent variable.

Analysis of variance required either an



GRAPH 4. Appointment-breaking according to mother's education and marital adjustment of parents.

equal number of observations in each subgroup or further computations. Observations were removed in a random fashion from the subgroup until the number of that group equaled the lowest subgroup (n) number.

Results

Appointments Broken

Graph 1 illustrates the number of families who broke appointments at a rate between given percentage intervals. The 40 families who broke no appointments were remarkable. The mean rate of 22 per cent for breaking appointments is an extremely favorable finding that tends to obscure the markedly-skewed distribution found with six families breaking more than 60 per cent of their appointments.

Multivariate Analysis

Graphs 2 to 5 present the means for each subgroup for two variables. One variable may be studied to show its influence on

the broken-appointment rate and its interaction with a third. The F values have been computed.

Mother's Education

In all four tests, the mother's education was the greatest source of variation. The probability that the increase in appointments broken by mothers who did not complete high school over mothers from the better-educated groups was due to chance alone is less than .01.

Rural or Urban Origin of the Mother

This variable was studied while controlling for education. In both cases, the origin of the parent was associated significantly at the .01 level with the rate of broken appointments. The direction of the influence of this variable is shown in Graph 2. The mothers classified as having rural origin had a significantly lower rate of broken appointments than those classified as having urban origin.

Simultaneous study of educational level and urban origin produced two groups with remarkably different means. The less-educated mother of urban origin had the greatest average number of broken appointments. The better-educated rural parent had the lowest average score.

Social Activities of the Fathers

The social activities of the fathers were studied because their scale revealed a greater range than the same scale for mothers. Simultaneous study with education of the mother revealed that the group with more social activity of the father and better education of the mother had the lowest rate of broken appointments, whereas the highest average rate of broken appointments was found in the group with less education and more social activity (Graph 3). The analysis of variance reveals that social activities did not con-

tribute to the variance at a significant level. The F value for interaction is below that required for the .05 level of statistical significance.

The Attitude of the Mother toward the Husband

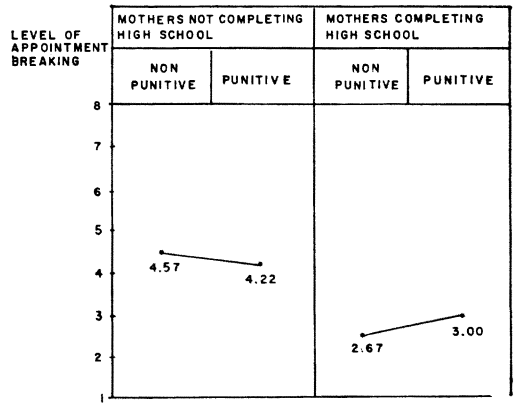
When mothers were grouped by marital adjustment, they were found to have increased broken-appointment rates with poorer adjustment. Graph 4 demonstrates an additive relationship. If the mother did not complete high school and was dissatisfied in her relationships with her husband, she was also more likely to break appointments.

Mother's Reaction toward Children's Daily Behavior

This variable did not appear to make a significant difference as a source of variation for the broken-appointment rate (Graph 5). The F value for the interaction of the two independent variables on the broken-appointment rate is 2.72 and above the F value for $P = .05$. The opposing slopes of the lines connecting the means of subgroups with the same educational level illustrates this interaction between variables. The better-educated, nonpunitive mothers broke fewer appointments; the less-educated, nonpunitive mothers broke the most appointments.

Discussion

Several results were not anticipated. Although a lower education level is common in persons of lower social class, and we knew that it was an important factor in appointment-keeping in a research project,¹² we did not expect it to explain such a large proportion of variation between mothers. We expected participation in social activities and organizations to be associated with social responsibility and with appointment-keeping, regardless of



ANALYSIS OF VARIANCE

SOURCE OF VARIATION	SS	df	MS	F
EDUCATION	89.35	1	89.35	57.64
PUNITIVE REACTION	0.00	1	0.00	
INTERACTION	4.22	1	4.22	2.72
ERROR	223.48	144	1.55	

THE VALUE OF F FOR STATISTICAL SIGNIFICANCE
 $\downarrow .05 = 2.67$ $\downarrow .01 = 3.91$

GRAPH 5. Appointment-breaking according to mother's education and punitive methods of discipline.

other characteristics. We expected parents of urban background to keep appointments better than parents whose early formative experience was rural. These expectations were not fulfilled. In our original thinking, the best-educated parents also would be the least punitive, and the association with keeping appointments would be additive; the data not only failed to support the additive effect but suggested instead that the trait of being a nonpunitive parent had different meanings in the less-educated and more-educated groups.

Our expectations were based on studies that emphasized the similarity of effects of events that tend to occur more often in lower socioeconomic groups. Our findings disclosed different effects of a given characteristic under different circumstances. A variable with significant but opposing effects in two groups may not show an effect when the groups are combined. This occurred with the social ac-

tivities of the father and with the punitive treatment of the child by the mother. Only in the latter did the *F* value for interaction reach the level of statistical significance. Our study was not designed to determine if the social activities of fathers in lower-educated families served only the father, diverted resources from the children, or disrupted the family. Its original formulation focused upon the social activities of more-educated parents, which were expected to indicate a sharing of values with the majority of the community or a reinforcement of values related to parental responsibility. The design of the study did not anticipate the need to separate mothers who were apathetic toward the discipline of the child or towards obtaining medical care from another group of mothers who avoided physical punishment in favor of verbal discipline. An instrument that made distinctions between these groups and the selection of a population with comparable numbers in each group probably would reveal statistically significant results with the unanticipated variables.¹³

Failure of the mother to complete high school may reflect poor integration between her needs and the resources offered by the school, or it may reflect a generally-disorganized pattern of living. A clinic may expect a degree of cooperation similar to that met by the school system. Both interpretations have more direct implications for clinic design than does the concept of social class.

Farber⁷ distinguished between social activities associated with cohesive families and stable marriages, and social activities that have a disintegrating effect on the family. Leighton⁹ separated social activities that strengthen the integration of the individual with the community from social activities that only amuse or satisfy the individual. We did not make these distinc-

tions. The potential interaction between education and social activities suggests to us that increased social activities in the less educated are likely either to be individualistic or to distract from the basic purposes of family life.

Since rural childhood experiences provided little familiarity with the expectations of a major medical center, and since moving to the city may be accompanied by difficult adjustment, parents of rural origin were not expected to be the better appointment keepers. When it was found that the parents of urban origin kept appointments less regularly, we had to propose a hypothesis for further study: that urban childhood and youth promote less organized or less integrated patterns of behavior than rural. This suggests that efforts to improve appointment-keeping need to affect the organization of the family and/or the integration between individuals and their community. The child at risk of dropping out of school or the family that might respond to counseling may provide opportunities for modifying this behavior.

Conclusions

When multiple factors were studied, completion of high school was found to be the social characteristic explaining the greatest portion of variation between mothers in appointment-keeping at a free comprehensive clinic.

An urban childhood home and poor marital relations were parental characteristics associated with poorer appointment-keeping.

Unexpected relationships between the mother's education and the father's social activities, and between the mother's education and punitive child-rearing methods, illustrated the importance of study of multiple social variables.

The concept of social disintegration of

poorly-educated urban families gave more meaning to these findings than the concept of social class.

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