SPECIAL ARTICLE

PILOT STUDY OF CHILDHOOD ACCIDENTS:
PRELIMINARY REPORT

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A major problem of child health today is the prevention of accidents. Part of the answer to this problem lies in the answer to the question of why some children have more than their share of accidents. Although there is an extensive literature on the accident-susceptible or accident-prone adult, there has been but little written on this aspect of the accident-prone child. Much remains to be done in order to identify the respects in which children who have repeated accidents differ from their fellows. In spite of the lack of reported studies of children there has been a tendency to talk about the accident-prone child and to attribute to him the personality characteristics and motivations seen in the adult accident repeater. It was with a desire to do something about it, and not merely to talk about it, that the study, of which this paper is a preliminary report, was begun at the Babies Hospital of the Columbia-Presbyterian Medical Center, New York, in the fall of 1951.

The purpose of this investigation was to explore methods for identifying and determining the significance, in relation to the incidence of accidents in children, of parental attitudes, parent-child relationships, environmental accident hazards, personality characteristics and functioning of the child, physical coordination and physical disabilities as these are reflected in the experience of the accident repeater. It was planned to do this through the study of a relatively small number of children of school age and their environment, both personal and physical, comparing a group who have had repeated accidents with a group who have no accident history. Even though the number of children studied would be small some questions might be answered. In addition, leads for further investigations with a larger number of children might emerge. In any event, it would be discovered whether the proposed approach in the study would bring out meaningful information.

The plan was to select for investigation 10 or 12 children of average intelligence who had been brought to the Emergency Clinic of the Columbia-Presbyterian Medical Center for treatment of accidental injuries at least 3 times during the 18 month period prior to the outset of the study. Children whose only accidents had been traffic or who had had severe or repeated head injuries were to be included. The children to be studied would be from the hospital neighborhood since there is no ambulance service. They were to be between 6 and 11 years of age, taking care to eliminate older children who might have started their physiologic adolescent changes. These were to be compared with an equal number of children of similar age and sex who had been followed earlier in the Well Baby Clinic of the Pediatric Service, who had no accident history and whose health history had been good. The suggested ratio was 9 boys to 3 girls since this corresponded roughly with the child-accident fatality figures.

Each child was to be given a careful medical history and physical examination. Neurologic examinations would be done by a member of the Neurological Service especially assigned for this purpose. Similarly, ophthalmologic studies were to be carried out in the Eye Clinic by a member of the department especially delegated. Electroencephalograms would be done on all children.

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planned to evaluate the general motor co-ordination of the children in the physical and neurologic examinations and, in addition, attempted to devise some crude measures of co-ordination in which differences in motor skills might be observed. No well standardized tests of co-ordination seemed to be available. Three situations were planned: (1) several trials at hammering a nail of specified size into a piece of soft pine, (2) sawing through a piece of soft pine of uniform size and (3) piling toy building blocks on end. In all of these some rough quantitative comparisons could be made between children.

Psychologic studies of the child included the Stanford-Binet and Wechsler Intelligence Scale for Children, Bender Gestalt, Projective Drawings, Rorschach, a specially devised sentence-completion test containing items of accident import, and the Thematic Apperception Test. Four extra pictures bringing in accident situations were added to the Thematic Apperception Test plates. (These were prepared by Mr. W. Graham Cole of the Metropolitan Life Insurance Company.) In this battery of clinical psychologic tests are included those of mental measurement, personality diagnosis and evaluation.

Anamnestic data about the child were to include a general and personality developmental history, behavioral adjustments, relationships with people, child and adult, in- and outside the family circle, school progress and adjustment, play and recreational interests and activities. This is such material as would be included in the background story in a clinical psychiatric appraisal of a child. In addition attention would be paid to the nature and attendant circumstances of any accident.

Several clinical psychiatric interviews were planned with each child employing a combination of verbal, play, drawing, etc., activities as modes of communication. The usual things looked for in psychiatric interviews with children would be covered including his general adjustment technics, his ways of meeting with new and difficult situations, his relationships with significant persons, his interests, his hopes, his fears and ambitions. It was planned to pay particular attention to the child's exposure and reactions to known factors increasing accident hazard and to explore diligently his emotional reactions before, during and after his accidents.

Study of the family setting would consist of a psychiatric social investigation by an experienced psychiatric social worker. This would include personality data concerning the parents, the patient, other children and other people in the home. The interrelationships among the members of the family, their attitudes and feelings toward each other, their patterns of adjustment, as well as all material and observations usually included in the background history of a child under psychiatric study, would be surveyed. Special attention was to be paid to the accidental injury patterns of all members of the home and to the type of supervision the child received in his play activities. An accident-hazard appraisal of the home was planned. If possible some appraisal was to be made of the neighborhood play facilities.

Contacts with the schools were planned as a part of the general appraisal of the child.

The plan for action outlined above can be recognized as including the usual kind of study given a child who is brought to a psychiatric clinic for children, a study which utilizes the services of the child psychiatrist, the clinical psychologist and the psychiatric social worker. In addition, investigations by the pediatrician and other medical specialists are included in the survey of these accident-repeaters and accident-free children.

The investigation was conducted by the staff of the Pediatric Psychiatric Clinic of the Babies Hospital with the addition of an experienced psychiatric social worker especially employed for this project. The psychiatric interviews with the children and general physical examinations were carried out by 2 child psychiatrists, both of whom have had extensive pediatric background; one of them has had well-rounded psychoanalytic training.

The selection of cases posed more problems than we had anticipated. The Emergency Clinic nurses were well aware of the "What, you here again" child but no routine record of accident patients was kept. The hospital record room filed the cases under anatomic diagnoses. Spotting the accident-repeater children was finally accomplished through 4 means: (1) the charge nurse of the Emergency Clinic keeping a list of child patients of appropriate age; (2) a similar list kept by the clinic aide in the minor surgical clinic; (3) a watch on admissions to the children's surgical ward; (4) reference to the record of accident cases in patients accompanied to the hospital by a police officer. These last were accidents which had occurred on the streets, in the parks or playgrounds or at school where some city liability might be involved. After this search 20 cases were located in children between 6 and 11 years of age having 3 or more accidents following Jan. 1, 1950 (we finally extended...
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the period to cover 21 months before Oct. 1, 1951). Of these 18 were boys and 2 girls. Several of
these children had a long string of visits back to the preschool years but were continuing to have
accidents. We noted a number of children who had had several accidents prior to January 1950 but
only 1 or 2 since. It has been noted that accidents do tend to drop off in frequency after the 5 to
6 year period but we were frankly surprised to find so few children meeting our criteria. Data on the
frequency of nonfatal accidents in children are rather scarce. However, in the 1951 Accidents Facts
a table, "Student Accidents by Type and Grade," gives some information which seems pertinent.
This table covers over 27,000 reported accidents requiring a doctor's attention or causing absence
from school for a half day or more. The over-all frequency for school and nonschool accidents was
15.3/hundred thousand student days in the kindergarten through grade XII range. This survey
covered a 9 month school year. Computation would give one accident/32 children or, if it is assumed
that the accident rate is 3 times greater in boys, one accident/16 boys and one/48 girls. The criterion
for an accidental injury as requiring a doctor's attention would be similar to our definition. Bier-
bach in a study of accident repeaters and accident-free children in a junior high school population of
600 boys found 55 children meeting his criteria for 5 major accidents; his definition was an injury
causing one or more days' absence from school. These 55 children had a total of 364 accidents during
their school careers. This would be an average of 6.6/child, or about one/year. He could find only
48 who were completely accident-free. There would seem little doubt as to the fact that we are
dealing with a real group of accident repeaters in our study, representing one extreme of the scale.

Of our group of 20 children 9 were finally included in the study, 8 boys and 1 girl; the girl was
the younger sister of one of the boys. We were unable to get in touch with 4 children. Four mothers
were working and unable to bring the children in, one of these was also of the impression that her
child was not having many accidents. One mother was not interested in participating as her 11
year old boy was not having as many accidents as in his earlier years. The other mother was so
tied down by her responsibilities to her large brood of children that she could not give us the
necessary time. One child was excluded after study was well under way because his intellectual
level was below the average range. The 9 children studied ranged in age from 6 years, 2 months to
11 years, 6 months when first seen; the youngest child was the girl. A total of 47 accidental injuries
had been treated in the Emergency Clinic. Nineteen of these had occurred in the home; in only
one child had all the accidents occurred at home. Twenty-eight had occurred outside the home. Every
child had had at least one in the home. Many of the accidents which appeared in the hospital records
antedated the time selected for determining the suitability for this study. Most of the children had
had numerous lesser injuries for which they had not been brought to the hospital. The list of injuries
included 7 fractures, 1 suspected but not proved fracture of the nasal bones, 4 dislocations and 17
lacerations requiring suturing.

The selection of the nonaccident group of children was difficult. It was finally decided to select
the children from the camp lists of the Babies Hospital Medical Social Service Department. These
families had had contacts with the hospital and there was held out the possibility of another camp
experience. Since we wanted essentially healthy children there was little we could offer the parents
for their participation in the study aside from our gratitude and a thorough examination of their
children. The final selection included a younger brother of one of the accident repeater boys. The
ages of the 9 nonaccident children ranged from 7 to 11 years, with the youngest being a girl. Two
brothers of decidedly different temperaments from the same family were also included in the non-
accident group. The children with no history of accidents would seem to be a group from the
opposite extreme of the accident scale.

Both groups came from the same neighborhood. The accident group included 7 Roman Catholic,
1 Protestant and 1 Jewish child; the nonaccident group, 7 Roman Catholic and 2 Protestant. (Those
accident cases not studied included 9 Roman Catholic, 1 Protestant, 1 Jewish.) The income level
of the 2 groups was similar, ranging from $32.00 to $60.00 a week, with one family in which both
parents worked achieving $85.00 a week.

The average number of visits required to complete our studies was 12 with a maximum of 15
and a minimum of 9. The nonaccident cases on the whole took fewer visits. The parents of the
children were most co-operative in keeping appointments. It is felt that the relationship established
with the psychiatric social worker was important in maintaining the good will and participation of
the families.

Before discussing even in a preliminary way the findings of this investigation it would seem
well to examine briefly what others have thought of the problem of accident proneness, particularly in childhood. Melanie Klein stated that her analytic work with children had convinced her that recurrent accidents represented attempts at suicide with as yet insufficient means. Ackerman and Chidester noted a certain reckless abandon in play. They believed that accident-prone children have more fear and more unexpressed hatred and guilt feelings than the average child. They attribute to "accidental" self injuries the basic motives of hurting the self out of guilt or symbolically hurting others out of revenge or a combination of both. They describe in some detail a child who was a patient at the Southard School; the self injuries in this child represented an expression of anger at the mother, and self-punishment for sexual phantasies about which she felt guilty; there was considerable secondary gain from the injuries themselves. Fabian and Bender discussed the predisposing factors in 65 children with histories of head injuries admitted to the children's psychiatric service at Bellevue Hospital. None of this group had epilepsy, psychosis or central nervous system disease; 33 had a history of 2 or more major accidents. The highest number of accidents was in the 5 to 6 year period. Marked psychopathology was noted in the parents; alcoholism in the family was a factor in 27 of the 65 cases. They believed that the combination of a sadistic father and passive masochistic mother was important and that in young children the accidents represented inverted aggressive gestures directed at the frustrating adults. The most characteristic profile of the children was of sado-masochistic behavior patterns. Identification with the sadistic father or with the aggressor were other features and at times depressive states leading to self-inflicted injuries. Siblings of the patients observed reacted to the severe family psychopathology either with the accident habit or with behavior disorders. Follow-up studies revealed that many of the children carried their accident proneness over into adult life. Fabian and Bender realized that their conclusions might have limited significance since all of the children had been referred because of behavior disorders, and they appreciated also that post-traumatic sequelae in the head-injured child might influence the psychologic factors elicited; they hoped to stimulate general hospitals to elucidate the problem of predisposition to accidents with social and psychologic investigations. Bakwin and Bakwin in a short paper review the scant literature on children. Following Dunbar's ideas about adult accident repeaters they stress the role of over-authority in the home and the resulting pent-up aggression and resentment in the child. The Bakwins include no cases of their own in the paper.

In 1948 2 studies of accident repeaters in circumscribed groups of children were published. Birnbach compared the performance of 55 accident repeaters and 48 accident-free boys in a junior high school population of 600 on a pencil and paper personality inventory scale, the National Safety Education Tests, the New York State Physical Fitness Standards for Boys and the Rogers Strength and Physical Capacity Tests. The accident-free group showed a superior knowledge of safety, better home and emotional adjustment, and were more dependable, industrious and co-operative. The accident repeater group showed superior gymnastic skill, greater crude strength and indications of home, health and emotional maladjustment. Certain additional observations were made of the children in the school situation and through interviews. One fifth of the accident repeaters came from broken homes and 18% reported at least one strict parent. The accident repeaters tended to be aggressive and to dominate social relationships by physical means; they were poor losers and on the whole were grandstanders in sports. These children tended to react to the stress of adjustment demands with impulsive behavior. Rebelliousness tended to emerge when frustrated or under emotional strain. They were interested in sports and activities which required a large degree of muscular effort. Difficulties in concentrating were common.

Fuller reported a most interesting study of the accidents in a carefully circumscribed nursery school group. She noted that, while the injury rate in 2 year olds is about equal in the 2 sexes, as the children grew older boys got hurt more often than girls although the injury rate for the whole group declined. Young children do seem to learn to keep out of trouble! The children with highest injury scores all seemed to have difficulties in harmonious group living although they showed few behavior characteristics in common. A suggestive correlation was found between frequency of injury and a variety of attributes: exceptional physical strength, a dare-devil attitude, emotional reactions easily aroused, impulsive or unreflective behavior, a rude or insulting attitude to others, especially adults, and in girls, tomboyishness. Fuller's conclusions were most tentative and the need for further studies was stressed. Fuller and Baune published a sociometric study of a second grade class in which the injury rate was 5 times as great as in any other class in the same school. In general the less popular children received more injuries than did the socially accepted group; a few children
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ran counter to the general trend. This study provides suggestions for further investigations of injury proneness as a group as well as an individual problem.

Dunbar’s studies of accident proneness in 1600 fracture patients have received considerable attention and many of her conclusions have been applied to children. The age range of her cases was from 12 years on up. She noted a tendency to impulsive behavior under stress particularly in relation to authority. The accident-prone patients were characterized by a jerky, restless tension, a good-fellow role in social relationships, a tendency to make up their minds definitely and quickly and to focus on immediate rather than long-range goals. They tended to have accidents when strong aggressive hostility was aroused or pressure from authority became too great. Aggressiveness then breaks out in an impulse to punish himself and those responsible for his frustration. She noted that at least one parent had been reported as “strict” in the vast majority of the accident repeaters. Strictness, a difficult term to define, was regarded as actions or attitudes in the parent which would produce “a feeling of severe insecurity (being involved), because parents are cruel or unapproachable.” She adds that an ill parent might produce such a feeling in his offspring. The relationship with a strict parent is regarded as the source of the authority-hostility conflict. Dunbar also noted a history of accidents in the families of 40% of her cases, and that 90% had had a strict religious upbringing. She found that in 80 to 90% there was some specific worry in the life situation preceding the accident. The initial reaction following injury was one of guilt with emphasis on destruction of others or of themselves. The injury was apt to be regarded as punishment for wrongdoing and the patient might express the idea that he deserved the accident. This was quickly repressed and there followed a concentration on the injury itself.

In general the term “accident-prone” would seem to imply a certain purposiveness, or motivation toward accidental injuries. The dictionary definition of prone as “mentally inclined or disposed, or bent; propense, apt—usually in a bad sense as prone to evil,” does not seem to imply purposiveness. However, in present-day dynamic psychiatric thought much of human behavior which is apparently unmotivated or “happenstance” is regarded as being unconsciously motivated. It would seem important not to confuse the psychologic use a person makes of an illness or injury once it has occurred with motivation to fall ill or to inflict self injury. Certainly it is not at all uncommon for children to look on illness as punishment for misdeeds. One catches a cold because he did not obey mother and wear his rubbers or the cold goes on to pneumonia because he failed to take care of himself. In looking over the information we acquired on the 2 groups of children we have tried to take into consideration not only the possibility of motivated injuries but also the possibility that the child might find himself in predicaments where injury was inevitable. A priori it seemed feasible to consider possible factors involved in repeated accidents under these 2 general headings:

Individual Motivation: (1) guilt problems with self punishment, atonement, or anger turned back on self; (2) recapture of love with atonement, stimulation of a protective response in parents, attention; (3) revenge, especially against parents through punishing them; (4) riddance of painful tension; (5) emulation of older sibling; (6) increased self-esteem through group acceptance, taking risks to show how courageous or grown-up he is, injuries signifying a badge of courage; (7) thrill of danger, “fusion of pain and pleasure”; (8) great curiosity which happens to bring child into hazardous situations.

Other than Individual Motivation: (1) defective control over emergency emotions, or overpowering emergency response; (2) impulsivity, inability to inhibit, victim of a whim; (3) hyperactivity, “constitutional,” usually involving clumsiness or secondary to anxiety; (4) inability to grasp potential danger in situations as learned from past experiences; (5) inadequate control and education, parental and others; (6) environment which is especially hazardous; (7) chance environmental circumstances.

Any conclusions to be drawn from this study of 9 accident repeaters and 9 nonaccident children must be tentative. The group is small and not susceptible to statistical analysis. This is a preliminary report of progress and a great deal of the material, especially from the psychologic test battery has not yet been carefully analyzed. We can say with assurance, however, that the approach has given us a great deal of usable information. We can understand on the basis of our observations the kind of child with whom we are dealing, his family, and factors which have contributed to his present status. Some of the information would seem helpful in evaluating the accident habit or in understanding why a child does not have accidents. All who have been concerned with the investigation feel strongly that any conclusions reached thus far must be applied to accident repeater children in general with great caution.
Our groups of children certainly represent 2 extremes on the accident scale. They are, however, exposed to the same neighborhood environmental hazards and attend the same schools. They are comparable in intelligence as measured by formal tests; Accident Repeaters—Stanford-Binet I.Q. range 85 to 155, average 114, W.I.S.C. I.Q. range 85 to 126, average 104. Nonaccident—Stanford-Binet I.Q. range 81 to 139, average 112, W.I.S.C. I.Q. range 79 to 120, average 103. The children in both groups did not impress any of the study staff as being seriously emotionally disturbed to the degree of the children usually seen in the Pediatric Psychiatric Clinic. The accident group has a high percentage of Roman Catholic children; this holds for all of the children who were considered for the study. The children with repeated accidents seen in the Emergency Clinic came, with 3 exceptions, from an area of poorly repaired, dilapidated tenements with inadequate play space and recreational opportunities. This particular neighborhood area has a high percentage of Roman Catholic residents. It was of interest that although children with isolated or occasional accidental injuries came to the Emergency Clinic from both this slum area and an adjacent neighborhood equally accessible to the Medical Center, only 15% of the children with repeated visits were from the better housing area. It is thought that this probably represents an increased accident hazard in the poor housing neighborhood. The homes, however, of our nonaccident group were also in the poorer area.

We shall attempt to summarize the findings of the various examinations to date and to indicate trends where analysis of the data is not yet completed.

Little of significance was turned up in the physical studies. General physical examinations revealed but few abnormal physical findings. Children in both groups were healthy and free from gross defects. The accident children showed scars of old minor injuries, and in most of them fresh bruises and scratches were observed.

Neurologic examination was completely normal in all of the accident cases except in one boy who showed a minimal impairment of skilled movements. Of the nonaccident children 2 showed slight clumsiness in succession movements, one pseudoathetotic movements of the outstretched hands, one an absence of associated arm swings, and another a drift of the left hand with an equivocal Babinski on the left. These findings in 5 of the nonaccident children were minimal and were not thought to be indicative of central nervous system disease.

Ophthalmologic examinations revealed normal visual acuity in all but one of the children of each group. One nonaccident child was myopic and one accident child had diminished visual acuity in one eye due to an old corneal scar resulting from an injury. The same boy had some fusion difficulties. Two of the nonaccident children had mild fusion difficulties. All other children had normal muscle balance and both groups showed normal depth perception.

The electroencephalograms are more difficult to evaluate. Only one child showed "normal" findings throughout; he was the oldest of the accident group. Five of the accident and 6 of the nonaccident children had basically normal records; 2 from each group were borderline; 1 from each was classified as abnormal. One accident case had a mildly irregular record. Only 1 of the children showing questionable neurologic signs showed any EEG irregularity, a nonaccident child with borderline findings. All the nonaccident children showed abnormal responses to hyperventilation; 6 of the accident group were described as abnormal, 2 borderline and one normal. The significance of these EEG findings is not clear. The records were looked on by the interpreter as not being usual ones for children in this age group. None of the abnormalities was of the type seen in convulsive disorder. The findings, however, do not differentiate between the 2 groups of children.

Evidences of mixed laterality were suggestive in 2 of the accident children and 4 of the comparison group.

Gross estimates of coordination in the general physical and neurologic examinations were of normal motor coordination. In the coordination tests described above there was little to choose between the performance scores in the 2 groups when each child was compared with his age mate. A difference was noted in the approach of the children to these tasks. The accident children tended to hammer or saw in a less controlled and cautious manner than the nonaccident children.

There were a fair number of hospital admissions for infections (otitis media, pneumonia, adenitis, 1 poliomyelitis) in the accident group. These were not seen in the nonaccident group but these children had been selected on the basis of a good health history. The accident children were not significantly free from illness; Dunbar has reported that her patients with repeated accidents had a low incidence of disease.

Both groups of children were well aware of dangerous and potentially dangerous situations. The
nonaccident children in their daily lives managed to keep away from them whereas the accident children did not. Seven of the nonaccident children had had some accident prevention education at home; insufficient information is available on the other 2. Of the accident children information about accident education at home is available in 5 instances; 3 children were given some instruction by their parents, 2 were not. Insufficient information is available about the school accident education programs of the nonaccident children to allow any conclusions. The mother of the same 2 children who received no home training reported that none was given at the school. Three accident-case parents went over the accident hazard check list with their children.

The accident group of children and their parents showed a markedly casual attitude toward the injuries. One mother was fatalistic and felt that "accidents just happen." The children tended to take care of minor cuts and scratches themselves without turning to their parents. The hospital records indicated in at least 10 of the accidents surprising lapses of time between the injury and arrival at the Emergency Clinic. A boy was brought in for inspection of a lacerated hand which had occurred a month previously and had pretty well healed without infection. A child with a fractured clavical was brought in 2 days after her fall. Another patient with an eye injury with moderately severe bleeding came in 5 hours later. A boy who stepped on a nail came in one week later for medical attention. In the group studied the factor of secondary gain from the injury would not seem to be important.

Two of the accident children and one of the nonaccident children came from broken homes. Epilepsy was reported in the family histories of 2 children, one from each group. The father of the brother and sister in the accident group was alcoholic as was the father of 2 boys, one in the accident and one in the nonaccident group. The mothers of 5 of the accident children worked outside the home; only one of the nonaccident mothers was employed; as an apartment house superintendent she was around the house most of the time. The most striking findings had to do with the incidence of accidents in other members of the immediate family and in the collateral. Accidents occurred in other members of the immediate family in 7 of the 9 accident cases and in only 3 of the nonaccident families (one of these was the same family which also provided an accident child to the study). Accidents occurred in the collateral family lines of 8 of the 9 accident cases and in only 2 of the nonaccident group (one of these was the same family which had a child in each group). Some of these families had rather lurid accident histories. A maternal uncle of one of the boys was killed in a fall out of a window at 3 years of age. His paternal grandfather died of injuries sustained in an elevator crash. A paternal aunt was struck and killed by a car at 24 years of age. A paternal uncle was seriously burned as a child when he pulled a vat of boiling water over on himself. A paternal aunt lost 2 children through accidents; a baby choked to death on something given it by another child while outside in the carriage and an 8 year old boy died when a glass mantle, dislodged by people dancing overhead, fell on him as he was doing his homework. The boy's father as a child was struck on the head by a thrown can of milk which became imbedded and had to be pried loose by a physician; he was also spiked playing baseball.

In both groups of children home discipline in general was characterized by inconsistency with explosive crack-downs. Neither group of parents as a whole could be called grossly punitive or cruel. Most of them impressed the staff as being basically warm people even when "bopping" their children. The general impression, however, was that the nonaccident parents were closer to the children and supervised them more closely. They had less trouble setting limits on their children's activities than did the accident parents. The accident parents seemed less in tune with their children and more distant; there did not seem, however, reason to refer to them as grossly "rejecting" parents. The homes of the accident children if anything were more congenial and the families seemed to have more fun together than did the nonaccident families. The distinction between "closeness" and "distance" in the parent-child relationships would seem to be important although this is a rather difficult finding to describe. It is apparent in photographs of mother and child in the 2 groups. In the nonaccident cases there is a "togetherness," mother and child look as if they were aware of each other. In the accident cases there is an "apartness" as if mother and child were each standing for the camera alone without much awareness of each other. These characteristics of nearness and distance are apparent in contacts with the child and parent.

One of the outstanding differences between the 2 groups of children is the way in which the accident children form pleasant if superficial relationships with adults. They seem to like to be with grown-ups, are friendly with them and have rather winning ways. The adult finds the accident
children likeable. The nonaccident children do not show this characteristic. They stick closer to their parents. It would seem that the nonaccident child is able to get more security in his relationships with his parents and does not have to turn in a pseudo-social independence to other adults. The nonaccident boy from the accident family has built up close relationships with adults in his father's family and does not show this characteristic with other adults. The nonaccident children are more dependent on their families, timid on the whole and not venturesome. The nonaccident children are submissive to authority; the accident children tend to accept authority with overt criticism at times, and particularly in the younger children there is a fluctuation between acceptance of adult authority and overt defiance.

As yet we have not discovered in our case material evidence that one group or the other is more fearful or has more pent-up aggression and resentment. Our material does not seem to justify any conclusion that the accident children have more guilt or self-destructive drives than the nonaccident. We have no evidence as yet to support the presence of primary conflict in the authority-hostility area. Perhaps further working over of our material, particularly the Thematic Apperception Test responses, may give some clues in these directions.

In going over the accumulated observations on the accident children it seemed as if they could be tentatively divided into 3 groups on the basis of their general behavior and reactions. These will be briefly summarized.

The accident child in one group is overactive and restless. He tends to be impulsive. He is well liked by adults but not well liked by his fellows. He does not get his dependency and security satisfactions at home. He tends to want to be older than his age and to overextend himself in his activities as he tries to keep up with his ambitions or seek acceptance by the group. He does not retreat from dangerous situations. He has a poor reaction to stress, becoming more impulsive and disorganized. Some of the accidents occur during this stress disorganization. Under stress he does not recognize or heed danger signals. As yet there has not seemed to be a specific type of situation which produces the disorganizing anxiety. The Rorschach data (many undifferentiated color responses) are in keeping with the breakdown of controls under strong emotional stress.

In order to see if there was any measurable breakdown of kinetic control under stress we have tried photographing the eye movements with an ophthalmograph during reading and again after threat of an electric shock to create a crude stress situation. Incomplete studies suggest that the accident children show gross changes in the eye movement patterns after the threat while the nonaccident children show lesser changes. It is planned to follow this with further study.

The accident repeater child described above would seem to get into situations where accidents were inevitable if he is under stress. The accidents then might well be unmotivated and the defect be a developmental one in the ego control mechanisms.

In our accident patients we could see 2 other types of children, one related to immaturity, lack of parental supervision, an insistence on the part of the child on autonomy and self-determination, and competition in activities with older children in a hazardous environment. The other is typified by a resentful, hostile boy who views his home as bleak and empty, a boy who prior to his beginning to have accidents 3 years ago presented a moderately severe conduct disorder. As this has cleared, his general overt behavior has become less resentful and rebellious. This boy does show pent-up rage and aggression; he does salvage some attention from his mother when he is injured. These accidents may well be motivated. In a longer series of cases it is possible that even more personality types would emerge.

The nonaccident group was more timid, submissive and controlled than most children. This may have been a fault of selection. It would seem better to obtain nonaccident children selected by a teacher and school nurse rather than rely on children already registered in the hospital clinic. Further studies should be done on a group of accident repeater children who are not on the extreme end of the accident scale. With such a group a larger number of children could be more easily obtained and the number of personality types might well be greater.

One difficulty experienced was our inability to get from the children or their parents much of the emotional overtones and feelings centered around the times of specific accidents. This may be related to the fact that many of the accidents were "cold" in that they had occurred some time before, but we were unable to get much information even when the accidents occurred during the course of the study. This might be related to the emotional and behavioral disorganization in the children at the time of the accidents, or even to the age of our subjects. It would seem well, however, to plan a study which would see children at the time they were brought in to the Emergency Department.
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GENERAL REFERENCES


Discussion

Miss Helen Ross, Chicago: "Accident proneness" was first suggested as a symptom several years ago, and soon became a popular diagnosis. The study made by Dr. Langford and his colleagues is among the first efforts to describe and explain accident proneness among children, and is therefore a highly laudable endeavor. We need evidence, scientifically established, of the existence of this symptom, and we need a study of its etiology. This study has attempted both. As in many similar efforts, it was not so easy to set up a goodly number of cases and, as Dr. Langford suggests, the conclusions reached in this progress report are not to be given undue weight. This study has further value in that an equal number of nonaccident children were studied also.

Since this study was done through a hospital, only those accidents bad enough for hospital care came to attention, yet children do have accidents that do not call for hospital service. It would be exceedingly interesting to know of Dr. Langford's group, how frequently the accident children in comparison with the nonaccident group had minor accidents at home and at school and of what nature. To establish with more precision who are the accident-prone children would require an extensive knowledge of the less serious hurts encountered in everyday life, not that these little accidents are in themselves important, but that they provide information about the general personality structure of the child. For if we find accident proneness is an entity, then we should learn how to recognize it earlier and following that, attempt to formulate an etiology which would help in the whole study of prevention.

A study of accident proneness in children may be approached in several ways. One is through observational studies. Parents, teachers, camp directors are in a better position to make such observations than the physician, because of their closer touch with the child. The summer camp offers an excellent opportunity for such observation. Years ago, before I knew the term "accident proneness," I recognized in my summer camp the tendency among certain children to have more than their share of accidents. "There goes Jane again," or "Who do you suppose fell out of the boat? Mary, of course." I had only girls in this camp.
I learned, too, that there were 2 ways to approach safety in the camp. One, to clear up hazards in the environment; 2, to consider what went on inside the many-accident child. More and more we learned how to handle the hazards, we turned to a consideration of the individual child. And so I came to isolate 3 general types who were prone to accidents: the show-off, the discouraged; the reckless. The show-off takes risks to prove himself not timid. In his insecurity, his judgment is poor; he overcompensates his timidity and fear. The discouraged child might react in 2 ways: he would retire from all competition and thus be safe, or he would enter an activity with the conviction he would fail, and fail he usually did. He is the blunderbuss child. The reckless child’s attitude is often one of defiance to rules of all kinds; he has a strong resistance to authority and plunges into activity defiantly and impulsively, often coming to grief.

Dr. Langford’s categories are similar to the above. He has also given us some interesting hints as to the role of parental attitudes as causative factors. My own experience both clinically and as a matter of observation would corroborate his findings.

One factor we could observe at camp, which Dr. Langford had no opportunity to observe, was the ‘accident epidemic.” Maybe girls are especially prone to this type of hysterical accident which often broke out during a camp season. A rash of sprained ankles was always anticipated after a favorite councillor or a popular older girl would suffer some mishap to her ankle, particularly if done in a dramatic way. This is mentioned here in order to give some weight to the mechanism of identification in accidents, which was noted by Dr. Langford in his paper.

The second approach to this kind of study is that used by Dr. Langford, a descriptive statistical study on a broad basis which yields information about the symptom, some guides for further studies, and some suggestions for preventive measures.

The third approach to our subject is the purely psychodynamic, suggested also by Dr. Langford’s findings. By means of more intensive studies of a few cases, we might learn much more about the etiology of this symptom in all its ramifications. We would thus see the interaction of parental attitudes with children’s behavior, the influence of specific trauma, the influence of identification with the parent or siblings, the use of accident to gain love and attention, the selection of this masochistic solution to meet emotional needs, and so on.

Every study of accident proneness in children should arouse us, as this one does, to the preventive aspects of the subject.

Dr. Reynold A. Jensen, Minneapolis: Those of us here tonight are fully aware of the real importance of the general problem of accidents and injuries to children in our country today—one about which everyone should be concerned. In reality it is one of our major current medical problems. For example in the State of Minnesota, accidents accounted for over 33% of all deaths in children from 1 to 14 years of age in 1950.

While the over-all problem of accident and injury in children is important, that of the child who is injury-prone is of especial significance since so little is known about it. It is to this particular group Dr. Langford and his associates have directed their attention and effort. The report is a pilot study, which all of us should not only welcome now but also for future reference.

As human nature and behavior is exceedingly complex, it is difficult to study it scientifically due to the large number of variables involved. Many of these have been anticipated and included in this study. The approach has been on a broad base including not only historical data on the child, parents and family, but also careful, detailed physical, neurologic, as well as psychologic studies and personal interviews; also a contrast or comparison group has been included—a must in scientific research.

It has occurred to me more definitive data regarding parental attitudes, personalities and family organization might have been collected by the use of the several rating scales available and the projective tests such as the Rorschach and Minnesota Multiphasic. These might prove useful. While Dr. Langford and his group report few positive physical findings, it occurred to me the judicious use of metrazol® might have brought out latent differences in the electroencephalographic findings.

Dr. Langford has wisely avoided formulating conclusions on the basis of the work done to date. There are several contributions this study has made to date:

1. Much work has been done in defining the injury-prone child. The task was a difficult one. The careful thought given this, as well as the many other intrinsic factors, may well serve as an important guide to subsequent studies made by others.
2. Further evidence the injury-prone child is different from his peers has been presented. What this difference is remains to be answered.

3. The need for sharpening current instruments of study is obvious. It may be necessary to develop others. The use of the ophthalmograph suggests possibilities for many clearly delineating definitive important physical differences between the injury-prone child and his peers. While these may appear minimal, they may prove significant.

4. Several pitfalls have been clearly delineated which should be avoided by all interested in research involving children. Among the most obvious are (a) the fallacy of reasoning backward to children from studies done on adults with comparable problems, (b) the need for exercising caution in formulating conclusions or interpretations too early and (c) the danger of making "too much of too little."

5. A standard has been set for future studies.
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