Nurses' Judgments of the Attractiveness of Premature Infants*

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In one study 20 nurses experienced in the care of premature infants and 20 nurses without such experience rated physical attractiveness of five randomly selected premature infants. Significant agreement in ordering the infants according to attractiveness was found among nurses in both groups. In a second study, 20 nurses who had cared for a particular premature infant and 20 matched nurses who had not, rated the attractiveness of the infant. Having cared for a particular infant increased the nurses' ratings of its attractiveness. These preliminary findings demonstrate that the trait of physical attractiveness is subject to reliable social judgments from the earliest days of life, and that social experience may affect these judgments. The potential role of these judgments in modifying the infant's social environment is a topic for future research.

There is increasing appreciation that the child influences the behavior of its caregiver (e.g., Bell, 1974). Thus, the longstanding research strategy of examining the effects of parents or caregivers on children is being balanced by recent research on the child as a stimulus for adult behavior. Studies indicate that the influence of the child on its caregiver begins early in life, the behavior of the young infant modifying the course of mother–infant interaction (e.g., Lewis & Lee-Painter, 1974). Characteristics other than the infant's behavior may also be determinants of adult responses. Bell (1974) speculates that morphological characteristics, such as the infant's protruding cheeks, contribute to launching parental behavior as much as the appearance of helplessness created by uncoordinated thrashing movements. A recent study of infant–mother interaction (Minde, Trehub, Corter, Boukydis, Celhoffer, & Marton, 1978) in a hospital nursery for premature infants shows that maternal behavior is partly a function of size and medical status of the infant.

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As a stimulus for caregiver behavior the premature infant may have special problems. His repertoire of behavior is more limited than that of a full-term infant and his physical appearance may not include compelling features such as protruding cheeks. These differences may make the premature infant a less favorable stimulus for caregiving. Although common sense tells us that mothers can love unattractive children, the first shock of seeing a very tiny infant might be one of many factors that make the mothering of premature infants difficult. In addition, individual differences in infant characteristics might contribute as well to the social aspects of caretaking conferred by nurses during the premature infant's prolonged hospital stay.

Full-term infants, despite spending much briefer periods in hospital, may nevertheless evoke varying reactions from nurses. In commenting anecdotally on observations of nurses with newborns, Bennett (1971) said, "It was striking how a rich and full head of hair could attract attention to one infant in a busy nursery" (p.323). Such differential reactions to infant appearance would be especially important for the premature infant who may spend several weeks, rather than a few days, in the care of nurses.

Several studies have shown that there is considerable agreement in adults' judgments of the attractiveness of children (e.g., Berscheid & Walster, 1974). The potential importance of these judgments in the socialization experience of children is suggested by findings that adult judgments of intellectual potential (Clifford & Walster, 1973) and adult punitiveness (Dion, 1974) vary as a function of children's attractiveness. In contrast to the growing literature on the attractiveness of older children, there is little research on infant appearance. Brooks and Hochberg (1960) studied adult ratings of a line drawing of an infant face in which height of the eyes and distance between them were varied systematically. They found clear relationships between these variations and attractiveness ratings, but the applicability of their results to naturally-occurring variations among infants has not been shown.

The present research was designed to explore nurses' judgments of individual differences in the attractiveness of premature infants. In the first study, we sought to determine whether there was agreement in nurses' rated judgments of this trait, and whether attractiveness judgments were affected by general experience in caring for premature infants.

STUDY 1

Subjects

*Experienced nurses* were recruited randomly from nurses caring for premature infants in the premature nursery of the Hospital for Sick Children in Toronto, Ontario. The 20 nurses in this group had cared for premature infants for a mean of 2.8 years (range, 2 months to 21 years). Their total
nursing experience averaged 4.7 years (range 2 months to 21 years). Their mean age was 26 years (range, 20 to 45). Nine of the nurses were married and two had children.

Inexperienced nurses were recruited from nurses caring for full-term newborns in the Toronto General Hospital. Nurses who previously had extensive experience with premature infants were not used as subjects. In recruiting 20 nurses from among the remainder, an attempt was made to match the inexperienced group with the experienced group on the basis of age, marital status, and total nursing experience.

Four nurses in the inexperienced group actually had some minimal experience in caring for premature infants larger than 1500 g; the duration of this experience ranged from 2 days to 6 months. The total nursing experience for the inexperienced group averaged 7.4 years (range, 3 months to 30 years). Their mean age was 32 years (range, 21 to 59). Eight were married and four had children.

Procedure

Stimulus infants were selected from the premature nursery in the Hospital for Sick Children. Criteria for selection were postnatal age between 3 and 4 weeks, weight between 1300 and 1600 g at the time of selection, a good medical prognosis, and no obvious physical anomalies. As infants satisfying the criteria became available they were photographed. When a gallery of photographs of 12 infants was obtained, 5 infants were randomly selected to serve as stimulus infants. Since the infants were diapered, sex was not apparent in the photographs.

The photographs were 3.5 x 5in 35mm Kodacolor glossy prints taken under identical conditions by an experienced medical photographer. Two poses were taken for each infant. One was a frontal shot of the baby's head and shoulders with a nurse's hand under the baby's head, taken from a distance of .5 m. The other pose was a frontal shot of the baby's whole body taken from a distance of 1 m. In both poses the infant's eyes were shut, since it was difficult to arouse all infants into comparable states of eye-opening. All infants were diapered and photographed while lying on white sheets with no medical apparatus in view, aside from thin, clear plastic nasojejunal tubes secured in place by adhesive tape, on three of the infants. The two photographs of each infant were mounted together between sheets of clear plastic.

Two months after the stimulus infants were photographed, nurses at the two hospitals were asked individually to participate in the study. Because stimulus infants and experienced nurses came from the same hospital ward, the two-month interval was introduced to minimize the opportunity for recognition of particular stimulus infants. It should be noted that the ward
has approximately 1,200 infant admissions per year and nurses rarely have more than 2 or 3 shifts with the same infant. None of the experienced nurses, in fact, correctly identified individual infants with whom they had worked, although several thought they did.

Nurses in both groups were told that we were interested in rating the attractiveness of premature infants since this factor might be important in the establishment of normal mother-infant interaction.

Each nurse rated the attractiveness of the five infants in two ways. Absolute ratings were obtained by asking the nurse to write down her rating of each infant on a five-point scale of attractiveness. The end points were defined by "as attractive as any newborn you've seen" and "as unattractive as any newborn you've seen." Relative ratings were obtained by asking the nurse to place the pairs of photographs in a series from left to right, so that the most attractive infant appeared on the extreme left and the least attractive on the extreme right. Absolute ratings were always done first to eliminate the effects of carryover from relative to absolute rating tasks. For the absolute rating task, the presentation of infant photographs was random.

After the rating tasks were completed, each nurse was also asked several open-ended questions. She was asked, for example, to describe the characteristics of premature infants and whether there were any particular features which she had used to assess attractiveness.

**Results**

To evaluate the extent of agreement among ratings of attractiveness of the five infants we computed the Kendall Coefficient of Concordance (Siegel, 1956) for both types of rating (absolute and relative) and for both groups of nurses (experienced and inexperienced). The results indicated high levels of agreement with both types of rating by both groups.

The coefficient for absolute rankings was $W = .32 (p < .01)$ for the Experienced Group, and was $W = .33 (p < .01)$ for the Inexperienced Group. The coefficient for relative ratings was $W = .64 (p < .01)$ for the Experienced Group and was $W = .50 (p < .01)$ for the Inexperienced Group.

Although no statistical technique appears to be available for testing differences between Kendall Coefficients of Concordance, the coefficients for relative ratings are considerably higher than those for absolute ratings. This trend suggests that relative ratings might yield more reliable judgments of attractiveness, but this suggestion must be tempered because relative ratings were always done after absolute ratings so that more exposure to the pictures may have led to more consistent judgments in the relative rating task.

In any case, the ratings demonstrate that within both nursing groups there was considerable agreement about individual differences in the attractiveness of premature infants. For example, the Coefficient of Concordance, $W = .64,$
for the relative ratings by the experienced nurses is based upon unanimous agreement among the nurses in designating the most attractive infant, and agreement among at least half of the nurses in designating the rank of each of the other four infants. Table 1 shows that the two nursing groups were almost identical in the order of mean ratings they assigned to the stimulus infants. Agreement was thus found within and across the two groups of nurses.

Although the question arises as to which physical differences among the infants led to consistent rankings of their attractiveness, an exhaustive empirical answer to the question is beyond the scope of the present study. In a subjective appraisal of the physical differences between the infant rated as the most attractive and the other infants, we saw a number of suggestive differences. The most attractive infant had the most hair, the most rounded buccal pads, and the least splotchy skin color. However, differences in these attributes did not correspond closely with ratings of attractiveness among the remaining four infants.

Despite the similarity of the nursing groups in their ordering of the infants’ attractiveness, one suggestive difference emerged in the absolute ratings of the attractiveness by the two groups. The mean rating of each infant was higher in the ratings by experienced nurses than in the ratings by inexperienced nurses. Two-tailed Wilcoxon matched-pairs signed-ranks tests showed that the difference was significant at the $p < .02$ level for two infants; for two of the remaining infants the significance level was $p < .10$.

STUDY 2

Study 1 showed that nurses agree substantially in ordering premature infants according to their physical attractiveness. It also suggested that absolute ratings of attractiveness might be higher among nurses who have general experience in caring for premature infants. In Study 2 we asked
whether the nurse’s experience with a particular infant might modify her ratings of its attractiveness.

Ratings of a photograph of an infant were obtained from a nurse who had recently cared for the infant and from a matched nurse who had not. Five different infants served as “target” infants, and three to five matched pairs of nurses rated the picture of each of these infants. These pairs consisted of a nurse who had cared for the target infant (Caregiver Group) and a nurse who had not (Control Group). A total of 20 pairs rated one of the five target infants. All subjects came from the Hospital for Sick Children.

Subjects

Caregiver Group. This group was formed by approaching nurses who had cared for a target infant during an 8 hour shift within the preceding 24 hours. The 20 nurses in the group averaged 26 years of age (range, 19 to 53). Six were married and two had children. They had worked with premature infants an average of 1.4 years (range, 1 month to 11 years).

Control Group. Once ratings were obtained from a nurse in the Caregiver Group, another nurse who had not cared for the target infant was selected from other nurses on the ward on the basis of similarity in age, nursing experience, and marital status. The 20 nurses in this group averaged 24 years of age (range, 20 to 42). Six were married and three had children. They had worked with premature infants for an average of 1.6 years (range, 2 months to 18 years).

Procedure

The five target infants were randomly selected from among those infants satisfying the criteria for selection of stimulus infants in Study 1. The photographs were also standardized in the same manner. Once a photograph was developed and mounted, we tested nurses who had recently cared for the infant and their matched controls; the only criterion for selection was the nurses’ availability for testing. All testing for a particular target infant took place within a week of its being photographed, since appearance can change relatively rapidly among this group and we wanted to insure that the nurses in the Caregiver Group could recognize the target infant as one they had cared for. In order to insure some generality of results, five different target infants were used.

The rating procedure was the same as in Study 1 except that nurses rated six pictures. The six pictures included the five stimulus infants from Study 1 and the picture of a target infant.
RESULTS

Study 1 suggested that the relative rating procedure might yield more reliable judgments, so data presented for Study 2 are limited to the relative ratings. These ratings again demonstrate consistency among nurses. Coefficients of concordance were $W = .55$ for the Caregiver Group and $W = .50$ for the Control Group. The coefficients are based on agreement among ratings of the five stimulus infants; the target infant was not included.

A comparison of ratings by Caregiver and Control Groups showed that the target infants were rated higher by the nurses in the Caregiver Group who had cared for them (Wilcoxon matched-pairs signed-ranks test, $p < .01$, two-tailed). In the 20 pairs of nurses, 13 Caregiver nurses rated the target infant higher, 2 Control nurses rated the target infant higher, and 5 pairs tied in their ratings.

DISCUSSION

Study 1 showed that nurses agreed significantly in ordering premature infants according to their physical attractiveness. Since agreement was found within both groups of nurses, inexperienced and experienced, extensive experience with premature infants was not necessary for nurses to agree in judging the attractiveness of this population. Furthermore, agreement emerged with both types of rating employed, relative and absolute. These findings show that physical attractiveness is a trait which may be reliably perceived, even for the tiny premature infant. There is also the suggestion in the data from Study 1 that nurses experienced in the care of premature infants rated the premature infants as more attractive than did inexperienced nurses. Thus, the experienced nurses may have become more accustomed to the differences between premature infants and the plump, full-term "ideal."

The potential importance of the trait of physical attractiveness for the infant's social experiences was not examined in this study. However, it is reasonable to assume that the amount of nonmedical attention nurses pay to infants might vary partly as a function of how "pleasant looking" a particular infant is. Although physical attractiveness may be an important variable only in the "first stages of interaction" (Berscheid & Walster, 1974), infant–nurse interaction may not go much beyond the first stages in many hospitals. For example, in the Hospital for Sick Children it was found that premature infants were attended to by an average of 71 different nurses during an average stay of 49 days (Minde, Ford, Celhoffer, & Boukydis, 1975). Under such conditions it may be that "first impressions" based on physical attractiveness have some weight in determining the social environment experienced by premature infants.
Study 2 verified the finding of Study 1 that nurses agree in rating the physical attractiveness of premature infants, and also showed that experience with a particular infant tends to increase nurses' ratings of its attractiveness. A number of explanations could be advanced to explain this increase: "getting used to" attributes of a particular infant, overvaluing what one has invested energy in, or some sort of incipient attachment.

However, the finding clearly shows that first impressions of a particular infant can be partially modified by caring for it. Thus, one argument for attempting to establish some continuity between nurse and infant in premature nurseries might be that it would attenuate the possibility that deficits in the infant's physical appearance could have a negative effect on his social environment.

REFERENCES


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