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THE RELATION OF YOUNG CHILDREN'S FACIAL EXPRESSIVITY TO PEER  
RANKINGS OF THEIR LIKEABILITY.

by

Rhonda Darlene Snow

B.A. (HONS.), Simon Fraser University, 1982

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in the Department

of

Psychology

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SIMON FRASER UNIVERSITY

April 1986

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ISBN 0-315-30752-8

APPROVAL

Name: Rhonda Darlene Snow

Degree: Master of Arts

Title of thesis: The Relation of Young Children's Facial  
Expressivity to Peer Rankings of their  
Likeability

Examining Committee:

Chairman: Dr. W. Krane

Dr. J. Strayer  
Senior Supervisor

Dr. E. Ames

Dr. T. O'Shea  
External Examiner  
Faculty of Education  
Simon Fraser University

Date Approved: April 9, 1986

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## ABSTRACT

The purpose of this research was to investigate the relation of children's facial expressivity to peers' rankings of their likeability. Assessments of children's expressivity were made in two conditions: 1. a semi-private condition in which children's faces were videotaped while they viewed emotionally-evocative film segments; and 2. a naturalistic social condition in which children met in playgroups consisting of four children while their facial expressions were observed live and coded. Children's likeability was assessed by means of peer rankings obtained after the play session. Relations were also examined for these expressivity variables and other child variables, such as age, verbal ability, and perspective taking, as well as adult rankings of children's social competence, bossiness, and appeal. Two kinds of analyses were performed: complete and partial correlations. Results of complete correlations indicated that the only expressivity measure that was related to a child's likeability was expressivity in the videotape-viewing condition, and this was true only for girls. When partial correlations were considered, negative relations were obtained for boys between ~~likeability~~ and expressivity in both the videotape-viewing condition and the naturalistic social condition. The most perplexing finding of this study was that the relation of expressivity in the videotape-viewing condition and likeability was significantly positive for girls in complete correlations, but was significantly negative for boys when partial

correlations were considered. These findings are discussed in light of possible sex differences in socialization of expressiveness. In addition, other relations obtained for these variables and children's age, verbal ability and perspective taking, as well as social competence, bossiness, and appeal are considered.

## ACKNOWLEDGEMENTS

I am grateful for the continuing support and guidance of my committee and in particular my senior supervisor, Dr. Janet Strayer, who made many valuable contributions to this study.



**DEDICATION**

To Steven and Brooke

TABLE OF CONTENTS

Approval ..... ii

Abstract ..... iii

Acknowledgements ..... v

Dedication ..... vi

List of Tables ..... viii

I. Introduction ..... 1

    The Present Study ..... 10

II. Method ..... 18

    Subjects ..... 18

    Materials and Scoring ..... 19

    Settings and Procedures ..... 27

III. Results ..... 30

    Child likeability - absolute expressivity correlations . 30

    Intercorrelations of Expressivity, Likeability and  
    Child Data ..... 37

    Intercorrelations of Expressivity, Likeability, and  
    Adult Rankings ..... 41

IV. Discussion ..... 45

Appendix A ..... 57

Appendix B ..... 61

Appendix C ..... 64

References ..... 65

LIST OF TABLES

Table		Page
1	Correlations Between a Child's Ranking of Peers and Rankings based on Absolute Expressivity .....	33
2	Correlations Between the Ranked Totals of a Group and the Ranked Totals based on Absolute Expressivity ....	35
3	Intercorrelations Between Expressivity Measures, Likeability, and Child Data for Girls .....	38
4	Intercorrelations Between Expressivity Measures, Likeability, and Child Data for Boys .....	40
5	Intercorrelations Between Expressivity Measures, Likeability, and Adults' Rankings for Girls .....	42
6	Intercorrelations Between Expressivity Measures, Likeability, and Adults' Rankings for Boys .....	44

## CHAPTER I

### INTRODUCTION

The purpose of this investigation is to examine the relation of children's expressivity to peer rankings of their likeability. There seems to be general agreement among researchers in this area on at least two issues. Firstly, the adaptive or socially regulative functions of expressivity have not been sufficiently examined. Most of the research in this area has focused on the hypothetically innate aspect of expressivity and has involved the ability of judges (both trained and untrained) to identify the discrete emotion expressions of infants (Izard & Buechler, 1979). Secondly, many researchers have proposed that expressions should operate as social signals that are important in fostering social relationships (Buck, 1975, 1977; Charlesworth, 1982; Darwin, 1872; Field & Walden, 1982). It is this second point that is most relevant to the present investigation.

A process for which observable facial patterns may have great significance is inter-individual communication. Buck (1981) states an evolutionary-based argument for this:

Given that emotion communication of a certain sort is adaptive to a species, individuals who show evidence of this emotional state more clearly in their external behaviors will tend to be favored, so that over the generations their behaviors will become ritualized into displays. (p. 131)

As social signals, emotional expressions are important in the infant-caregiver and other social relationships. As early as 1872, Darwin suggested that facial expressions were the first means of communication between the mother and the infant. This close connection between affect expression and its communicative impact on another's behavior is supported by observations of mother-infant interactions (Malatesta & Haviland, 1982). This research focused on nonverbal dyadic communication between mothers and infants during face-to-face play, and concluded that the mother's nonverbal language was rich in emotional expressivity, contextually meaningful, and contingent on the infant's ongoing behavior. In addition, infants were differentially responsive to such messages. Other investigations have provided results consistent with the idea of social regulation by means of children's monitoring of others' facial expressions (e.g., Klinnert, Campos, Sorce, Emde, & Svejda, 1982).

The link between affect expression and its communicative impact on another's behavior has led to research in which the relation between children's facial expressivity and social interpersonal skills has been investigated. Some of the early work on facial expressivity indicated that there was a relation between nonverbal behavior and certain personality and behavioral traits potentially related to social skills. In preschoolers, an individual's ability to send accurate and appropriate nonverbal messages to others (sending accuracy) was

positively correlated with having friends, high activity level, measures of extraversion and hostility expression, and was negatively correlated with measures of cooperation, emotional control and solitary play (Buck, 1975, 1977). Interestingly, it thus appears that children's sending accuracy can be related to a number of characteristics that might reflect positive as well as negative aspects of social relationships, the latter evidenced by findings of positive correlations between measures of expressivity and children's bossiness, impulsivity, aggressiveness, and low cooperation. These relations found by Buck between teachers' ratings of children's social behaviors and children's accurate communication of affect (i.e., abilities to produce facial expressions which were accurately identified by adult judges) led him to propose an externalizer-internalizer typological model, in which the expressive, outgoing, impulsive child was contrasted with the less expressive, inhibited and responsible child. Thus, emotional expressivity was being linked to sociability, with highly expressive children judged to be highly social in their behaviors, regardless of the positive and negative features of such sociability.

Similarly, Eysenck (1967) noted that facially expressive adults showed low levels of physiological responses, rated themselves as more extraverted, had higher thresholds for stimulation, and were more difficult to condition. Eysenck labelled such individuals as extraverted, in contrast to introverts, who were less facially expressive, less extraverted,

and showed higher levels of physiological responses.

More recently, Field (1982) rated infants' expressivity on a 5 point Likert-type scale (ranging from 1=not expressive to 5=extremely expressive). Infants were divided into high and low expressive groups by a median split. These groups were then observed for differences on a variety of measures. The data suggested that highly expressive infants were more socially responsive during the social interaction items on the Brazelton scale (Brazelton, 1973), and were more modulated or less irritable in their responses to stimulation during administration of the Brazelton scale. This group also showed a greater incidence of facial and imitative expressions which were correctly judged by adults. Significant differences between the two groups in their attentiveness, responsivity to social stimulation, autonomic reactivity, and sending accuracy were also evident, leading Field to conclude that expressive children begin life with the advantage of being socially responsive, which contributes to better interactions with their parents.

Studies by Field and Walden (1982) and Buck (1975, 1977) suggest that expressivity may be socially advantageous not only in infancy, but also in the preschool years. Conclusions from these studies suggest that preschoolers who are more expressive, assessed as 'sending accuracy' are also more popular and experience more positive interactions with peers, as measured by teachers' and classmates' ratings.

Concern with the communicative function of affective expressivity thus has led to one operationalization of expressivity as the 'accuracy' with which others, primarily adults, have been able to match their ratings of the child's facial expression with the child's own reported feeling. Whereas such measures may assess the accuracy with which children can communicate or express different facial expressions, they ignore how facial expressivity operates naturalistically and how it may provide information about a child's expressive responsivity to another person. They also generally use adults as judges both of children's expressivity and popularity. In terms of fostering social relationships in general, or likeability in particular, the informational value of facial expressivity may not be related to tasks requiring accuracy in matching facial expressions, but rather to measures of actual expressive responsivity to social stimuli.

Few studies have attempted to assess such expressive responsivity in response to social stimuli. In their 1982 study, Field and Walden included a measure of preschoolers' spontaneous facial expressivity during free play. This measure of spontaneous expressivity was not significantly related to their primary measure of expressivity which assessed children's ability to imitate facial expressions under various conditions. Scoring of the primary measure was based on adults' and children's ability accurately to judge the expression posed. Because of this lack of association between the naturalistic



measure of facial expressivity and the measure assessing children's ability to imitate or pose facial expressions, the findings of this study inadvertently question the ecological validity of using such measures as these as the primary measures of expressivity.

Although naturalistic studies of children's spontaneous expressive behavior are considered ideal (Charlesworth, 1982), they are infrequently conducted. To some researchers the disadvantages seem to far outweigh the advantages. The advantages and disadvantages to assessments of expressivity in a naturalistic setting are clear. Buck (1975) states:

nonverbal behavior occurs in a complex flow, and the meaning of a particular response is often dependent upon the behaviors preceding and following it, as well as on the situational context. It is impossible to obtain an absolute measure of expressiveness. (p. 644)

In response to Buck's statement one could argue that the 'meaning' of a response is not necessarily an important issue in a measure of absolute expressivity. If expressivity operates to indicate responsiveness to another, as Field and Walden (1982) have suggested, the meaning of the facial expression may be less influential than the frequency of occurrence. The concern with situational context is valid because the range of expressive behaviors a child has the opportunity to display in a natural setting is constrained. There does not appear to be a solution for this problem. An additional problem is that the expressive level of the child being interacted with may affect the focal child's expressivity. For example, if interacting with a highly

expressive child, the focal child may increase his or her own level of expressivity in response to the highly expressive other. Therefore, what is needed is a measure of naturally occurring expressivity that takes into account the level of expressivity of each of the participants independently of a social interaction.

Alongside these disadvantages, the advantages of obtaining a naturalistic measure of children's expressivity are also apparent. Studies of expressions occurring in a naturalistic manner emphasize not only the communicative aspect of facial expressivity but also the social consequences of facial expressivity. Additionally, one could question whether the expressivity measures previously used, those which asked children to pose or imitate expression and/or which coded for accuracy or appropriateness of match, are as relevant to the socially regulative function of expressivity as is spontaneous expressivity measured during naturalistic social interaction.

Ideally, a study of expressivity should include two measures of facial expressivity. One would be an absolute measure of facial expressivity, in which a child's facial expressivity can be sampled both independently of the reciprocal effects of others and across a wide range of emotions. Although much hypothesizing has been generated regarding a positive relation between absolute expressivity and social functioning, the studies that have been conducted in this area have not provided sufficient empirical data to support this relation. The primary

reason for this is that researchers in this area have not been able to find a means of assessing children's absolute facial expressivity.

A procedure developed by Strayer (1985) for use in examining children's emotional and empathic development may prove useful for assessing children's absolute facial expressivity. In this procedure children view a videotape consisting of a series of affectively-evocative vignettes of adults and children in emotional interactions. Characters are actively engaged in interactional situations. Children's faces are videorecorded while they view such stimuli, and are later analyzed for expressiveness shown.

The second useful expressivity measure would assess spontaneous facial expressivity occurring naturally during social interaction, and which necessarily seems interdependent with others' expressivity. This method of assessing expressivity is not new and has been used in previous research (Field & Walden, 1982). However, in order to offset the problem of the interdependency of a child's facial expressivity with others in the group, all children interacting in a play session can be considered participants. The facial expressivity of all the children can be recorded, and children's naturally occurring spontaneous expressions can be viewed in relation to others in the group. These above two methods of assessing a child's expressivity will be examined and later described pertaining to the present research project.

Given these proposals for more valid ways of measuring children's expressivity, the question of whether spontaneous facial expressivity is socially advantageous remains. Typically, this has been measured using teachers' ratings or peers' sociometric ratings; however, it is necessary to attempt to isolate expressivity from other variables such as already established perceptions of a child's intellectual, social or economic status. For example, in Buck's studies (1975, 1977) sociometric ratings of children were done by teachers. Similarly, in the study by Field and Walden (1982) ratings were done by teachers and peers from the same school class who knew each other. It is therefore unlikely that teachers' ratings or familiar peers' rankings were made without regard for other factors such as perceptions of who was, or was not, smart, or liked by others, as well as other variables related to social and economic status.

Such ratings made by teachers or familiar peers are likely to confound the effects facial expressivity may have on fostering social interactions with the effects of other variables. Whereas such factors may be important in terms of a child's long-term social functioning, they are less likely to be implicated in rankings made after an initial social interaction. Therefore, in a study focusing on the relation of children's facial expressivity to their likeability, it seems advisable to obtain rankings from peers who just recently have met and played together, and from adults previously unfamiliar with the

children.

In contrast to previous studies, in this study peers' sociometric rankings of children's likeability and adults' rankings of children on social variables were based on children's playgroup social functioning, and were obtained from individuals who were initially unfamiliar with, and thus had no pre-conceived ideas about, those whom they ranked.

### The Present Study

In the present study I attempted to extend research on children's expressivity by examining the relation of two measures of young children's expressivity to peer rankings of their likeability. According to Izard and Dougherty (1982), children's facial expressions provide a set of social signals that are important in fostering social relationships. This, along with the earlier stated conclusions of Buck (1975, 1977) and Field and Walden (1982) regarding the sociability of expressive children, leads one to expect that children's facial expressivity will be related to their judged likeability by recently acquainted peers. However, as important as expressions may be for social signalling functions, the unidirectional relation they are suggested to have with sociability in general, and likeability, in particular, is questionable and needs further study. It thus becomes particularly important both to examine children's expressivity to a wide range of emotional

stimuli and as social signals in peer interaction, and to assess the relation of such expressivity to peers' rankings of children's likeability.

It should also be noted that although expressivity may lead to the appearance of many friends, as suggested by earlier studies (Buck, 1975, 1977; Field & Walden, 1982), it may not be a factor in the formation of more intimate, long lasting friendships. Intuitively, it seems that as social relationships develop, such things as perceived similarity of attitudes, habits, and personality variables would become more important factors in keeping friends. It is possible that any social advantage of facial expressivity may operate particularly in the initial stage of social interaction, before other variables become more influential, and because such expressions communicate and provide information to spectators which may help regulate their social interactions with the expressor. With this in mind, the relation between children's facial expressivity and social likeability was assessed in this study for unfamiliar children after they had spent 40 minutes together in group social interaction.

Assessments of young children's expressivity were made in two different conditions. The first measure of children's expressivity, obtained while they participated in an earlier study (Strayer, 1985), was based on children's facial-gestural responses, videotaped while they viewed emotionally evocative film segments in a semi-private condition. The second measure of

expressivity, obtained in the present study, was based on trained coders' recordings of children's facial expressions during a session in which same-sex groups of four children met in play sessions. The first method of assessing expressivity provides an 'absolute', or noninteractional, measure of a child's expressivity level. The second method provides information on whether the expressive behavior that occurs spontaneously in a real-life situation relates significantly to peers' social judgments.

It is possible that the measure of expressivity obtained in a semi-private TV viewing situation may not be as related to the communicative function of facial expressions as is expressivity in a naturalistic social situation. On the other hand, expressivity may, to a large extent, be an involuntary behavior, especially for this age group, and may operate similarly in both conditions. The relation of these two expressivity variables remains a question to be examined.

The age group participating in the present study was selected because I believed that such young children would be less capable than older children of inhibiting or simulating their spontaneous facial expressions. According to Ekman and Friesen (1974), changes in facial expression may be less revealing in older children because people are socialized to mask their true feelings, and this is best accomplished by means of controlling one's facial responses. With increasing age the child becomes more sensitive to the social consequences of being

observed and will become more adept at simulation or suppression of affectively expressive behavior. In addition, the role of facial activity is likely to change as a result of cognitive development and the consequent ability for mental representation, which may result in a diminution of suppression of facial patterns as the individual approaches late childhood or adolescence (Charlesworth & Kreutzer, 1973). The spontaneity of young children, their limited cognitive control over affect, and the brief time given them to get to know each other may maximize any relation which may be present between their expressivity and peers' rankings of their likeability.

Children's likeability was assessed by sociometric rankings conducted immediately after the play session. Each child was shown photographs of the three other children in the play group and was asked to point to the child he or she liked to play with and be with most, second, and least. This procedure, which uses photographs of children and asks about preferences of peers for play, is similar to that recommended by Asher, Singleton, Tinsley, and Hymel (1979), and has been shown to improve substantially the reliability of young children's sociometric ratings.

Although both Buck (1975, 1977) and Field and Walden (1982) have reported positive relations between expressivity and positive social acceptance, there are several problems with the manner in which both expressivity and likeability were assessed in these studies. As mentioned earlier, all of these studies



used a child's ability to produce or imitate facial expressions, and the validity of this method of assessing expressivity is questionable. In the one study which did include a measure of naturalistic expressivity (Field & Walden, 1982), there was no relation found between the naturalistic measure and either the measure of a child's ability voluntarily to produce facial expressions or the classmates' sociometric ratings of their likeability. In addition, all of these studies have used familiar peers or teachers to assess a child's sociometric status. Therefore, it does not appear that these studies have adequately examined the relation between children's expressivity and sociometric status. In this study, given very different methods of assessing expressivity as well as a more direct assessment of children's immediate peer likeability, the relation of expressivity to likeability can be put to more extended test.

In addition to examining the relation between peer rankings of likeability and the expressivity measures, adult rankings of the children's likeability or appeal will also be examined. In this study, after the playgroup session, the adult coders were asked to complete a questionnaire in which they ranked the children in terms of how much each child appealed to them. Comparison of adult and child rankings of the same children should provide information regarding whether findings using teachers or other adults as assessors of children's social characteristics can be generalized to children's own judgments

of their peers. It is not expected that the child and adult ratings will be related, because adults are expected to base their selections on more cognitively sophisticated considerations, including personality characteristics of the children, than are young children, who are expected to be more influenced by overt characteristics of their peers.

The adult coders also ranked the children of each playgroup on characteristics of bossiness and social competence. Bossiness was defined as a child's tendency to take over and control many social interactions. In light of Buck's (1975, 1977) findings which suggest that expressive children possess seemingly negative as well as positive social qualities, this variable was included. The relation of bossiness to the expressivity measures used in the present study or to peer rankings of likeability remains a question to be examined. In this study social competence was defined as a child's success in initiating and maintaining social interactions. As was the case for bossiness, this ranking of children's competence was based on each child's performance within the play session. This variable was included, given the findings of the earlier mentioned research which has suggested that expressive children are better received by their peers (Buck, 1975; Field & Walden, 1982); however, the relation of social competence to the expressivity measures used in this study or to likeability, assessed by recently acquainted peers, remains to be examined.

Social perspective taking ability was also assessed because it has been shown to relate to the quality of children's social interactions (Rubin, 1982; Selman, Schorin, Stone, & Phelps, 1983). The social perspective taking task used in the present study assesses a child's understanding of the feelings of others. According to Selman and colleagues (1983), "whether or not a child interacts with others in such a way as to convey to them that he or she considers their perspective will likely influence the quality of social interaction" (p. 83). The relation of this ability to the two measures of expressivity and to likeability will be examined. No directional hypotheses are proposed because it is possible that children's perspective-taking abilities would only influence children's social success in the long run, as friendships develop over time.

Another variable that will be examined is the relation of children's verbal IQ to both expressivity and likeability. According to Field & Walden (1982, p. 1311), "the child who is brighter [may be] naturally expressive and more popular among children". Field and Walden (1982) found that teachers' and peers' ratings of children were significantly correlated, and that both kinds of ratings were significantly correlated with intelligence. However, the positive relation between these variables may have been found because both teachers and classmates share information about the child on other variables including school performance. Because of this, it seems

worthwhile to examine the relation of the variables of expressivity and likeability to a measure of intelligence (in the present study, verbal IQ), and to each other, with the effects of intelligence controlled.

## CHAPTER II

### METHOD

#### Subjects

Children who participated in this study were part of an earlier research project being conducted by Dr. J. Strayer at Simon Fraser University. They had been recruited through local newspaper and radio advertisements. Their participation in the present study was obtained through letters of request sent to the parents. Informed consent was obtained from parents of 26 of the original 34 children who were paid ten dollars for their participation. There were 13 girls (mean age = 73.39 months, range = 60-80 months), and 13 boys (mean age = 72.77 months, range = 64-79 months).

Mothers of girls reported an average of 13.92 years of schooling (range = 12-20 years) with 7 out of 13 having post-secondary education. Fathers of girls reported an average of 12.15 years of schooling (range = 10-20 years) with 4 of the 13 having post-secondary education. Five of the mothers and all of the fathers were employed.

Mothers of boys reported an average of 11.92 years of schooling (range = 10-18 years) with 3 of the 13 having post-secondary education. Fathers of boys reported an average of 12.91 years of schooling (range = 10-20 years) with 6 of the 13 having post-secondary education. One mother and all but one

father were employed.

### Materials and Scoring

#### *Expressivity in Response to Affectively-Evocative Videotapes*

This measure of children's affective expressivity was obtained four to eight months prior to the onset of the present study, while the children were participating in an earlier study (Strayer, 1985). Children's facial expressions were videotaped while they viewed a 38-minute series of emotionally evocative film segments. There was one warm-up animation story set to music, and 15 vignettes depicting children and/or adults in emotional situations (See Appendix A for a description of the vignettes). The vignettes were selected to depict the six primary emotions of happiness, sadness, anger, fear, surprise, and disgust.

A total of six coders were familiarized with Ekman and Friesen's (1974) and Izard's (1979) descriptions and pictorial representations of the primary emotional expressions. For each 10-second unit of videotape (total units for each child = 197) two of the six coders rated randomly chosen children's expressions on a 7-point scale ranging from +3 to -3. Ratings were described as follows:

+3 = definitely euphoric, a pleasant expression, which is sustained during most of the coding unit; fairly "gross" and prototypical (cf., Ekman & Friesen, 1974; Izard, 1978) facial movements of joy.

+2 = definitely euphoric, a pleasant expression, but present for a minor portion of the 10-second interval

and/or flickering (on and off) during the interval.

+1 = more subtle expressions, apparently pleasant, but not quite sure whether more euphoric or neutral.

0 = neutral expression.

-1 = subtle expressions, apparently unpleasant, but not quite sure whether more dysphoric or neutral.

-2 = definitely dysphoric, an unpleasant expression, but present for a minor portion of the 10-second interval and/or flickering (on and off) during the interval.

-3 = definitely dysphoric, an unpleasant expression, which is sustained during most of the coding unit; prototypical movements of any dysphoric emotion (e.g., sadness, fear, anger).

Some behavioral 'signs' of euphoria included smiles and leaning forward with eyes wide and relaxed. Some signs of dysphoria were grimaces, numerous eyeblinks, eye/gaze aversion, and tension around the mouth.

Reliabilities were computed for a random sample of 13 children. The mean reliability was 85.8%, based on frequency of agreement divided by frequency of agreement plus disagreement across two raters (Strayer, 1985).

The expressivity score used in this study was the Absolute Affect score, that is, the total amount of emotion expressed, regardless of its positive or negative valence, across the 10-second units. This score was used in the present study to assess the differences between individuals in absolute levels of expressivity.

The maximum score a child could obtain on this measure was 591, that is, if the child's face continuously displayed a -3 or

a +3 expression across all units. The expressivity scores obtained for girls ranged from 78.50 to 231.00 ( $\underline{M}$  = 175.62,  $\underline{SD}$  = 49.02). The range for boys was 46.50 to 231.00 ( $\underline{M}$  = 137.96,  $\underline{SD}$  = 65.50). The difference between the mean levels of expressivity for girls and boys was tested,  $t(24) = -1.68$ ,  $p < .10$ , two-tailed.

#### *Expressivity in Response to Naturalistic Playgroup Interactions*

Expressivity was also measured in the present study, in a naturalistic context during the play session. Children were randomly assigned to three groups, each consisting of four same-sex peers. A fourth group of boys and a fourth group of girls each consisted of the 13th boy and girl and one child from each of the other three groups. This allowed for use of the odd child. Because three children in each group had already participated in earlier, though different, play group sessions, the only scores used from these fourth groups were the ones obtained for the new child. Two coders observed each child in alternating 10-second intervals (i.e., observe for 10 seconds, record for 10 seconds) for 60 seconds, eight to ten times throughout the course of the session. The two coders alternated 10-second periods with each other so that each child was observed continuously for 60 seconds each time. Children were identified to coders by numbers assigned to them by the coders before coding began. There was a total of 8 to 10 minutes of coded behavioral observations per child. Children's freeplay expressivity scores were equated by the use of proportions based



on frequencies adjusted for time observed. Children were visible to coders who were located in separate observation rooms equipped with TV monitors and one-way mirrors into the play room. These coders recorded the focal child's expression into five categories: 1. neutral/none; 2. positive - happy, interested, excited, surprised; 3. angry; 4. distressed/sad; and 5. concerned/worried. Any number of categories could be scored in any 10-second interval. Other behaviors were also recorded, including the occurrence of physical aggression and other antisocial behaviors (e.g., verbal threats, refusal of requests etc.). This behavioral category was selected as of particular interest to the present study because of Buck's (1975, 1977) findings that children who were highly expressive could also be aggressive and uncooperative as well as very sociable.

Reliabilities were computed for a random sample of 8 children. The mean reliability was 91%, based on frequency of agreement divided by frequency of agreement plus disagreement across two raters.

Children's naturalistic expressivity scores were scored as a sum of all the expressions they displayed (excluding neutral), regardless of positive or negative valence. The expressivity scores adjusted for time observed ranged from 3 to 67 ( $M = 39$ ) for girls. The range for boys was 11 to 74 ( $M = 39$ ). The expressivity scores were converted to standard scores (based on group means and standard deviations) in order to group the data from the different playgroups.

Consistent with the findings of previous research (Field & Walden, 1982) the majority of facial expressions observed during the play session were positive for both boys and girls. Consistent with sex-role socialization expectations (Hoffman, 1977) angry facial expressions were displayed by more boys ( $n = 11$ , total angry expressions = 51) than girls ( $n = 4$ , total angry expressions = 31). In addition, more boys displayed aggressive behaviors ( $n = 9$ ,  $M(9) = 10.33$ ) than did girls ( $n = 3$ ,  $M(3) = 1.66$ ). There were also more boys ( $n = 11$ ,  $M(11) = 11.00$ ) displaying antisocial behaviors (defined on previous page) than girls ( $n = 8$ ,  $M(8) = 6.75$ ).

#### *Social Perspective-taking Task (SPTT)*

Selman and Jaquette (1977), in the manual accompanying the measure of perspective taking used in the present study report reliabilities based on several studies with elementary school children from grades two to six. Test-retest reliability correlations ranged from .61 to .92 (over 2 to 6 months), inter-rater reliabilities ranged from .87 to .97, and alternate form reliability was .88.

The "Puppy Story" was used to measure these children's perspective-taking ability. This story, taken from the manual compiled by Selman and Jaquette (1977), is recommended by them for children under the age of nine or ten. When administered to girls, the names in the story were changed to names of girls. The story reads as follows:

Tom has just saved some money to buy Mike Hunter a birthday present. Tom tells Greg that Mike is sad these days because Mike's dog Pepper ran away. They see Mike and decide to try to find out what Mike wants without asking him right off. After talking to Mike for awhile the kids realize that Mike is really sad because of his lost dog. When Greg suggests he get a new dog, Mike says he can't just get a new dog and have things be the same. Then Mike leaves to run some errands. As Mike's friends shop some more they see a puppy for sale in the pet store. It is the last one left. The owner says that the puppy will probably be sold by tomorrow. Tom and Greg discuss whether to get Mike the puppy. Tom has to decide right away. What do you think Tom will do?

A series of questions provided in the manual were asked and each child's responses were analyzed and scored according to the procedure given in the manual (See Appendix B for the list of questions). Each scoreable response to the questions was given a single stage score according to the highest reliable stage it represented, as identified by comparing the response with the descriptions offered in the manual. Based on their scores on this measure, children were given perspective-taking stage scores which could range from 0 to 4 (13 stage scores are possible when transition stages are included) in terms of their awareness of others. The stage scoring progresses from characterizing others as physical entities (stage 0), to characterizing persons by their intentions or motives (stage 1), to viewing persons as self-reflective (stage 2), to regarding persons as stable in personality (stage 3), and finally to viewing persons as complex self-systems (stage 4).

The mean stage score obtained for each of girls and boys in this study was a transition stage between 0 and 1. The range of

scores was somewhat greater for boys (six different scores, including transition scores, were observed, from 0 to 2), than for girls (only four different scores were observed, from 0 to 1).

Reliabilities for scoring of present children's responses were obtained for a random sample of seven children. The mean reliability was 81%, based on frequency of agreement on each scoreable response divided by frequency of agreement plus disagreement across two raters.

#### *Peabody Picture Vocabulary Test-Revised*

The measure of verbal ability used in the present study was the Peabody Picture Vocabulary Test (Dunn & Dunn, 1981), an individually administered, norm-referenced test of vocabulary comprehension. The L form was used, which contains 175 items arranged in order of increasing difficulty. Each item has four black-and-white illustrations arranged in multiple-choice format. The child's task is to select the picture which best fits the meaning of the stimulus word presented orally by the examiner. Raw scores were converted to age-referenced norms provided by the manual.

The range of scores for girls' verbal ability was 97.00 to 136.00 ( $\underline{M}$  = 115.85,  $\underline{SD}$  = 12.55). For boys the range was 92.00 to 127.00 ( $\underline{M}$  = 110.00,  $\underline{SD}$  = 13.33).

### *Likeability*

Children's likeability was assessed by means of peers' rankings. After the play session, children individually were shown polaroid photographs of the three other children in their group. Each child was asked to rank the other children in terms of whom he or she liked to play with and be with the most, whom he or she liked next, and whom he or she liked in third place. Each child being rated received a score (1 = least liked, 2 = second-most liked, and 3 = most liked) from each of the three other children who did the ranking. These scores were summed and used as the child's likeability score. This score could range from 3 (all of the other children in the group ranked this child as least preferred) to 9 (all of the other children ranked this child as most preferred).

### *Bossiness, Competence, and Appeal*

After the play session was completed, the two adult coders were asked to complete a brief questionnaire in which they ranked the four children they had observed, with regard to the child's bossiness, or tendency to take over and control many interactions; competence, or success in initiating and maintaining social interactions; and the child's appeal to them. Similarly to peers' rankings, already described, children's scores on these adult-based rankings were summed across the two coders. These scores could range from 2 (child was ranked in last position by both coders) to 8 (child was ranked in first

position by both coders) (See appendix C for a copy of this questionnaire).

## Settings and Procedures

### *Setting for Viewing of Stimulus Videotapes*

While participating in an earlier study, children viewed the videotapes in a carpeted 5.2 x 6.0 metre observation room in the psychology department of Simon Fraser University. The child sat in a comfortable chair facing a TV monitor. The child's facial expressions were recorded by an unobtrusive camera facing him or her. Instructions to children were as follows, "O.K. I think we're ready to start now. What you're going to see on TV is a whole bunch of short stories. Before each one begins, you'll hear a sound--like a whistle or a beep--which tells you the story is about to start. I'll be sitting at the table over there (gestures) doing some work. So I'd like you to sit back, relax, and pay attention to the TV." The experimenter remained in the room in order to facilitate young children's relaxation in these new surroundings. (Strayer, 1985)

### *Playgroup Setting*

The play session in the present study was conducted in the same room as the videotape viewing session. This room was equipped with four partially-hidden cameras, and one-way mirrors on three of the four walls. The fourth wall had a mirror, approximately 18 inches wide, running the full length of wall,

at the level of the children's faces. When facing this wall, children's faces could be clearly seen in the reflection of the mirror. Around the periphery of the room chairs had been lined up against the walls in order to keep children's activities within camera range, and to prevent them from peering through the mirrors into the control room. In the center of the room, boxes of toys were located on low tables and benches. The boxes contained a wide variety of toys, such as, blocks, dolls, clothing, hats, wigs, trucks, cars, empty food boxes etc.

A table was located against a wall near the door. This is where a nonparticipating experimenter sat throughout the play session. This adult was independently occupied, but present in the room in case immediate intervention was required (it never was).

Children met in free-play groups of four same-sex peers. When parents arrived with their children, they were escorted to separate waiting rooms so that children's opportunities to become familiar with one another before the play session would be minimized. When all four children had arrived, they were taken to the playroom by a familiar experimenter (based on their participation in the earlier project), briefly introduced, and their photographs were taken.

They were told, "I have some work to do here at this table. You can play with any of the toys you want to". Any questions children may have had were answered, and the experimenter then

left the room briefly in order to have copies made of the polaroid photographs. When she returned, she remained sitting at the table, reading.

After the children played for approximately 40 minutes, three research assistants entered the room, were introduced as friends of the experimenter, and were familiarized by sitting together with the children and conversing briefly with them about their play. Each child left with an assistant and was interviewed individually about his or her peer preferences.

Children then returned to the play room and were shown the control room and the videotape made of their play session. The children were paid ten dollars and thanked for their participation, then left with their parents.



## CHAPTER III

### RESULTS

Results will deal with three main sources of data: 1) Pearson correlations of each child's rankings of peers with rankings based on the absolute expressive levels of the other children; 2) Pearson correlations of the relation of the two expressivity measures (i.e., responses to videotaped stimuli and in the playgroup) to each other, and to likeability; and the relation of these three variables to other variables using child data such as age, verbal ability, and perspective taking; and 3) Pearson correlations of the relations of the two expressivity measures and likeability to other variables using adult reports concerning a child's bossiness, competence in social interactions, and appeal to adults.

Partial correlations will also be examined, in which the effects of the child variables of age and verbal ability will be statistically removed. This will allow for the control of possible confounding effects.

#### Child likeability - absolute expressivity correlations

The relation between a child's facial expressivity, measured in the videotape viewing condition, and peer rankings of his or her likeability was examined by comparing the rankings obtained in the present study with rankings based on absolute

expressivity. These rankings were based on previous research (e.g., Buck, 1975, 1977) and examined the possibility that expressivity and likeability might be positively correlated, with highly expressive children ranked highest in likeability and progressively less expressive children receiving progressively lower likeability rankings. Pearson correlations were used to analyze the children's rankings at three levels: a) for each individual, b) for each group, and c) across all same-sex groups.

#### *Level of the Individual*

At the individual level the question addressed was whether the children were ranking their peers according to their absolute expressive level. The rankings of likeability obtained from each child were compared with the rankings one might expect them to obtain if their judgments were based on the absolute expressive levels of the other children. For example, if researchers like Buck are correct, the child in each group with the highest expressivity score should be most liked, that is, ranked highest by the other children in the group. The child with the second highest expressivity score should be ranked second in likeability, and so on. There were six possible orders in which a child could rank the remaining three children, and four correlation coefficients that could be obtained. A ranking order of 3, 2, 1 indicates that the child ranked the other children's likeability in the same order as their expressivity, that is from highest to lowest, and this would receive a

correlational value of +1.00. A ranking order of 1, 2, 3 indicates that the child ranked the other children's likeability in an order linearly opposite to their expressivity, and this would receive a correlational value of -1.00. The four remaining ranking combinations would receive a correlational value of either +.50 or -.50 depending on a positive or inverse order of relation. The extent to which each child ranked the other children according to their level of absolute expressivity is shown by correlations presented in Table 1.

Results shown in Table 1 suggest that the girls and the boys in this study obtained likeability rankings which generally did relate to their absolute expressivity; however, in a different manner according to gender. For 10 of the 13 girls the relation of judged likeability to absolute expressivity was positive. The mean correlation across all girls was  $r = .42$ . In contrast, the correlations for the boys were quite different. In contrast to girls, 10 of the 13 boys received negative correlations indicating that the more expressive boys were relatively less liked. The mean correlation across all boys was  $r = -.39$ . For boys, the children with the highest expressivity scores were least preferred.

#### *Level of the Group*

The question addressed at this level was whether or not the ranking behavior within each particular playgroup was related to children's absolute expressivity. In this analysis Pearson

Table 1

Correlations Between a Child's Ranking of Peers and Rankings based on  
Absolute Expressivity

Subject #	Girls	Boys
1	.50	-1.00
2	-.50	-1.00
3	-.50	-.50
4	1.00	-.50
5	-.50	-.50
6	.50	-.50
7	1.00	.50
8	1.00	1.00
9	1.00	-1.00
10	.50	-1.00
11	.50	-.50
12	.50	-.50
13	.50	.50

correlations were used to compare the totals of each child's obtained rankings (the sum of each child's rankings from each of three other children in the group) to rankings they would receive if children's judgments were based on the child's absolute expressivity. The totals for each child could range from 3 (child is placed in last position by all three children) to 9 (child is placed in first position by all three children). Table 2 shows the correlations obtained by groups of girls and boys. Results in Table 2 show that the previously observed difference regarding individual correlations for boys versus girls is again evident for group data. Groups composed of girls ranked highest those children who had the highest absolute expressivity scores, with positive correlations obtained for all groups; whereas groups composed of boys showed a reversal of this pattern, with negative correlations obtained for two of the three groups.

#### *Across Groups Level*

The third level of analysis was done across groups for each sex, comparing how the ranked totals (summed across groups) related to the absolute expressive levels of the children. The summary score was calculated by adding across groups the total rankings received by the children in each of the four possible positions, that is, highest to lowest in expressivity. This score could range from a high of 27 (everyone highest in expressivity within each group was ranked highest in likeability by the others in the group) to a low of 9 (everyone in this

Table 2

Correlations Between the Ranked Totals of a Group and the Ranked Totals based on Absolute Expressivity

Group	Girls	Boys
1	.12	-.80
2	.63	.14
3	.63	-.78

M (girls) = .46. M (boys) = -.48.

position in each group was ranked lowest by the others in the group). This comparison examined how children of varying expressive levels were ranked across all the groups. The correlation across the female groups was  $r = .57$  and across the male groups was  $r = -.82$ .

Regardless of the level of analysis, there appears to be a rather striking difference between males and females in their preferences for peers based on facial expressivity. Whereas girls tested in this situation seem to prefer expressive girls, boys seem to prefer other boys who are not expressive.

The previous analyses provided a strict comparison of the extent to which children based their judgments of peers on absolute expressivity levels. In these analyses the likeability rankings children received were compared to rankings of absolute expressivity, based on very small sample sizes ( $n = 3$  at the individual level, and  $n = 4$  at the group level). In addition, the obtained rankings had to be exactly the same or the exact reverse of the order suggested to obtain a correlational value greater than  $r = .50$  or less than  $r = -.50$ . Even if it could be expected that expressivity would be related to likeability, it seems unlikely that in ranking others children could be expected to distinguish between two children who have expressivity scores that differ only by a few points. This is, however, what is required in order to obtain a correlation greater than  $r = .50$  or less than  $r = -.50$  in the previous analyses. Therefore, a less stringent, more composite analysis was undertaken.

In the following analyses Pearson correlations were used to examine, across groups, boys' and girls' expressivity (in both the videotape-viewing and freeplay conditions), with regard to peer rankings of the child's likeability. The effects of other possibly relevant variables such as age, verbal ability, and perspective taking will also be examined.

#### Intercorrelations of Expressivity, Likeability and Child Data

In these analyses children were grouped by sex but without regard for playgroup. Because each playgroup had a different mean level of expressivity, children's expressivity scores were converted to standard scores, based on playgroup means and standard deviations. Likeability was assessed as the sum of the three rankings the child was given by the other children of the playgroup and could range from a low of 3 to a high of 9. Age was considered in terms of number of months, verbal ability in terms of the child's standard score on the Peabody Picture Vocabulary Test-Revised (PPVT) (Dunn & Dunn, 1981), and perspective taking was assessed as global score attained on the Social Perspective Taking Task (SPTT) (Selman & Jacquette, 1977).

Table 3 shows the complete correlation matrix for the variables of expressivity, likeability, age, verbal ability, and perspective taking for girls. The only significant findings in Table 3 are a positive correlation between girls' expressivity



Table 3

Intercorrelations Between Expressivity Measures, Likeability, and  
Child Data for Girls

Variables	<u>Complete Correlations</u>				
	2	3	4	5	6
1. Expressivity-video	.36	-.19	.69**	.34	.15
2. Expressivity-play		-.62*	.24	.07	-.24
3. SPTT			-.22	.05	.34
4. Likeability				.29	-.15
5. Age					-.36
6. Verbal ability					

<u>Partial Correlations</u>					
1. Expressivity-video	.50	-.39	.57+		
2. Expressivity-play		-.58+	.25		
3. SPTT			-.29		
4. Likeability					

+  $p < .10$ , two-tailed. \*  $p < .05$ , two-tailed. \*\*  $p < .01$ , two-tailed.

while viewing the videotape, and their peer-ranked likeability ( $r = .69, p < .01$ ); and a negative correlation between girls' naturalistic expressivity and perspective taking ( $r = -.62, p < .05$ ).

Table 3 also contains the partial correlations that remained between the two expressivity measures and likeability, for girls, after the effects of age and verbal ability were removed. The relations noted above decreased to levels suggesting only a trend ( $p < .10$ ) in both comparisons. These findings suggest that effects due to age and verbal ability likely contributed to the previous correlations obtained.

This same information is shown in Table 4 for boys. A significant positive relationship was obtained between the two expressivity measures ( $r = .66, p < .02$ ); however, peers' rankings of boys' likeability were not significantly related to either measure. In contrast to results for girls, boys' expressivity in freeplay was significantly positively related to perspective taking ( $r = .58, p < .05$ ), and to verbal ability as well ( $r = .63, p < .02$ ).

Table 4 also contains the partial correlations that remained between the two expressivity measures and likeability for boys, after the effects of age and verbal ability were controlled. The negative correlations between expressivity and likeability became substantially more negative. Peers' rankings of boys' likeability were negatively correlated with expressivity while

Table 4

Intercorrelations Between Expressivity Measures, Likeability, and Child Data for Boys

Variables	<u>Complete Correlations</u>				
	2	3	4	5	6
1. Expressivity-video	.66**	.51	-.38	.20	.43
2. Expressivity-play		.58*	-.12	.00	.63**
3. SPTT			.04	.41	.58*
4. Likeability				.25	.43
5. Age					.30
6. Verbal ability					

Variables	<u>Partial Correlations</u>		
	2	3	4
1. Expressivity-video	.60*	.35	-.71**
2. Expressivity-play		.77**	-.55+
3. SPTT			-.34
4. Likeability			

+  $p < .10$ , two-tailed. \*  $p < .05$ , two-tailed. \*\*  $p < .02$ , two-tailed.

viewing the videotape ( $r = -.71, p < .02$ ), and while interacting during freeplay ( $r = -.55, p < .10$ ).

### Intercorrelations of Expressivity, Likeability, and Adult Rankings

Other relations were examined between children's expressivity and likeability, and adult ratings of children on descriptions such as "tends to take over and control many interactions" (called "bossiness" in Tables 5 and 6), "successful in the initiation and maintenance of social interactions" (called "competence" in Tables 5 and 6), and "child's appeal to you" (called "appeal" in Tables 5 and 6). The complete correlation matrix for girls is shown in Table 5. The significant findings noted in Table 5 were a positive correlation of girls' naturalistic expressivity with bossiness ( $r = .58, p < .05$ ); and positive correlations of peers' rankings of girls' likeability with bossiness ( $r = .55, p < .05$ ) and with competence ( $r = .56, p < .05$ ).

Table 5 also contains the partial correlations for these variables when the effects of children's age and verbal ability were controlled. The significant correlations noted above decreased to  $p < .10$  levels when partial correlations were obtained. The relation between girls' bossiness and their likeability became nonsignificant.

Table 5

Intercorrelations Between Expressivity Measures, Likeability, and  
Adults' Rankings for Girls

Complete Correlations

Variables	Comp.	Appeal	Video	Play	Like	SPTT	Age	Verbal
1. Bossiness	.46	.04	.28	.58*	.55*	-.39	.28	-.46
2. Competence		.44	.45	.39	.56*	-.12	.04	.19
3. Appeal			.07	.09	-.09	.09	.11	.28

Partial Correlations

	Comp.	Appeal	Video	Play	Like	SPTT
1. Bossiness	.44	-.12	.37	.57+	.51	-.31
2. Competence		.41	.57+	.36	.59+	.05
3. Appeal			.01	.02	-.16	.21

+  $p < .10$ , two-tailed. \*  $p < .05$ , two-tailed.

Table 6 shows the complete correlation matrix for boys. Naturalistic expressivity was not correlated with any of the adult ranked variables. Boys' bossiness was significantly positively related to boys' competence ( $r = .69, p < .01$ ); however, in contrast to girls' results, peers' rankings of boys' likeability were significantly negatively correlated with bossiness ( $r = -.58, p < .05$ ).

When the effects of age and verbal ability were controlled, boys' bossiness was significantly positively related to their expressivity while viewing the videotape ( $r = .87, p < .001$ ), and significantly negatively related to peers' rankings of their likeability ( $r = -.78, p < .005$ ) (see Table 6).

Overall, the results of this study indicate that absolute facial expressivity, that is, expressivity measured in the videotape viewing condition, may be an important variable in children's judged likeability. The relation between absolute expressivity and likeability, for girls is positive across the analyses conducted, whereas for boys the relation is negative.

Table 6

Intercorrelations Between Expressivity Measures, Likeability, and Adults' Rankings for Boys

Complete Correlations

Variables	Comp.	Appeal	Video	Play	Like	SPTT	Age	Verbal
1. Bossiness	.69***	-.08	.51+	.00	-.58*	.08	.48	-.28
2. Competence		.26	.27	-.03	-.39	-.18	.16	-.13
3. Appeal			.08	.07	-.27	.09	.45	.04

Partial Correlations

	Comp.	Appeal	Video	Play	Like	SPTT
1. Bossiness	.72**	.32	.87****	.52+	-.78****	.17
2. Competence		.44	.35	.14	-.42	-.21
3. Appeal			.13	-.07	-.29	.27

+  $p < .10$ , two-tailed. \*  $p < .05$ , two-tailed. \*\*  $p < .02$ , two-tailed.

\*\*\*  $p < .01$ , two-tailed. \*\*\*\*  $p < .005$ , two-tailed.

## CHAPTER IV

### DISCUSSION

The only measure of expressivity that was related to sociometric status, or likeability, was the videotape-viewing measure, and this was true for girls and boys (in full and partial correlations, respectively). The naturalistic measure of expressivity for girls and boys was unrelated to sociometric status, as was also reported in previous research (Field & Walden, 1982).

Girls assessed as facially expressive in an independent measure of expressivity (i.e., responses to videotape stimuli) were the most liked by their peers, that is, they received the highest sociometric rankings for likeability from other girls in their playgroup. Consistent with theoretical predictions made by researchers such as Buck (1981), Field and Walden (1982), and Izard and Dougherty (1982), girls' expressivity may have helped to promote the initiation of social relationships.

In contrast to the results obtained for girls, the most expressive boys in this study were not considered to be the most likeable by their peers. Thus, it cannot be said that expressivity is positively related to likeability for children in general. Findings may depend on the measures of expressivity and of likeability used in different studies, as will be discussed later.



The picture that emerges of the expressive, yet bossy boy is somewhat like that of Buck's externalizer, who is described as expressive, bossy, extraverted, and uncooperative. Yet, such a child was reported by Buck (1975) also to have many friends. Whereas findings for the girls in the present study appear to be consistent with the findings of Buck linking expressivity and likeability (1975, 1977), findings for the boys in the present study are different in that boys' expressivity was negatively related to likeability. There are major procedural differences between the present study and those conducted by Buck which may help to account for differences in findings for boys. Nevertheless, they do not help clarify the gender differences obtained in the present study.

One major difference between this study and Buck's research is that expressive children were rated in Buck's studies as having many friends, which one presumes indicates that they were well liked, whereas in the present study the issue of their likeability was more directly assessed. It is possible that the difference between the findings of the two studies is that children's friendships were rated by teachers in Buck's study, whereas in the present study likeability rankings were done by same-sex peers. It is possible that the ease with which expressive boys may take over and control social interactions may lead observers, such as teachers, to equate 'extensiveness of social contacts' with their having many friends.

In contrast to the extensiveness of their social contacts, which may be accounted for by the ability of these boys to initiate and/or control interactions, they may not necessarily be the ones that other boys like most. This is consistent with the findings of Rubin (1982), which indicate that sociable children, those who initiated and received more social overtures than did their peers, did not receive higher sociometric ratings than socially withdrawn children. What was more important to their sociometric ranking was found to be the extent of their socially aggressive or inappropriate behaviors. Research findings indicate that the unpopular child was not less sociable or less friendly, but displayed more antisocial, disruptive, and inappropriate behaviors with children (Hartup, 1970).

This focus on type of social behavior, rather than sociability in general, may also help explain why bossiness was more acceptable in the girls' groups, yet was related to low sociometric status in the boys' groups. Attempting to control interactions may not be unacceptable, as long as it is not accompanied by antisocial or disruptive behaviors.

In this study, consistent with prediction, adults' selections of likeable children were unrelated to children's selections. This is in contrast to findings (Field & Walden, 1982) that teacher ratings of a child on the Buck Affect Expression Rating Scale for Children (Buck, 1977) were significantly positively related to classmates' sociometric ratings. Not only were teachers' and classmates' ratings

significantly positively related to each other in their study, they were both positively related to intelligence and age. In view of the fact that research has shown that praise from teachers directed towards individual students enhances these students' attractiveness to others (Hartup, 1970), it seems reasonable to conclude that the difference found in this study between adults' and children's ratings may be due to the fact that these raters did not share any prior knowledge about the children they were ranking. Additionally, peer liking was not significantly related to either boys' or girls' mental age, as assessed by the Peabody Picture Vocabulary Test (PPVT), providing further support for this suggestion.

When the effects of age and verbal ability were statistically controlled or held constant, the relationship of peer liking to both of the expressivity measures became substantially more negative for boys, indicating that the relationship between boys' expressivity and peer liking may be obscured by failure to control these variables.

The apparent contradiction between girls' and boys' peer rankings with regard to facial expressivity was unexpected. There are several suggestions that may be made to account for this finding. One explanation may be that differential socialization practices are responsible for children's different responses to expressivity in others. According to Malatesta and Haviland (1982) differential socialization of emotion expression may begin as early as infancy. They found mothers responded

differentially to expressions of male and female babies. Thus, by an early age, children could conceivably have received considerable socialization regarding use and appropriateness of facial expressions. There also seems to be general agreement that expressivity is considered to be more gender appropriate for females, whereas, except for the more male-appropriate displays of anger, males are generally encouraged to inhibit expressions of emotions (e.g., Grief, Alvarez, & Ulman, 1981; Hoffman, 1977). Consequently, expressive girls would be behaving in the expected manner, whereas expressive boys would not be. This explanation, based on the sex role appropriateness or inappropriateness of expressiveness may account for differences obtained in children's liking of others.

Although this is a plausible explanation, it is not clear that boys behaved in a manner contrary to sex-role socialization. Consistent with such socialization expectations, boys displayed more aggressive and antisocial behaviors, as well as more angry facial expressions during freeplay than did girls, for whom such behaviors or expressions were rarely observed. Play in the boys' groups was typically characterized by highly active games of fighting and adventure.

The key to the puzzle may be that gender stereotypical play actually may negatively affect young boys' relative likeability. Thus, both boys and girls may like best children who are nonaggressive, even though aggressivity may be more socially expected in boys' play. Given that aggressive behavior has been

associated with negative peer ratings (e.g., Hartup, Glazer, & Charlesworth, 1967), and has been found to elicit similar behavior in others (Vaughn & Waters, 1981), it seems reasonable that, because boys engaged more often in such behaviors and expressions, their likeability may have been negatively affected. Consequently, even though the more expressive boys may have been providing more information to their peers than those low in expressivity, the kind of information they provided may not have engendered liking.

The primary purpose of this study was to examine whether a relation between facial expressivity and peer liking existed within these groups of young children. The findings were that such a relation did exist, dependent on type of expressivity measure used and analyses conducted, but it operated as a positive one for girls and as a negative one for boys. Correlations cannot, of course, answer causal questions such as how or why such a relation might exist. Nevertheless, the following are possible explanations that have been suggested in the literature.

One explanation is that expressive faces provide information to observers or interactants about how one is feeling, and that this information is valuable in an uncertain situation in which people are getting to know one another (Izard & Dougherty, 1982; Klinnert et al., 1982). The findings of significant relations between absolute expressivity and likeability, regardless of the direction of correlation, suggest some support for this

explanation: expressivity information affects likeability

judgments.

It has furthermore been suggested that expressive faces signal responsiveness to another person which, in itself, may engender liking (Field & Walden, 1982). This was not, however, true for boys in this study. If facial expressivity functioned primarily to engender liking, then boys high in expressivity, regardless of its negative or positive valence, should have been preferred, and they were not.

The results of this study do suggest that the amount and intensity, and even more importantly, possibly the type of expression being displayed may affect peers' judgments of a child's likeability. Angry expressions, despite their low frequency relative to positive expressions, may carry more weight in terms of providing information to the receiver about possible negative consequences to follow. Camras (1977) reported that facial expressions play an important role in conflict encounters between children by apparently conveying information relating both to the subsequent behavior of the child who produces them and to the behavior of the child who observes them.

Expressivity does seem to be an important variable associated with children's social interactions. However, findings from the present study lead us to conclude that generalizations in this area are hazardous. Relations obtained

seem very much dependent upon types of measures used as well as upon different samples and sexes of children.

The videotape-viewing measure of children's spontaneous expressivity was significantly related to peers' sociometric rankings (in complete correlations for girls and in partial correlation for boys). Additionally, both measures of expressivity were significantly positively correlated for boys, but not for girls. The two measures of expressivity were also related to similar variables in the case of boys, in contrast to girls, for whom a different set of correlates was obtained for each expressivity measure. Therefore, there seem to be differences in what is being tapped by these two measures of expressivity, especially for girls, with the videotape-viewing measure of girls' expressivity seemingly better related than the freeplay measure to their likeability.

The videotape-viewing measure, in contrast to the naturalistic measure, also showed a higher (though inverse) correlation with boys' likeability. Therefore, this measure, whether it relates positively (as in the case of girls in this study) or negatively (as in the case of boys in this study), may be assessing the kind of information children are using in making their judgments.

One difference between the two measures of expressivity is that the absolute expressivity or videotape-viewing measure assesses the intensity as well as the frequency of a child's

facially expressive behavior, whereas the naturalistic measure is calculated only on frequency without regard for intensity. It may be that intensity of facial expressivity is an important variable to include in studies assessing the relation of children's expressivity to other variables.

In addition to differences in relations of expressivity to rankings of likeability for boys and girls, another interesting but perplexing difference between the sexes was the relation of social perspective taking to the measures of expressivity. For boys, freeplay expressivity was positively correlated with perspective taking; whereas for girls, perspective taking was negatively related to the freeplay measure. This difference found for the two sexes is surprising, and findings from this study do not provide an explanation for why such a difference might exist. It is possible that the difference found is due to some characteristic of either the particular sample of children, the particular perspective taking measure used, the expressivity measure used, or differences in the nature of naturalistic expressivity for boys and girls.

The present sample of children did not, however, seem unusual in their perspective taking scores. These scores were within the expected range given the children's age (Selman & Jaquette, 1977). Nor were there significant differences between boys' and girls' mean levels of perspective taking. It therefore seems anomalous that perspective taking should correlate negatively with girls' freeplay expressivity, but positively



with boys' freeplay expressivity.

Expressivity may operate differently for boys and girls, and this may account for the different correlates obtained for boys and girls in this sample. Expressivity may be associated with a more cognitive orientation for boys, that is, perhaps boys who are able to take the perspective of others are also better able to use their facial expressivity in a more deliberate manner. Whereas this reasoning may suggest that such boys should also be better liked by their peers, there is some support for the hypothesis that boys use facial expressions instrumentally to 'control' interactions (Zivin, 1977). If this is true, then it may help to explain why expressivity for boys was associated with taking over and controlling social interaction, and with low sociometric status.

Although the finding of a negative correlation between freeplay expressivity and perspective taking for girls is not, in itself, surprising, given that the only link between them is one based on the hypothesized relationship of each of these with social success, it is surprising that the relationship between these same variables was different for boys and girls. The reason or reasons for this difference remain unclear.

The small number of children in this study precludes adequate theory testing or even serious theory building. This study examined the relation of two measures of expressivity to children's likeability. Findings of this study suggest the

interesting possibility that although levels of expressivity may not differ significantly between the sexes, children's responses to this characteristic may differ. Whereas this research represents an initial step in the direction of understanding expressivity and its relation to likeability, and provides findings that highlight the importance of methodological differences in this and previous studies, further studies are needed to assess the generalizability of these findings. This seems particularly necessary in relation to the sex differences obtained but by no means fully accounted for in the present study. Although this study has raised more questions than it has answered, it may nevertheless serve as a guide for some directions to follow in a more extensive exploration of the relationship between expressivity and likeability.

In the past, obtaining a measure of children's absolute expressivity (i.e., expressivity independent of the social interactant's expressive relations to the expressor) has seemed an impossible obstacle to overcome (Buck, 1975; Charlesworth, 1982). The present measure of children's expressivity obtained while they viewed emotionally-evocative videotaped interactions of children and adults may prove to be a useful measure of children's level of "absolute" expressivity. This conclusion is supported by findings that this measure was significantly related to children's likeability, and that it was also significantly positively correlated with boys' naturalistic expressivity obtained in play session peer interactions. Other

aspects of the present study which helped to clarify the expressivity-likeability relationship were the use of unfamiliar peers, which allowed for more control over variables that might influence children's sociometric rankings, and the use of naturalistic expressivity scores that take into consideration the social expressive levels of all of the interactants.

In order to clarify how expressivity interacts with variables such as likeability, bossiness, or perspective taking in the long run versus in a brief social encounter, it would be interesting to compare sociometric ratings obtained after a play session consisting of unfamiliar peers to those obtained after the group had met on several occasions, and to ratings obtained from familiar others (e.g., the child's classmates). Although studies have examined these kinds of relationships either with familiar or unfamiliar peers, I am unaware of any investigations involving comparative data regarding both types of peers in relation to these these variables. It seems that before any conclusions can be drawn about the importance of variables such as facial expressivity to peer rankings of likeability one would want to assess how important such variables may be at different stages in the development of friendships. It seems, however, that study of the initial stage of social interaction would remain particularly important, given that what happens initially may determine whether or not a relationship or liking develops.

## APPENDIX A

### Description of the Stimulus Vignettes.

#### *Skates (from commercial film Our Vines have Tender Grapes)*

A young girl and young boy argue over taking turns on the girl's skates. The boy calls her names and threatens to tattle. She pushes him down and he runs crying to the girl's mother. The father arrives and the mother tells him to speak to the girl about this incident. The father believes the boy's story. The girl maintains her story in defiance of her father, who then sends her to bed without supper and gives the skates to the boy. The girl is shown crying (213 seconds).

#### *Newspaper (from Our Vines have Tender Grapes)*

The girl, shown whimpering and crying, entreats her father from her bedroom. He is reading in a room downstairs and resists her entreaties in favor of maintaining discipline. He appears restless and goes to the kitchen to talk to his wife, who tells him a circus is going to be passing through town at 4.00 a.m. (160 seconds).

#### *Circus (from Our Vines have Tender Grapes)*

The father and daughter go to see the circus pass. The girl wants to see some live animals. The father pays the trainer to let the elephant come out. The elephant performs some tricks. The girl is very excited and happy. Then the girl gets lifted up

by the elephant, on its trunk, and is put down soon after (320 seconds).

*Squirrel (from Our Vines have Tender Grapes)*

The girl and boy are walking along a country road, talking, when they see a squirrel. The girl throws a stone at it and surprises herself when the squirrel falls off the rock, dead. The girl cries while the boy offers some verbal consolation (90 seconds).

*Haunted House (from commercial film To Kill a Mockingbird)*

Two male children and one female sneak into a neighbour's yard at night-time. One boy climbs up some stairs to peer through a window in the house. A shadow appears, frightening the children. The shadow disappears and the children run away (296 seconds).

*Spilled Milk (from Twelve and a Half Cents, National Film Board)*

A husband and wife have a brief, angry interchange while their daughter is in the background watching TV. The man leaves and the woman calls the girl to the table for dinner. As the girl sits down, she knocks over a glass of milk. The mother gets very angry at her daughter (46 seconds).

*Phone call for Date (from commercial film Ordinary People)*

A teenage boy calls a girl for a date, after rehearsing what he will say to her (48 seconds).

*Date (from Ordinary People)*

The same teenage boy meets a girl in a coffee shop. They chat, giggle, and burst out laughing (44 seconds).

*Tube (from University of Victoria filmed experiment)*

A male narrates as preparations for two experiments are shown. One involves attaching electrodes to a man's neck and inserting a thermister in his ear. In the second, another man has a tube inserted through his nose down into his esophagus, while he drinks a glass of water (110 seconds).

*Jeannie (from Loved, Honoured and Bruised, National Film Board)*

A woman is shown standing and then a close-up of her face is on the screen as she talks about her relationship with an abusive husband (125 seconds).

*Accident (from Industrial Accident, National Film Board)*

A man trips over a pipe in a warehouse/factory setting and his arm gets caught in a machine. A facial close-up shows him grimacing in pain. An ambulance arrives to take him away (50 seconds).

*Canes (from I'll Find a Way, National Film Board)*

A young girl introduces herself and talks about her physiotherapy for spinabifida. The film shows her walking with canes and going up and down stairs, with the help of an adult female physiotherapist (110 seconds).

*Basketball (from I'll Find a Way)*

A girl narrates about how children in wheelchairs play basketball as the handicapped children are shown in the midst of a game (70 seconds).

*Immigrants (from Strangers at the Door, National Film Board)*

This film takes place at an Immigration hearing. The oldest daughter, who is about eight, and her family are told that the girl cannot stay in Canada because of illness, although the rest of the family are allowed to stay. The parents are both very upset and weeping. They say a tearful goodbye to their daughter, separated by a wire fence. An older woman assures them that she will take care of the girl (207 seconds).

*Laughing Woman (Home-made)*

A woman is laughing uncontrollably. She is trying to tell a story but her laughter makes the words almost indecipherable (40 seconds).

## APPENDIX B

Questions accompanying the Puppy Story, the measure of social perspective-taking.

### I. Subjectivity

- 1) How do you think Mike might have felt if Tom gave him the new puppy?
- 2) If Mike's smiling could still be sad, how is that possible? Could someone look happy on the outside, but be sad on the inside? How is that possible?
- 3) Could he feel happy and sad at the same time? Have you ever been in a situation where you felt happy and sad at the same time?
- 4) Could he feel both happy and sad about the new puppy? Could he have mixed feelings? How can feelings be mixed?
- 5) Can you ever know another's feelings? When?

### II. Self-reflection

- 1) Mike said he never wants to see another puppy again? Why did he say that?
- 2) Did he mean what he said? Can someone say something and not mean it? How?
- 3) Do you think Mike would change his mind later? Why? Is it possible that he doesn't know his own mind?
- 4) Might Mike feel guilty about losing his dog? Why? What is guilt anyway?
- 5) Is it possible that Mike doesn't know how he feels? How is that possible?



6) Is it possible to not know your own feelings, even if you think about them?

7) Did you ever think you'd feel one way and then find out you felt another? How could that happen? Can you ever fool yourself? How? What's the difference between fooling yourself and fooling somebody else?

### III. Conceptions of Personality

1) What kind of person do you think Tom is, the boy who had to decide whether or not to get Mike the puppy?

2) Was he a thoughtful (kind) person? What makes a person thoughtful (kind)? What do you think makes someone become a thoughtful (kind) person?

3) What kind of person is Mike if he doesn't care if the dog is lost? Can you tell what kind of person someone is from a situation like this? How does one get to know someone else's personality? What is a personality? Can someone have more than one personality?

4) Do you think Tom will lose self-esteem if he gets Mike a puppy and he doesn't like it? Why? Does one's self-esteem have anything to do with what kind of person you are?

### IV. Personality Change

1) What do you think it will take to change the way Mike feels about losing his old dog Pepper? How long will it take him to get over it? Why? What will it take to make him happy again?

2) If Mike had been older, say 18, do you think he would have acted the same way about losing his dog? Why? How does being older change the way a person acts?

3) If Mike is usually an unhappy kid now, what will he be like when he grows up? Do you think he will change or stay the same?

How do people usually change as they get older?

4) If you were Mike's friend, what would you do to help him get over his lost dog? Anything besides buying him another dog? What might you say to him?

APPENDIX C

PLEASE RANK ORDER THE CHILDREN IN THE PLAYGROUP ON THE FOLLOWING

ATTRIBUTES:

BOSSINESS — child took over and controlled many interactions.

4 = very bossy

1 = not bossy, child needed to be encouraged to participate

Child	Rank
_____	_____
_____	_____
_____	_____
_____	_____

COMPETENCE — successful in the initiation and maintenance of social interaction.

4 = very competent, confident, at ease

1 = not competent, unsuccessful attempts to socialize

Child	Rank
_____	_____
_____	_____
_____	_____
_____	_____

APPEAL — child's appeal

4 = most appealing

1 = least appealing

Child	Rank
_____	_____
_____	_____
_____	_____
_____	_____

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