Friendship patterns and sociometric status of 27 young preschoolers with a mean age of 39 months were assessed naturalistically. Subjects were more likely to show positive reactions to the emotions of their friends than to those of their acquaintances, thus demonstrating the affective basis of early friendships. No differences were found between non-positive reactions to friends' versus acquaintances' emotions. Children more often picked as a friend demonstrated greater affective knowledge, showed more happy and angry emotional displays, helped and shared more in response to peers' emotions, and ignored more in response to acquaintances' emotions. Controversial, isolated, rejected, average, and popular children differed on emotions and reactions to peers' emotions. Observational measures for friendship and sociometric status appear advantageous for use with children at this age.

(Author/RH)
Differential Responding to Friends and Acquaintances and Correlates of Popularity in Young Preschoolers

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Running Head: FRIENDSHIP AND POPULARITY IN PRESCHOOLERS
Friendship patterns and sociometric status of 27 young preschoolers (mean age = 39 months) were assessed naturally. Subjects were more likely to show positive reactions to the emotions of their friends (e.g., matching, helping, sharing) than to those of their acquaintances, thus demonstrating the affective basis of early friendships.

There were, however, no differences between non-positive reactions (e.g., ignoring) to friends' versus acquaintances' emotions. Children more often picked as a friend (and thus designated as more popular) demonstrated greater affective knowledge, showed more happy and angry emotional displays, helped and shared more in response to peers' emotions, and ignored more in response to acquaintances' emotions.

Controversial, isolated, rejected, average, and popular children (so designated on the basis of peers' specific behavioral reactions to them) differed among each other on emotions and reactions to peers' emotions. Observational measures for friendship and sociometric status appear advantageous for use with this age range.
Differential Responding to Friends and Acquaintances and Correlates of Popularity in Young Preschoolers

Children's social competence with peers is an important index of both current and future adjustment (Rubin, 1983). In order to clarify the peer competence of preschoolers, it is necessary to examine both their behaviors with friends (since social behavior may be more competent with friends) and their sociometric status in their overall peer group. Methods of assessing friendship and sociometric status in preschoolers can be, however, beset with difficulty, including lack of reliability (Hymel, 1982), and lack of validity (Asher, Markell, & Hymel, 1982; Rubin, 1982). New measurement techniques for both friendship and sociometric status (or popularity) may thus be advisable. For example, children may show specific patterns of friendship even earlier than three years if these are assessed naturalistically (Howes, 1983; Vandell & Mueller, 1980). Further, since interview data on both sociometric status and friendship selection is unstable in the early preschool age range (Hymel, 1982; Tessier & Boivin, 1985), an observational measure may be more useful. Masters and Furman (1981) have recently shown that popular four- and five-year-olds do receive
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and dispense more reinforcing or neutral acts when observed with peers than do non-popular preschoolers; thus an observational definition of popularity is plausible.

Given young children's sophisticated knowledge of and responding to emotions (Bretherton, McNew, & Beeghly-Smith, 1982; Strayer, 1980), the basis of friendship in this age range may include affective interchange as well as propinquity and shared activity (Furman & Bierman, 1983; Hayes, Gerashman, & Bolin, 1980). Naturalistic observation suggests that shared affect, both positive and negative, exists this early (Howes, 1983; Ruopp, 1982; Vandell & Mueller, 1980), although previous reports of early conceptions of friendship have not found this (Furman & Bierman, 1983; Hayes, Gerashman, & Bolin, 1980).

The prediction that friendships even in the early preschool period will be marked by shared affect also suggests that behavior will be different in response to friends as opposed to acquaintances. For example, friends may share both positive and negative affect (Ruopp, 1982), and may behave more prosocially to one another (Holmberg & Labinger, 1983; cf. Berndt, 1981), especially in response to one another's emotions.
If affective interchange is part of friendship, children of differing sociometric status may differ on social cognitive and affective variables. They may differ in predominant affect displayed (e.g., non-popular children are more hostile and disagreeable; Putallaz, 1982; Rubin & Clark, 1982) and in knowledge of others' emotions (Jennings, 1975; Rubin & Daniels-Byrness, 1982). More popular children may also be more prosocial (Moore & Updegraff, 1964).

In this study an observational methodology and a contextually valid assessment of affective knowledge were used: (1) to delineate the friendship patterns and sociometric status of young preschoolers; (2) to examine the differential patterns of expression of emotions and responding to emotions of friends versus acquaintances and by popular vs. non-popular preschoolers; (3) to determine the relations between these social status variables and affective knowledge.

**Method**

Subjects were 27 preschoolers (average age, 39 mos). They were observed over a period of eight months using a combination focal child/scanning procedure in which focal children's emotion displays were tallied, as were prosocial reactions of target children within
earshot and eyesight of the focal child. These coding systems are described in full detail by Xxxxxx (1986).

For the purposes of clarity in this report, it is important to note that the emotions coded for focal children were happy, sad, angry, and hurt, whereas the reactions to emotions coded for target children were matching, reinforcing, sharing, helping, leaving, caring, ignoring, and other (usually discrepant reactions, such as anger to happiness).

Thus the relative amount of time spent with each peer was tabulated; friends were defined as those focal children to whom target children responded more than expected by chance (e.g., if a child responded to 16 emotional displays of four peers, any peer to whom (s)he responded more than four times was considered a friend). These reactions to emotion could be either positive or negative in nature; Masters and Furman (1981) similarly found that punishing, neutral, and reinforcing acts were more frequent to liked peers than to others. All other peers whose emotions were responded to were called acquaintances.

Sociometric status was defined in two ways: (1) number of times picked as a friend by others (i.e., as number of times one is picked as a friend increases, so
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does popularity; (2) since number of times picked as a friend does not take into account the quality of one's responses from others, each subject's relative standings on three responses from peers (matching positive emotion, matching negative emotion, and ignoring) were used to define isolated, rejected, controversial, average, and popular groups of children (for somewhat similarly targeting procedures see also Peery, 1982; Rubin, 1982).

Thus the isolated group (n = 3) had negative standard scores (z < -0.5) on all three peer variables. The rejected group (n = 4) had high z-scores (z > +0.5) for others' matching of negative emotions and ignoring, and negative z-scores for others' matching of their positive notions. The controversial group (n = 4) had high standard scores (z < +0.5) on others' matching of their positive and on either negative emotions or ignoring, whereas the popular group (n = 3) had high z's (z > +1.0) for others' matching of their positive emotions, and z's less than or equal to zero for both others' matching of their negative emotions and ignoring them. The average group (n = 13) scored near the
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average on all three variables (z's > -1.0 and < +1.0 on matching positive and negative emotions from others, and between 0 and -1.0 for ignoring from others).

Percentage of each emotion, rates of reactions to peers' emotions (match, reinforce, share, help, concern, leave, look, ignore, and other), and affective knowledge (understanding of happy, sad, angry, and afraid emotion expressions and emotions appropriate to different situations, as assessed by a puppet measure; see XXXXXX, 1986) were also tabulated.

Results

Friends versus Acquaintances

In this group of preschoolers, the average number of friends per child, as defined above, was 1.74 (s.d. = 1.10), with an average of 3.85 acquaintances (s.d. = 1.75). The means for mutual and unilateral friends, were 0.78 and 0.96 (s.d.'s = 0.80 and 1.02) respectively. Thus each child interacted with approximately one third of their respective daycare classes (n's = 13 and 14).

Obviously, given the above definition of friend, the children responded to friends more than to acquaintances overall. The pattern of responses to friends differed sharply from that to acquaintances, however (see Table 1). It consisted, with the exception
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of matching negative emotions (mostly angry), of positively toned, prosocial reactions (despite the fact that looking, ignoring, and discrepant reactions constituted a full 40% of all reactions to emotions; see Xxxxxxxx, 1986). Ruopp (1982) has also found that preschoolers feel freer to match friends' anger than that of acquaintances. There were no differences in non-prosocial reactions to friends versus acquaintances (e.g., looking, ignoring, discrepant). Similar results were found when responses to the emotions of mutual friends were compared to responses to unilateral friends (more matching of positive and negative emotions, reinforced, helped, and showed concern after the emotions of mutual friends more than unilateral friends).

Popularity/Sociometric Status

Table 2 shows correlations of emotional, social cognitive, and behavioral variables with the number of times picked as a friend, the first observational measure of popularity. Children who were more often
picked as friends (i.e., who were more popular) showed relatively more happy and angry emotion displays, and scored higher on affective knowledge. They also showed higher rates of helping and leaving anger. While these significant relations between popularity and prosocial reactions to emotions are neither prevalent nor strong (see also Berndt, 1981), there were no significant relations of popularity with non-prosocial reactions to emotions (e.g., ignoring, looking, discrepant reactions, matching negative emotions), suggesting that the measure has some discriminant validity. Popularity can be seen, then, as related to non-punishing behavior to many peers (see Masters & Furman, 1981).

As can be seen in Table 3, children who were often picked as friends by others showed more frequent sharing, helping, concern, and matching of negative emotions of those whom they also picked as friends. They more often left or ignored the emotion displays of "mere" acquaintances.

When popularity was examined using the second
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definition given here (i.e., relative standing on 11 peers matching of positive and negative emotions and ignoring), several patterns also emerge. Five non-orthogonal planned comparisons (t's), rather than omnibus F's (Keppel, 1973), were calculated for each sociometric group (e.g., isolated, rejected, controversial, and popular) versus all others. Isolated and rejected groups were also combined and compared to all other groups since they were predicted to be the least popular and also least prosocial. Significant contrasts to be discussed are based on a p < .10 significance level (two-tailed) due to the small sample, probable lack of power, and exploratory nature of these analyses.

There were significant contrasts between sociometric groups on percentage of emotions shown. Specifically, controversial children showed more sadness than others (t = 2.51, p < .03), whereas isolated children exhibited less anger and less emotion overall than other groups combined (t's = -2.88, -2.74, p < .02). Controversial children were more emotional than all other groups combined (t = 1.95, p = .06), and rejected children showed more anger than other groups (t = 2.14, p < .05). Popular children exhibited more happy displays than all others combined (t = 1.90, p = .07).
with rejected and isolated children together emitting fewer happy displays than all others combined ($t = -2.26, p = .04$).

Rejected children matched more negative emotion than others ($t = 2.49, p < .03$). Isolated children were less helpful than others in response to peer emotion ($t = -1.77, p < .09$), but popular children were more helpful ($t = 2.48, p = .02$). Popular children also showed more concern after peer distress than all others ($t = 1.90, p = .07$). Rejected and isolated children tended not to leave when confronted with peer emotions (usually anger; $t = -2.80, p < .01$). Isolated and rejected children were also less likely to reinforce others' emotions ($t = -2.00, p < .06$). There were no significant planned comparisons for sharing, ignoring, looking, or discrepant reactions to emotions. There were, however, differences among groups on total prosocial behavior, with the combined isolated and rejected group displaying less such behavior ($t = -2.14, p = .05$), and controversial children more ($t = 1.88, p = .07$), than all others.

More fine-grained analyses amplify the above differences. For example, children of varying sociometric status differed on their rates of responses.
to mutual friends' emotions (none of the isolated children had any mutual friends; they were thus deleted from this analysis). Rejected children matched mutual friends' positive emotions less than other groups ($t_{13} = -1.78, p < .10$). Popular children shared ($t_{12} = 1.98, p < .07$), helped ($t = 2.45, p < .03$), and showed concern ($t = 2.49, p < .03$) in response to mutual friends' emotions more than other groups combined. Rejected children showed fewer prosocial responses overall to mutual friends' emotions ($t = -2.16, p < .05$).

Similar trends were shown for rates of responses to friends' (unilateral and mutual combined) emotions. Isolated children looked more ($t = 5.24, p < .001$) in response to friends' emotions; rejected children looked significantly less after friends' emotional displays ($t = -2.05, p < .05$). Rejected and isolated children as a group showed fewer total prosocial responses to friends' emotions than other groups combined ($t = -2.32, p < .04$). Popular children showed more help and concern than all other groups after peers' emotions ($t's = 1.73, 2.63; p's < .10$ and $.02$, respectively).

The relations between observationally defined friendship variables and sociometric status were also investigated via one-way ANOVA's with planned
comparisons as above. Isolated children tended to have fewer friends than other groups ($t_{22} = -1.92, p = .07$), and fewer mutual friends ($t = -2.61, p < .02$). Popular children had more mutual friends and fewer unilateral friends than other groups ($t's = 3.20, -1.71, p < .004, .10$), whereas rejected children tended to have more unilateral friends ($t = 1.53, p < .14$). Isolated children tended to have fewer acquaintances than all others, an illustration of their lack of interaction with or even proximity to others ($t = 1.56, p < .13$).

Number of times picked as friend (popularity definition one) also differed according to sociometric groups, an important validation. Popular children were picked more often as friends ($t = 3.48, p < .002$), while isolated children were picked fewer times ($t = -3.16, p < .01$). Popular children received more prosocial reactions from others ($t = 2.59, p < .02$), whereas isolated children received fewer prosocial responses from others ($t = 3.69, p = .001$). There were no differences among these sociometric groups on affective knowledge.

Discussion

Naturalistic measures of both friendship and sociometric status in very young children can be
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devised. Moreover, these measures appear to have some concurrent validity, and to delineate the nature of the affective basis of friendship and popularity even at this early age.

Children showed more positive reactions to emotions of friends than non-friends. These findings fit with recent evidence (Eisenberg, Lundy, Shell, & Roth, 1985) that preschoolers justify their prosocial behaviors by invoking the needs of others or relational/affective (friendship, liking) factors as reasons.

Those children who were often picked as friends of others showed more high-level emotions (both happy and angry, emotional expressiveness), and comprehended emotions better. It is likely that increased knowledge of emotion enabled more popular children observed here to be more helpful after peer distress, and to leave the potentially explosive anger situation, thus helping to defuse them. These popular children were also more prosocial with their own friends than with acquaintances on a number of measures.

This finding on affective knowledge contradicts those of Roopnarine and Adams (1983), who used a very similar affective knowledge measure, but sociometric ratings rather than an observational sociometric measure.
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(e.g., Asher, Singleton, Tinsley, & Hymel, 1979). Possibly their observation of each child was too short (10 minutes) to differentiate among children with different levels of affective knowledge. Their observational measures of popularity (rates of dispensing and receiving social behavior) were likewise not specific enough to be easily related to friendship choice/popularity as defined here; it is not surprising that these behaviors were unrelated to peer and teacher ratings of popularity. Roopnarine and Adams did find, however, that children who often engaged in solitary play (and were thus less likely picked as friend by the definition here) were lower on affective knowledge and teacher ratings of popularity.

The second observational sociometric technique introduced here is promising given the small sample. The overall picture of these groups, based on reactions from peers, fits the concept of rejected (often angry, matching anger and showing less matching of friends' positive emotions, less prosocial to mutual friends; see Ladd, 1983), isolated (having fewer friends and acquaintances, not picked by others as a friend, not helpful, unemotional), controversial (showing more sadness and overall emotion, but conversely also more
prosocial to others), and popular children (picked more often as a friend, more happiness, more helpfulness, and more concern for others; again see Ladd, 1983).

These methodological advances thus seem to be convergent in describing popular and socially skilled children as opposed to non-popular, socially unskilled children; they appear to help delineate the social abilities of young preschoolers and can also point toward applied considerations. First, given the positive relation between affective knowledge and being picked as a friend (as well as between affective knowledge and prosocial behavior; see XXXX, 1986), it may be helpful to train such affective perspective-taking (as has been done by Ridley, Vaughn, & Wittman, 1982; Elardo & Caldwell, 1979). Second, because of evidence for the continuity of peer status and sociability (Rubin & Daniels-Byrness, 1983; Waldrop & Halverson, 1975), and the linkage between early peer status and later social-emotional adjustment (Coe & Dodge, 1983; Dodge, 1983; Cowen, Pederson, Babigian, Izzo, & Trost, 1973), the finding that affective knowledge is associated with more optimal peer status is a vital justification for early social-emotional training.
Secondly, it may be feasible, within the rubric of such affective education for preschoolers, to more intentionally teach prosocial reactions to emotions of others, as a correlate of popularity. Many earlier social competence training studies, whether specifically affective in nature, or using affective training as a mere sub-unit in a more cognitively-oriented curriculum (e.g., Shure & Spivack, 1980), have not been this specific in skill teaching.

In short, observational techniques powerfully delineated very young children's friendship patterns and sociometric status. These classifications, based as they were on non-verbal communication (i.e., the emotions and reactions to emotions of these children) are potentially very useful in the study of children who could not respond well to interview techniques.
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References


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Table 1

Differences in Rates of Responding To Emotions of Friends and Acquaintances

<table>
<thead>
<tr>
<th></th>
<th>Friends</th>
<th>Acquaintances</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matching</td>
<td>2.33</td>
<td>0.96</td>
<td>3.33</td>
<td>.003</td>
</tr>
<tr>
<td>Positive</td>
<td>(1.81) a</td>
<td>(0.86)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matching</td>
<td>0.96</td>
<td>0.29</td>
<td>2.56</td>
<td>.017</td>
</tr>
<tr>
<td>Negative</td>
<td>(1.00)</td>
<td>(0.62)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>0.42</td>
<td>0.04</td>
<td>2.84</td>
<td>.009</td>
</tr>
<tr>
<td></td>
<td>(0.58)</td>
<td>(0.20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helping</td>
<td>0.79</td>
<td>0.50</td>
<td>1.57</td>
<td>.129</td>
</tr>
<tr>
<td></td>
<td>(1.06)</td>
<td>(0.72)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reinforcing</td>
<td>0.71</td>
<td>0.17</td>
<td>2.50</td>
<td>.020</td>
</tr>
<tr>
<td></td>
<td>(1.12)</td>
<td>(0.38)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concern</td>
<td>0.54</td>
<td>0.21</td>
<td>1.50</td>
<td>.148</td>
</tr>
<tr>
<td></td>
<td>(1.10)</td>
<td>(0.42)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Looking</td>
<td>0.96</td>
<td>1.33</td>
<td>-1.16</td>
<td>.258</td>
</tr>
<tr>
<td></td>
<td>(0.58)</td>
<td>(0.78)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaving</td>
<td>0.42</td>
<td>0.58</td>
<td>-0.75</td>
<td>.461</td>
</tr>
<tr>
<td></td>
<td>(0.78)</td>
<td>(0.97)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discrepant</td>
<td>0.58</td>
<td>0.38</td>
<td>0.79</td>
<td>.435</td>
</tr>
<tr>
<td></td>
<td>(0.97)</td>
<td>(0.82)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ignoring</td>
<td>1.48</td>
<td>1.74</td>
<td>-0.88</td>
<td>.388</td>
</tr>
<tr>
<td></td>
<td>(1.34)</td>
<td>(1.05)</td>
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</tr>
</tbody>
</table>

*Standard deviations in parentheses.*