An Interactional Model of Children's Entry into Peer Groups

Martha Putallaz and John M. Gottman

University of Illinois at Urbana-Champaign

PUTALLAZ, MARTHA, and GOTTMAN, JOHN M *An Interactional Model of Children's Entry into Peer Groups* CHILD DEVELOPMENT, 1981, **52,** 986–994 The dyadic interaction of popular and unpopular children was compared Analyses revealed that unpopular children were (1) more disagreeable and (2) less likely to provide a general reason or rule for their disagreement or to suggest a constructive alternative when criticizing a peer Children of either the same or differing popularity then attempted to enter these dyads It was found that unpopular children were less likely to be accepted and more likely to be ignored by the groups they entered than popular children When attempting to enter groups, unpopular children were more disagreeable than popular children and were more likely to attempt to call attention to themselves by stating their feelings and opinions, talking about themselves, and asking informational questions than popular children These strategies were more likely to lead to the children being ignored or rejected by the groups rather than accepted Some suggestions for intervention were made

Many preschool and elementary school children fail to acquire any friends, or perhaps only a few friends at best, as measured by sociometric questionnaires (Gronlund 1959, Hymel & Asher, Note 1) Furthermore, evidence has suggested that there are negative consequences associated with having few friends or low levels of acceptance by peers, thus, sociometric measures may be good predictors of psychological risk (see Asher, Oden, & Gottman 1977) The results have been provocative enough to have stimulated interest in developing effective interventions to increase the acceptance of these children by their peers

To develop such interventions, basic descriptive information is needed concerning possible behavioral differences between popular and unpopular children However, the amount of such information presently available is limited Generally, there is support for the conclusion that, among preschoolers, popular children tend to have more positive interactions with their peers than unpopular children (Hartup, Glazer, & Charlesworth 1967, Marshall & McCandless 1957) However, even this conclusion has been limited in two ways First, the detection of behavioral differences between popular and unpopular children has been more difficult when elementary school rather than preschool children are studied (Asher & Hymel, in press, Gottman, Gonso, & Rasmussen 1975 Oden & Asher 1977) In addition, Benson and Gottman (Note 2) have suggested that popular children appear to form their own social subsystem, as they were found to initiate and receive positive and neutral interactions primarily within their group Also supporting Benson and Gottman's membership group interpretation, unpopular children were found to initiate significantly more neutral interactions with other unpopular children than they did with popular children Thus, increasing a child's popularity may not be a simple matter of increasing the frequency of a child's positive interactions with peers but may also require a shift in membership groups, whose natures we do not yet understand

Therefore, the major purpose of the present study was to gain additional information about the behavior of popular and unpopular elementary school children when interacting with a popular or unpopular group To do so both types of children were observed attempting to join (enter) a game being played by either two popular or two unpopular classmates The study of entry into groups of familiar peers was included since most intervention programs currently concentrate on helping unpopular or isolated children become integrated into already existing peer groups (e g, O'Connor

The authors would like to thank Blair Sheppard and Steven Asher for their insightful comments on earlier drafts of the manuscript Requests for reprints should be addressed to John M Gottman, Department of Psychology, University of Illinois, Champaign, Illinois 61820

[*Child Development*, 1981, 52, 986–994 © 1981 by the Society for Research in Child Development, Inc
0009 3920/81/5203-0001$01 00]

1969) Yet there is no empirical knowledge at present of how socially skilled children at a particular developmental level enter groups of their familiar peers (Gottman 1977) In addition, the study provided for the observation of the dyads prior to the arrival of the third child Thus it was possible to investigate potential behavioral differences between popular and unpopular children in a dyadic interaction situation as well

A further purpose of the present research was to address some of the methodological issues that have limited past attempts to investigate the interaction of popular and unpopular children Typically, the observational coding systems used in the past have not been very detailed or descriptive, they often ignored language, for example Further, only interaction rates have been used It would seem that children's interactions might be more accurately described in terms of specific sequential patterns rather than by the frequency of individual codes displayed Finally, the popularity of only one of the children (called the target child) in any social interaction has been considered Yet, as Benson and Gottman's (Note 2) membership group hypothesis would suggest, children may behave differently depending upon whether they are interacting with someone of a similar or different sociometric status Therefore, the present study attempted to correct some of the limitations of previous studies by (1) using a more detailed coding system, (2) analyzing the data sequentially, and (3) considering the sociometric status of all interactants in a situation Since the study is a major departure from earlier work, it is largely exploratory It is hoped that the results of this research may suggest hypotheses for the development of interventions designed to increase the popularity of socially unaccepted children

Method

Subjects

A total of 60 children from three racially integrated, working-class schools in the Urbana and Champaign public school systems participated as subjects in this study Of these children, 51 (30 boys and 21 girls) were enrolled in second grade and the remaining nine children (six boys and three girls) were in third grade

Procedure

Sociometric and group formation—Children were asked to name three classmates whom they "especially liked" (Oden & Asher 1977) One was added to each child's score every time they were named by another child of the same sex Only same-sex choices were considered since sex appears to influence elementary school children's choices of whom they like (Gronlund 1959, Singleton & Asher 1977) Children whose scores were higher than the median for their classroom were called popular, the others unpopular The mean number of nominations received by the popular children varied across classroom from 2 25 to 7 00 choices, with an overall mean of 3 93, while those for the unpopular children varied from 0 38 to 1 60, with an overall mean of 1 15

Depending upon the size of the class, either one or two of the most popular and least popular children of each sex were designated as entry children The remaining children were grouped to form dyads, homogeneous by sex and popularity Each dyad and the same-sex child that would later attempt entry into the dyad were matched so that they were from the same classroom and so that none of the three children were mutual choices on the sociometric test

In all, 20 dyads of children were formed, 10 popular pairs (five male and five female) and 10 unpopular pairs (seven male and three female) With the addition of an entry child of varying popularity to each dyad, four conditions were created These conditions involved the entry of a popular child into either a popular ($N = 3$, 2 male and 1 female) or an unpopular ($N = 6$, 4 male and 2 female) group, and the entry of an unpopular child into similarly composed popular ($N = 7$, 3 male and 4 female) or unpopular ($N = 4$, 3 male and 1 female) groups

Task—Each of the 20 dyads was videotaped individually through the one-way mirror of a standard research trailer while the children played a word-naming game The game was played by spinning a needle which landed on one of three categories—first names, animals, or jobs The player then had to select a letter from a box and think of a word which began with the chosen letter and fit the given category If one was correctly named, a card was then picked which informed the player of the number of spaces the playing piece could be moved on the game board

After the dyad indicated that they understood the rules and began to play the game, the experimenter left the trailer and returned to the classroom for the entry child The rules

of the game were then explained to that child prior to entering the trailer The dyad was not informed that a third child would attempt to join them The dyad was allowed to play uninterrupted for 10 min prior to the return of the experimenter with the entry child The experimenter remained outside the trailer and only instructed the entry child to go into the trailer where the other children would be found already playing the word game but gave no instruction that the child should actually join in the play of the game Fifteen minutes of additional videotaped data were then obtained on the attempts of the third child to enter the group After this period, the experimenter terminated the session, asked the children for the evaluations of the game, and returned them to their classroom A child was considered to have gained entry once the child actually began to play the game All children had gained entry by the end of the session Although all children were aware that they could end their participation in the study at any time, none of them chose to do so

Coding

Verbatim transcripts were made of the children's speech from the videotapes The thought unit, marked by the transition from one code to another, was the coding unit used in the present research The interaction coding system developed by Gottman and Parkhurst (1980) to describe children's conversations with their friends was employed (a manual describing the codes is available from the second author) Four new double codes (i e , codes that can co-occur with all other codes) were added to describe the entry sequence, specifically one entry code (*bid for entry*) and three group response codes (*accept, reject,* and *ignore*) The seven codes from the Gottman and Parkhurst system that co-occurred most frequently with the entry double code resulted in seven types of entry bids The remaining codes co-occurring with the entry double code were lumped together to form an eighth entry bid, labeled "other" The double codes of *accept, reject,* and *ignore* were coded as such regardless of the Gottman and Parkhurst codes they co-occurred with since how the group had accepted, rejected, or ignored the entry child was not of concern, but simply that this consequence to an entry bid had occurred Thus, there were 11 codes in all to describe the entry sequence, 8 codes describing the entry behaviors, and 3 codes describing the group responses to these bids (see table 1) For the analyses of the triadic interaction during entry, the responses of the original two children in the dyad were taken together to represent the group response In this manner we could still examine bids for entry and the consequent group responses while substantially reducing the number of potential codes to a level permitting analysis

Assessment of Reliability

For sequential analyses, two reliability statistics are needed, Cronbach's α and Cohen's κ Cronbach's α in the present study represents generalizability over independent coders, that is, that the variance due to subjects is greater than the variance due to coders or coder × subject interaction The design for the generalizability study is a single group (subjects) repeated measures (independent coders) design Cronbach's α for these studies is the mean square due to subjects (MS_s) minus the mean square residual term (MS_r) divided by MS_s +

TABLE 1

CODING SYSTEM DEVELOPED FOR CHILDREN'S ENTRY SEQUENCE

Specific entry bid codes
- *Information bid* is coded whenever the speaker tries to enter the group by giving simple information (e g "She's still ahead of you")
- *Me bid* is coded whenever the entering child makes a statement referring to himself, his possessions activities, plans accomplishments, attributes or abilities (e g , "I'll take your turn", "Oh, I can think of one") This code is also used when the entering child makes word plays, rhymes, or exclamations
- *Demand bid* is coded whenever the entering child demands a response or attention from the group (e g , "Just start all over again")
- *Agreement bid* is coded when the entering child expresses agreement, compliance, or pleasure with one of the group members or with what he does has, or wants (e g , "He's right that it's his turn")
- *Feeling bid* is coded whenever the entering child expresses any wants, feelings, opinions, likes dislikes, or needs (e g , "I want Jason to win")
- *Disagreement bid* is coded whenever the entering child expresses noncooperation or disapproval at one of the group members or his statements, possessions or behavior (e g , "You can't do that")
- *Question-for-information bid* is coded whenever the entering child requests simple information from the group (e g , "What is this thing here?")
- *Other bid* includes all other strategies used to attempt entry into the group

Group response codes
- *Accept* is coded whenever the group responds positively to the entering child and his or her attempts at entry
- *Reject* is coded whenever the group responds negatively to the entering child and his or her attempts at entry
- *Ignore* is coded whenever the group fails to respond to the entering child and instead ignores his or her bids for entry

NOTE —*Bid for entry* is coded whenever the entering child makes attempts to enter and become integrated into the group

MS_r (Wiggins 1973, chap 7) Coders independently coded two pages before and two pages after the entry of the child for all transcripts As is necessary for sequential analysis, the Cronbach α's were extremely high with the values for the nonentry coding system ranging from 0 782 to 1 000, with a mean value of 0 962, and from 0 872 to 0 989, with a mean of 0 953 for the entry coding system (a listing of the Cronbach α values for individual codes is available from the second author)

Generalizability theory must also be modified (made more stringent) for sequential analysis by tying agreement to specific units of transcript rather than by summing over blocks of transcript (Johnson & Bolstad 1973) To do this the Cohen's κ matrix between independent coders (Hollenbeck 1978) is used This produces a repeated measure of diagonal to diagonal + off-diagonal frequencies A diagonal entry means the two coders agreed on the code at the exact speech unit of transcripts while an off-diagonal entry indicates they disagreed about the code they assigned to that particular speech unit We computed one matrix across all transcripts and one kappa statistic across all codes For the coding system developed by Gottman and Parkhurst (1980), the Cohen's κ was 0 914, while for the added entry codes the Cohen's κ was 0 789 (for a more detailed discussion of reliability issues, see Gottman & Parkhurst [1980])

Sequential Analysis

A sequential connection between two codes, *A* and *B*, occurs when knowledge that the antecedent, *A*, has occurred, reduces uncertainty in predicting the occurrence of the consequent, *B* To accomplish this the conditional probability, $p(B/A)$, is compared to the unconditional probability, $p(B)$ The *z*-score statistic proposed by Sackett (1977) and derived by Gottman (1979) was used for this comparison If *z* exceeds 2 0 a significant sequential connection will be said to have occurred When comparing sequences across groups, if *z* scores differ by 2 0 they will be said to be significantly different These decision rules were recommended by Sackett (1977) and Gottman and Parkhurst (1980), respectively

Results

Dyadic Interaction

To examine whether the styles of dyadic interaction prior to the entry of a third child differed as a function of the popularity composition of the dyad, the ratio of agreement to disagreement was assessed for each dyad This ratio provides an index of the overall positiveness to negativeness of the interaction, a higher value being indicative of a greater degree of positiveness (Riskin & Faunce 1970) For popular dyads the mean ratio was 2 86, while for the unpopular dyads this ratio was 1 28 The frequencies of the agreement and disagreement codes, as used by the two types of dyads, were compared by means of two separate 2×2 χ^2 analyses [1] Popular children disagreed less than unpopular children (3 3% vs 6 7% of total statements), $\chi^2(1) = 19\,93$, $p < 001$, but there was no significant difference with respect to the amount of agreement shown A 2×2 (popularity of group $\times$ sex) log-linear analysis (Fienberg 1978)[2] was performed, using the procedures proposed by Bock (1974), on the frequencies of agreements and disagreements to examine whether the sex of the group had an influence on these results A significant main effect was found, however, only for the popularity of the group, reduction in $\chi^2(1) = 17\,77$, $p < 001$, while the sex of the group and the interaction effect between these two factors were not significant Therefore, the difference in the agreement to disagreement ratio appears to be due to unpopular children disagreeing more than popular children

Perhaps the higher incidence of disagreement among unpopular dyads is attributable to

[1] The reader should be aware that in a number of instances it was necessary to treat the conditions in the design as the unit of analysis Specifically, this was done in all instances where treating the dyad as the unit of analysis resulted in a large number of entries of less than five or an unbalanced design In these cases it is possible that some dyads within a condition may have contributed more to the frequency counts than other dyads However, in all possible instances a log-linear analysis treating the dyad as the unit of analysis was performed In none of these instances did the dyad interact with the results reported in the text Thus to simplify the presentation, the simpler analyses were reported

[2] A log-linear analysis operates by generating a series of models that add one term in a predetermined sequence (either main effect or interaction) to each preceding model (similar to a stepdown regression procedure) Each model is then tested for its goodness of fit with the data by means of a χ^2 test The purpose is to find the simplest model (one with few terms) that fits the data at some acceptable α level What we have presented in the paper is the degree to which the main effect reported reduced the value of the χ^2 from the preceding model

differences in the consequences of disagreement in the two types of dyads There were two (empirically obtained) predictable consequences of disagreement, and these involved use of two subsequent statements by the same child who disagreed (1) giving a reason for the disagreement, and (2) the use of the general rule Refer to table 2 and examine those z scores that exceeded 2 0 for popular and unpopular children As can be seen, statement of a rule (coded as *rule*) was the predictable sequence for popular dyads while giving a reason for the disagreement (coded as *clarifies message*) was the predictable sequence for unpopular dyads

We examined further all instances coded as either giving a reason or rule use following disagreement By inspection it appeared that when popular children disagreed, they tended to cite a general rule as the basis for their disagreement and then provided an acceptable alternative action for the other child An example of the use of a rule following disagreement was "No, you ain't You ain't supposed you ain't supposed to use this first You're supposed to pick one of these " In contrast, unpopular children would typically explain their disagreement by giving a reason very specifically related to the precious act of the other child, without providing an alternative action for that child An example of giving a reason following disagreement was "No Can't say 'bank' again [after the child had used the word bank on a previous turn at the game] "

TABLE 2

INVOCATION OF RULES OR GIVING A REASON FOR DISAGREEMENT FOLLOWING DISAGREEMENT AS A FUNCTION OF DYAD TYPE (p's Are Conditional Probabilities)

	SAME CHILD PRODUCES A SUBSEQUENT			
	Reason for His or Her Disagreement		Statement of a Rule	
DYAD TYPE	p	z	p	z
Popular	029	1 33	044	2 53*
Unpopular	150	8 49*	009	95

* Significant by the decision rule, $z > 2\ 0$

Entry of a Third Child

A child was considered to have gained entry into the group once the child actually began to play the game Using this definition all children did eventually secure entry by the end of the observational session All entering children made entry bids that were accepted rejected, and ignored by the group at some point during their entry attempt An acceptance does not necessarily imply that the entering child has gained entry but merely that he has been responded to positively by the group

Popular children used an average of 15 89 bids before gaining entry, while unpopular children used an average of 22 82 bids, $\chi^2(1) = 12\ 07$, $p < 001$ [3] A Mann-Whitney U test (Siegel 1956) computed on ranks derived from the amount of time required to gain entry produced a significant effect for the popularity of the entering child, $U(9,11) = 26$, $p < 05$ It required both more bids and more time for unpopular children to gain entry into groups [4]

The relationship between the popularity of the entering child and the popularity status of the group entered was examined A 2×2 χ^2 analysis indicated that there was a significant interaction between these factors, $\chi^2(1) = 19\ 5$, $p < 001$, for the number of bids displayed A Kruskal-Wallis one-way analysis of variance (Siegel 1956) [5] computed on the time

[3] In this and all χ^2 analyses involving unequal cell sizes, the expected values used in the test were generated from the relative frequency of subjects in each cell

[4] It is possible, given the unequal cell sizes in this design, that apparent main effects for the popularity of the entry child may simply have been a result of unequal weighting of actual main effects for the popularity of the group being entered For this to be true, however, the effects due to the group would have to be larger and in the opposite direction of those for the entry child In all instances the effect for popularity of entry child was larger than the effect for group, and in most instances the two main effects were in the same direction

[5] A standard analysis of variance was not an appropriate test to use with these data due to the small sample size employed in the study, which led to several violations of the assumptions underlying the analysis of variance test (e g, heterogeneity of variance, nonnormal distributions, and disproportionate cell sizes) Therefore, a nonparametric test was preferable The only nonparametric test available which was analogous to analysis of variance and allowed for unequal cell sizes was the Kruskal-Wallis analysis of variance The Kruskal-Wallis results were tested against a χ^2 distribution With the sample size of the present study, the use of the χ^2 provides a conservative test (Siegel 1956)

required for entry was not significant However, an examination of the cell means for time revealed a pattern similar to that describing the resulting cell means for bids required for entry Popular children entered a popular group (their membership group) using fewer bids ($\bar{X} = 11\ 67$) than any other group of entering children The most difficult entry configuration was when an unpopular child was required to enter a popular group ($\bar{X} = 24\ 57$) The groups in the remaining two entry conditions were not different with respect to bids required for entry Popular children entering an unpopular group required a mean of 18 bids while unpopular children entering an unpopular group took an average of 19 75 bids

We next considered whether it was indeed the case, as would seem likely from the results found thus far, that unpopular children were rejected and ignored more and accepted less than popular children, thereby making entry into groups more difficult for them to attain A $2 \times 2 \times 2$ (popularity of child $\times$ popularity of group $\times$ sex) log-linear analysis was performed on the number of times each child was accepted, rejected, or ignored by the group The simplest model fitting the data showed only a significant main effect for the popularity of the entering child, reduction in $\chi^2(2) = 12\ 97$, $p < 01$ It appears, then, that only the entering child's popularity affects the resulting probability that the child will be either rejected or ignored by the group An examination of this main effect showed that popular children entering a group were as likely as unpopular children to be rejected (0 15 vs 0 17), more likely to be accepted (0 73 vs 0 57), and less likely to be ignored (0 11 vs 0 26)

In order to obtain a better understanding of why unpopular children experienced more difficulty than popular children when entering a group, we examined whether popular and unpopular children had similar response repertoires for entry Since both groups of children displayed all eight entry strategies studied, the evidence did not support a skills-deficit hypothesis, although our coding system would not have detected any differences in timing or stylistic execution of the bids Also, the probabilities that describe the entry-response hierarchy preference for each entry behavior for popular and unpopular children correlated significantly, $r = 76$, $p < 05$ The children, then, used each entry bid with moderately similar probabilities, regardless of popularity (see table 3)

TABLE 3

PROBABILITY OF EACH OF EIGHT ENTRY BEHAVIORS AS A FUNCTION OF THE POPULARITY OF THE ENTERING CHILD

BEHAVIOR USED AS BID FOR ENTRY	PROBABILITY OF EACH BEHAVIOR	
	Popular Child	Unpopular Child
Information	24	22
Demand	13	11
Question for information	15	20
Me	11	15
Feeling	06	09
Agreement	13	08
Disagreement	06	09
Other	12	05

Why, then, did the unpopular children experience more difficulty entering groups despite using the same entry behaviors in roughly the same ordered response hierarchy as popular children? Perhaps the bids most preferred by the unpopular children were not those which would be most effective in terms of gaining them entry To test this possibility, we computed a cost-benefit score for each entry behavior by subtracting the conditional probability of the bid leading to nonacceptance of the user by the group (i e, the user being either rejected or ignored) from the conditional probability of the bid leading to acceptance (see table 4) Thus, a high positive score would be indicative of an entry bid which had a high probability of leading to acceptance and a low probability of leading to the group rejecting or ignoring the user, while the converse would be true of a high negative score Next, the correlation between the unconditional probabilities of each entry bid and its corresponding cost-benefit score was computed This correlation would allow us to ascertain whether the entry bids which had the highest probability of occurring corresponded to those which had the most favorable cost-benefit score For popular children, this correlation was 74, $p < 025$, for entry into popular groups and 51, $p < 10$, for entry into unpopular groups For unpopular children, this correlation was $-$ 06 for entry into unpopular groups and $-$ 13 for entry into popular groups, neither correlation was significant Popular children appeared to act to maximize their benefits and minimize their costs, but this was not true of unpopular children We are not implying that unpopular children were deliberately intending to be ignored or rejected when attempting to enter

TABLE 4

ENTRY BEHAVIORS AND THE PROBABILITY THAT THEY WILL LEAD TO ACCEPTANCE (A), REJECTION (R), OR IGNORE (I)[a]

Entry Behavior	Popular Entering Popular				Popular Entering Unpopular				Unpopular Entering Unpopular				Unpopular Entering Popular			
	p	A	R	I	*p*	A	R	I	*p*	A	R	I	*p*	A	R	I
Information	23	63	00	00	24	58	00	12	16	67	00	17	26	23	09	55
Demand	11	50	25	25	14	67	07	07	13	30	00	20	10	22	06	28
Question for information	11	75	00	25	17	44	11	17	22	35	18	47	19	44	09	25
Me	11	25	00	00	11	25	17	08	17	08	15	15	15	16	20	24
Feeling	09	00	00	00	05	40	00	00	10	13	00	25	08	21	07	50
Agreement	14	60	00	00	13	29	00	00	03	00	00	00	10	17	06	11
Disagreement	09	00	00	00	05	00	60	00	10	25	50	00	09	00	27	27
Other	11	25	00	00	12	31	23	23	09	14	14	14	03	33	17	17

[a] The conditional probabilities presented here do not necessarily add to 1 00 as other behaviors including other entry bids may have also followed the entry bid

groups, but this was the net effect of their behavior Of course, these analyses do not rule out the possibility that unpopular children were being ignored or rejected for some reason (e g , reputation, physical attractiveness) other than the type of entry bid they displayed The behavioral differences detected here, however, give support for the further examination of the children's use of entry bids

What specifically were unpopular children doing during entry that differed from popular children? We next examined whether there was any difference in the frequency of usage of any particular bids First, the computed agreement to disagreement ratio was 2 17 for the entering popular children in contrast to 0 89 for the entering unpopular children, a finding consistent with the previous analysis of the dyadic preentry data Thus, even when entering, unpopular children were more disagreeable than popular children Further, when taken as a group, unpopular children also were more likely to ask questions for information, $\chi^2(1) = 5\,634$, $p < 05$, say something about themselves, $\chi^2(1) = 5\,154$, $p < 05$, disagree, $\chi^2(1) = 4\,614$, $p < 05$, and state their feelings, $\chi^2(1) = 4\,074$, $p < 05$, than popular children [6] Thus, although the general organization of the entry-response hierarchies was similar for both types of children, they differed in their use of four particular bids

Discussion

Similar to previous research with preschoolers, the results of the present study showed the behavior of unpopular elementary school children to be somewhat more negative than that of their popular peers An analysis of their dyadic interaction showed them to disagree more often and to be less likely to give a general reason (rule) when criticizing a peer than popular children Even when attempting to enter groups of their peers, unpopular children were still more disagreeable than popular children Not surprisingly, then, unpopular children also experienced more difficulty entering groups than popular children They required both more bids and more time to gain entry and were accepted less and ignored more by these groups than popular children

Contrary to the explanation that might be offered for this difficulty by some present researchers, unpopular children did not seem to

[6] A log-linear analysis was performed to examine whether the popularity of the group or the sex of the entering child qualified the effect that the popularity of the entering child had on children's entry-bid usage This analysis indicated that the popularity of the group had a nonsignificant effect while sex had only a marginally significant effect on the results, reduction in $\chi^2(7) = 12\,61$, $p < 10$ However, there does appear to be a significant popularity × sex of the entering child interaction, reduction in $\chi^2(7) = 15\,32$, $p < 05$, which qualifies the differences presented in the text in the following way From an examination of the cell proportions, it appears that unpopular males use question for information as an entry strategy more than popular children do, while unpopular females use it less than popular children In contrast unpopular females give information when attempting entry more than popular children do, while unpopular males use this entry strategy less often than popular children

possess an entry-skills deficit Both groups of children were found to display all entry strategies studied, although our coding system would not have detected any differences in timing or stylistic execution of the bids However, as a group, unpopular children did use some of these entry bids differently than popular children Specifically, they were more apt to ask informational questions, speak about themselves, disagree, and state their feelings and opinions more than popular children These four strategies appear to share at least one commonality They all attempt to call the group's attention to the user That is, unpopular children seemed to try to exert control and divert the group's attention to themselves, rather than attempt to integrate themselves into the ongoing conversation of the group They seemed to introduce new conversational topics abruptly and direct the conversation to themselves by making self-statements, stating their feelings and opinions, and disagreeing with the group members more than popular children When used by the children, these strategies had a high probability of resulting in the group's ignoring or rejecting them This point can best be illustrated by an instance from an actual transcript in which an unpopular child attempted to call the group's attention to herself repeatedly by stating her feelings but was instead continually ignored by the group The name of the entering child is italicized

Janet Okay, I want this one again
Terry This is fun, ain't it?
Janet (to Vera) Do you want this one again?
Vera I want this one
Terry This is a nice room, ain't it?
Janet (to Vera) You can have this one Here
Terry This is a nice table, ain't it?
Janet (to Terry) Pick your one

As can be seen, this unpopular child repeatedly tried to divert the group from their ongoing activity of choosing playing pieces to a discussion concerning how fun the game was, how nice the room was, and, finally, even how nice the table was, to no avail The group members simply continued to ignore her

These findings suggest an interesting parallel between the behavior of unpopular children and the behavior of newcomers After studying the process of assimilation of newcomers into groups of 6- and 7-year-old children, Phillips, Shenker, and Revitz (1951) proposed that the new child's most successful strategy for integration was to first determine the "frame of reference" common to the group members (e g, activities, goals) and then to establish himself or herself as sharing in this frame of reference Specifically, the child should first attempt to join the group's activities by imitating the actions or words of a child in the nucleus group This would account for the apparent success in the present study of entry bids involving agreement and exchanges of information with group members and for the pronounced failure of disagreement when employed as an entry strategy Only later in the assimilation process did Phillips et al propose that the newcomer should attempt to initiate, direct, or otherwise influence group activities The present research found that unpopular children frequently used entry strategies which attempted to influence the ongoing group activity by directing the group's attention to themselves by making self-statements, stating their feelings, asking informational questions not relevant to the group's activity, and disagreeing with group members Phillips et al further suggested that the premature use of such strategies would lead to the child being ignored by the group, a finding well supported by this study

The present research would suggest several means of intervening to increase the popularity of socially unaccepted children First, any intervention should involve a reduction in the frequent display of disagreement by unpopular children Further, it would be helpful to teach these children ways of preventing disagreement from continuing, such as giving a general reason for disagreement (e g, a rule) and suggesting an alternative action for the other child In addition, any intervention should attempt to reduce unpopular children's use of entry strategies that attempt to draw attention to themselves Instead they should be encouraged to determine the group's frame of reference by asking relevant questions and then to establish themselves as sharing in this frame of reference by agreeing and exchanging information with the group members

It should be remembered, however, that even popular children have difficulty entering groups The present study found them to be rejected or ignored 26% of the time This would suggest that even if unpopular children were to behave just like popular children when attempting to join groups, the probability of their being rejected or ignored by the group would still remain high It is thus crucial that intervention programs provide some sort of "innoculation" for unpopular children against being rejected or ignored It would further seem es-

sential to add a component to the intervention program which would provide a mechanism for increasing the group's likelihood of accepting new members Establishing some form of incentive for the group members to accept other children might be one way to accomplish this goal

Reference Notes

1 Hymel, S , & Asher, S R Assessment and training of isolated children's social skills Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans, 1977

2 Benson, C S , & Gottman, J M Children's popularity and peer social interaction Unpublished manuscript, Indiana University, 1975

References

Asher, S R , & Hymel, S Assessment with socially isolated and rejected children In J Wine & M Smye (Eds), *Identification and enhancement of social competence* New York Guilford, in press

Asher, S R , Oden, S L , & Gottman, J M Children's friendships in school settings In L G Katz (Ed), *Current topics in early childhood education* Vol **1.** Norwood, N J Ablex, 1977

Bock, R D Multivariate analysis of qualitative data In *Multivariate statistical methods in behavioral research* New York McGraw-Hill, 1974

Fienberg, S W *Analysis of cross-classified categorical data* Cambridge, Mass MIT Press, 1978

Gottman, J The effects of a modeling film on social isolation in preschool children a methodological investigation *Journal of Abnormal Child Psychology,* 1977, **5,** 69–78

Gottman, J Detecting cyclicity in social interaction *Psychological Bulletin,* 1979, **86,** 338–348

Gottman, J , Gonso, J , & Rasmussen, B Social interaction, social competence and friendship in children *Child Development,* 1975, **46,** 709–718

Gottman, J M , & Parkhurst, J T A developmental theory of friendship and acquaintanceship processes In A Collins (Ed), *Minnesota symposia on child psychology* Vol **13** Hillsdale, N J Erlbaum, 1980

Gronlund, N E *Sociometry in the classroom* New York Harper, 1959

Hartup, W W , Glazer, J A , & Charlesworth, R Peer reinforcement and sociometric status *Child Development,* 1967, **38,** 1017–1024

Hollenbeck, A R Problems of reliability in observational research In G P Sackett (Ed), *Observing behavior* Vol **2** Baltimore University Park, 1978

Johnson, S M , & Bolstad, O D Methodological issues in naturalistic observation some problems and solutions for field research In L A Hammerlynck, L C Handy, & E J Mash (Eds), *Behavior change* Champaign, Ill Research, 1973

Marshall, H R , & McCandless, B R Relationships between dependence on adults and social acceptance by peers *Child Development,* 1957, **28,** 413–419

O'Connor, R D Modification of social withdrawal through symbolic modeling *Journal of Applied Behavior Analysis,* 1969, **2,** 15–22

Oden, S , & Asher, S R Coaching children in social skills for friendship making *Child Development,* 1977, **48,** 495–506

Phillips, E L , Shenker, S , & Revitz, P The assimilation of the new child into the group *Psychiatry,* 1951, **14,** 319–325

Riskin, J , & Faunce, E E Family interaction scales, III Discussion of methodology and substantive findings *Archives of General Psychiatry,* 1970, **22,** 527–537

Sackett, G P The lag sequential analysis of contingency and cyclicity in behavioral interaction research In J Osofsky (Ed), *Handbook of infant development* New York Wiley, 1977

Siegel, S *Nonparametric statistics for the behavioral sciences* New York McGraw-Hill, 1956

Singleton, L C , & Asher, S R Peer preferences and social interaction among third-grade children in an integrated school district *Journal of Educational Psychology,* 1977, **69,** 330–336

Wiggins, J S *Personality and prediction* Reading, Mass Addison-Wesley, 1973