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ABSTRACT

This study tested the hypothesis that Soviet day care children (aged 16 to 38 months) derive emotional support from the presence of their group-mates. Children were observed in a strange situation in one of three conditions: with a familiar peer (a group-mate), with an unfamiliar peer (a child from another group), or alone (without a peer). An adult stranger was present during two of the three 4-minute episodes. Results indicated that children with familiar peers were more comfortable than children with unfamiliar peers who, in turn, were more comfortable than children who were alone. Children paired with unfamiliar peers, but not children paired with familiar peers, were upset by the departure of the adult stranger. Alone condition subjects were more upset than other subjects whether the adult stranger was present or absent. Children with familiar or unfamiliar peers made more attempts to catch the adult stranger's attention than each other's. Overt approaches were equally infrequent to familiar and unfamiliar peers. Nonetheless, partners' reactions to the strange situation were reliably similar, indicating that there was behavioral contagion. Girls were somewhat less distressed than boys. For both sexes, age was negatively correlated with the degree of distress. (Author/JMB)

Familiar and Unfamiliar Peers as "Havens of Security" for Soviet Nursery Children

Jean Ispa

Evidence from clinical reports (Freud and Burlingham, 1944; Freud and Dann, 1954) and from research on the affectional systems of nonhuman primates (Suomi and Harlow, 1975) suggests that, at least under conditions of parental deprivation, peers can give each other a great deal of emotional support. Nevertheless, there remains a tendency to believe that, while human children under three may enjoy the sensory stimulation and contingent feedback that peers can provide, they do not as a rule perceive each other as potential sources of comfort and affection.

Yet many of the variables held by attachment theoretists to lead to emotional bonding between individuals probably operate among young children in day care. Cairns (1966), for example, has argued that, through the process of associative conditioning, attachment to an object can occur merely because it is often present at the same time that basic needs are satisfied. Thus, in the group care setting, a child may develop an attachment to another child simply because he or she is present during feedings. But young children in group care are not just near their peers; they are also capable of providing each other with the "visual, auditory, proprioceptive stimulation and feedback" which the Harlows (1965) have argued to be of primary importance in determining affection and support-giving.

Following this line of reasoning, the present study was designed primarily to determine whether or not $1\frac{1}{2}$ to 3 year old children enrolled in a day care center in the Soviet Union derive emotional support from the presence of their group-mates. Secondary goals were to note behavioral contagion between peers and to compare children's interactions with a familiar peer, an unfamiliar peer, and an unfamiliar adult. Specifically, it was hypothesized that, in a strange situation, children accompanied by familiar peers would show less distress, more object exploration, and more responsiveness to a friendly adult stranger than children accompanied by unfamiliar peers or children alone. It was also predicted that there would be more interaction between familiar than between unfamiliar peers.

The experiment was carried out in a Moscow nursery. Because of its philosophical base, as well as because of the large number of children involved, the Soviet nursery offers an interesting setting for the study of early affective relationships among peers. Committed to the concept of collectivism, it has adopted as a principal aim the deliberate fostering of the peer group as an agent of both social control and emotional support.

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Method

Subjects

The subjects included 54 boys and 54 girls aged 16 to 38 months (average age = 25.44 months) and attending eight groups in a Moscow nursery. In each group of approximately 20 children, the upbringer and her assistant were asked to fill out questionnaires asking for each child's sex, birth date, and the names of group-mates he or she seemed to particularly like or dislike.

Each child was then observed in a strange situation in one of three conditions: with a familiar peer, with an unfamiliar peer, or alone. The criteria for creating pairs for the familiar peer condition were only that partners be from the same group, of the same sex, no more than four months apart in age, and that their upbringer not report them to dislike each other. Information on most preferred peers was ignored when pairs were created. By chance, of the 22 pairs and one trio identified by upbringers to be special friends, only one twosome was paired together for the experiment. The criteria for creating pairs for the unfamiliar peer condition were that partners be from different groups, of the same sex, and no more than four months apart in age.

Equipment and Experimental Setting

Two adjacent rooms in the nursery served as the experimental and observation rooms. The wall separating the rooms had a door and a large window covered with opaque paper with peepholes for observing. In the observation room, tape-recorded 15-second intervals guided the observers in dictating time-sampled observations into two additional tape-recorders.

The experimental room was 12' X 13.5'; adhesive tape divided the floor into 72 18" squares. A mirror on the wall opposite the door allowed observers to see children who were by the door. An adult chair was at one side of the room and toys similar to those in nursery playrooms were spread about on the floor, some within 18" or 36" of the adult chair.

The stranger was a middle-aged Russian woman. She was instructed to be responsive to subjects but to remain seated unless her intuition suggested that a child who was crying might be calmed by physical comforting.

Procedure

The stranger was already seated in the experimental room when the child(ren) arrived. The 12-minute experimental session was planned to include three 4-minute episodes. During Episode 1, the stranger was in the experimental room, during Episode 2 she was absent, and during Episode 3 she was again present. Episode 1 lasted longer than 4 minutes in several cases because either the stranger did not hear the first signal to leave (a light knock on the window) or children clung to her, not letting her go. Episodes 2 and 3 were terminated early in cases in which children cried continuously for 30 seconds.

Observation Procedures and Measures

The two observers were a Russian woman and myself. During experimental sessions involving the familiar and unfamiliar peer conditions, we each observed one of the two children. For children in the alone condition, we alternated observation duties. The second observer was trained by me but remained naive as to the purposes of the study.

The dependent measures included behaviors indicative of general affective state and of approach to or avoidance of the peer and of the stranger. The seven behaviors used to measure general affective state included averaged ratings of facial expression plus the number of 15-second intervals during which crying, looking at the door, standing by the door (including trying to open it), actively manipulating toys, non-distress vocalizing, and locomoting across squares occurred. Facial expression was rated by the following scale: crying with tears (1); whimpering, whining, no tears (2); frowing, sighing, eyes downcast (3); neutral, sober attentive (4); brightening, fleeting smile (5); smiling broadly (6); and laughing (7). When the expression changed during an interval, the rating indicating the more intense affect was used. Intervals with ratings on opposite ends of the scale were given an averaged rating.

The recipient and tenor of social behaviors were indicated by the number of 15-second intervals during which children actively avoided, approached, maintained close proximity to, looked at, and took toys from either the peer or the stranger. Avoidance was operationally defined as refusing to take a toy offered by the stranger or the peer, refusing to give or show a toy when asked to do so, resisting physical contact, or clearly avoiding visual contact. Proximity was determined by assigning 2 points to each interval during which the child was on a square adjacent to the seated stranger or to the peer and 1 point to each interval during which he/she was two squares away. No points were given when the child was three or more squares away from the stranger or peer. Proximity to the stranger was not scored during intervals when she was not seated. Instances of showing or giving toys and of touching the stranger or peer were summed to yield summary scores of behaviors involving active social approach.

Reliability between the two observers was computed on the basis of simultaneous, independent scoring of the behaviors of six pretest subjects. The mean percentage of agreement was 94%.

Data Analysis

For each episode, ratings of facial expression were averaged, points for proximity, and frequencies of occurrence of all other variables, summed. In cases in which episodes had been prolonged or curtailed, frequency scores were prorated.

In order that observations entered into statistical analyses be independent, pair scores, not individual scores, were calculated. To obtain pair scores for the familiar and unfamiliar peer conditions, the scores of the two members of each pair were averaged. So that alone condition scores would be comparable, the scores of each alone condition subject were averaged with the scores of one other alone condition subject of the same sex and age (within four months).

Results

Table 1 summarizes the ANOVA findings with respect to the measures of general affective state; Table 2 details the adjusted means of these measures. Results indicated that children paired with familiar peers were more comfortable than children paired with unfamiliar peers who, in turn, were more comfortable than children who were alone.

Differences between the familiar and unfamiliar peer conditions, however, were apparent only while the stranger was absent. During Episode 1, when she was present, the only measure of general affective state to show reliable differences between the two conditions suggested that children paired with familiar peers moved about more than children paired with unfamiliar peers. The stranger's absence (Episode 2), however, was associated with more negative facial expressions, more crying, less moving about, and more looking at and standing by the door on the part of children in the unfamiliar peer condition than children in the familiar peer condition. During this episode, children with familiar peers thus seemed to be more content, more active, and less anxious to leave the room than children with unfamiliar peers. There were no differences between the two conditions duirng Episode 3, after the stranger had returned to the room.

Children in the alone condition showed more distress than children in either of the other two conditions. Differences were evident during Episodes 1 and 3, when the stranger was present, but were greatest during Episode 2, when she was absent. During all three episodes, children alone had more negative facial expressions, cried more, manipulated toys less, and moved about less than children with familiar peers. In addition, during Episode 2, children who were alone stood by and looked at the door more and vocalized less than children who were with familiar peers.

Differences were less pronounced between the unfamiliar peer and alone conditions than between the familiar peer and alone conditions; unlike the latter comparison, the former showed no differences in terms of the frequency with which children looked at or stood by the door or manipulated toys. Nevertheless, children in the unfamiliar peer condition were somewhat more at ease than children in the alone condition, as evidenced by their more positive facial expressions during all three episodes, their greater locomotion during Episode 1, their lesser tendency to cry during Episodes 2 and 3, and their greater frequency of vocalizing during Episode 2.

Underscoring the importance of the second episode, during which the stranger was absent, in differentiating among conditions was the finding that, whereas children paired with familiar peers seemed to take her departure in stride, children paired with unfamiliar peers and children alone were demonstrably less at ease during these four minutes than either before or after. Not one measure indicated children paired with familiar peers to be less comfortable when deprived of all adult company than when an adult was available to them. Unfamiliar peer and alone condition subjects, on the other hand, had more downcast facial expressions, cried more, stood by the door more, and looked at the door more during Episode 2 than during either Episode 1 or 3. Alone condition subjects also vocalized significantly less during Episode 2 than during either of the two episodes when the stranger was present.

Despite the clear differences among conditions in terms of general affective state, differences in terms of behaviors directed specifically towards the stranger were slight and difficult to interpret. Adjusted mean frequencies of these behaviors are shown in Table 3. The only support for the hypothesis that children paired with familiar peers would be more responsive to a stranger than children paired with unfamiliar peers came from the finding that during Episode 1, girls with familiar peers touched, showed, and gave to the stranger more often than did girls with unfamiliar peers (adjusted means = 3.69 and 2.48), $F(2, 48) = 2.99$, $p < .10$. Contrary to the hypothesis, children in the familiar peer condition avoided the stranger more frequently than did children in the unfamiliar peer condition, $F(2, 48) = 4.31$, $p < .05$.

In addition, comparisons of the alone condition with the familiar and unfamiliar peer conditions yielded no conclusive evidence that the presence of a peer made it easier for children to approach the stranger. Main effects did show that during Episodes 1 and 3, children paired with both familiar and unfamiliar peers looked at the stranger more frequently than did children in the alone condition, $F(2, 48) = 3.71$, $p < .05$. Also, during Episode 3, after the stranger's return, children paired with unfamiliar peers avoided the stranger less often than did children in the alone condition, $F(2, 48) = 4.31$, $p < .05$. However, the presence of a peer did not enable children to make a greater number of proximal approaches to the stranger. In fact, during both Episodes 1 and 3, there was a near-significant trend for children in the alone condition to take toys from the stranger more frequently than children in either the familiar or unfamiliar peer condition, $F(2, 48) = 2.87$, $p < .10$. (It is possible that this difference was an artifact; children in the alone condition had the stranger's undivided attention. She may therefore have offered toys more often to them than to each child in the other two conditions.)

There was also only minimal support for the hypothesis that there would be more interaction between familiar peers than between unfamiliar peers. During Episode 2, while the stranger was absent, familiar peers vocalized more than did unfamiliar peers. However, none of the specifically

peer-directed variables revealed any differences between conditions. Adjusted mean frequencies of the peer-directed behaviors are shown in Table 4.

Moreover, children paired with familiar and unfamiliar peers made more direct attempts to catch the stranger's attention than each other's. They looked at the stranger more, $F(1, 32) = 27.24$, $p < .01$, and touched, showed and gave to her more than to each other, $F(1, 32) = 33.89$, $p < .01$. On the other hand, they did maintain closer proximity to one another than to her, $F(1, 32) = 58.73$, $p < .01$, and, while there was very little clear avoidance of anyone, children avoided the stranger more than peers during Episode 1, $F(1, 32) = 4.97$, $p < .05$.

There is some indication that the stranger's presence inhibited peer interaction. Children touched, showed to, and gave toys to each other more often while the stranger was absent than during either of the episodes when she was present, $F(2, 64) = 7.47$, $p < .01$. They also tended to stay farther apart, $F(2, 64) = 2.69$, $p < .10$, during that episode than either before or after. All of these differences may have been due to greater peer interaction and movement during the stranger's absence. (Unfortunately, distance of movement was not assessed by the measure, "locomotes.")

Also, though overt approaches to peers were relatively infrequent, the two members of each pair seemed to have had reciprocal effects on each other. Results summarized in Table 5 indicated that partners tended to resemble one another in terms of general affective state and in terms of behaviors directed towards each other and the stranger. Behavioral contagion was evident in all the behaviors observed except for looking at the peer and the stranger, avoiding the peer, and looking at and standing by the door.

Analyses of sex differences revealed that, among children in the unfamiliar peer and alone conditions, boys were more upset by the stranger's departure than girls. Boys cried more (adjusted means for Episode 2 for boys = 1.63 and 1.45 for the unfamiliar peer and alone conditions; for girls = 1.22 and 2.25) and spent more time standing by the door (adjusted means for Episode 2 for boys = 3.04 and 2.99 for the unfamiliar peer and alone conditions; for girls = .89 and .78). Moreover, during all three episodes, boys in these conditions looked at the door more frequently than girls (adjusted means across all three episodes for boys = 2.71 and 2.46 in the unfamiliar peer and alone conditions; for girls = .78 and 1.55). The only sex difference among children in the familiar peer condition indicated that, during Episode 1, boys touched the stranger and showed and gave her toys less often than girls did (adjusted means = 2.12 and 3.78). In the unfamiliar peer condition, the same sex difference emerged during Episode 3 (adjusted means = 1.43 and 3.79).

Discussion

The results clearly supported the hypothesis that young day care children can derive emotional support from the presence of their groupmates. Also underlined was the importance of situational factors, such as the presence or absence of an adult stranger, in determining the degree to which the differential supportiveness of familiar and unfamiliar peers is manifested.

In view of the important role performed by familiar peers, it is curious that the only indication that there was more interaction between familiar peers than between unfamiliar peers was that the latter group was more verbal during the stranger's absence. One might speculate that children treat their "havens of security" similarly be they peers or adults, not necessarily paying them much overt attention but relying on them as a base from which to explore new objects and people. Perhaps more interaction would have occurred had social preferences in groups been taken into account when pairs were created. It may also be that the experimental session was too short to permit adequate assessment of peer interaction.

A factor that may have played an important role in terms of children's willingness to approach the stranger was her general warmth and responsiveness. Other researchers have concluded that strangers who are responsive and who allow children to pace their interactions tend not to be feared (Eckerman and Rheingold, 1974). For children in the unfamiliar and alone conditions, the stranger in the present study was apparently not only not particularly fear-inspiring; as suggested by the unhappiness of these children upon her departure, her presence was in fact supportive.

The sex differences that emerged were somewhat unexpected. The findings that boys made more vigorous attempts than girls to leave the experimental room and that girls were more likely than boys to approach the stranger agree with previous research findings (Maccoby and Feldman, 1972). However, researchers working with American samples have tended to find girls to cry more than boys when placed in strange situations (Brooks and Lewis, 1972); I found the reverse to be true. Perhaps the contradiction can be explained by reference to cultural differences. Personal observation does suggest that Russians do not discourage small boys from crying as strongly as do Americans.

The more general question of the degree to which the present results on peer supportiveness are specific to Soviet nursery upbringing remains open. This study cannot speak to it since it involved no cross cultural comparisons. My guarded opinion, based only on informal observations of Soviet and American toddlers in group care, is that results would have been similar had the experiment been carried out in an American day care center -- if there were day care centers in the United States large enough to allow an experimenter to pair children with unfamiliar peers as well as with familiar peers.

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Table 1

F Ratios of Significant Main Effects and Interactions by Dependent Measures of General Affective State

Dependent Measure	Source of Variation: Sex	Condition	Sex X Condition	Episode	Sex X Episode	Condition X Episode	Sex X Condition X Episode	Pairs/(Sex X Condition)
Facial expression		10.90[c]		18.05[c]		4.56[c]		2.32[c]
Cry		5.62[c]		10.20[c]	2.48[a]	3.10[b]	2.25[a]	4.49[c]
Look at door	5.86[b]	6.35[c]	2.74[a]	50.62[c]	2.52[a]	5.08[c]	2.38[a]	
Stand by door	2.94[a]			15.39[c]	3.41[b]	2.81[b]	3.04[b]	
Vocalize		5.25[c]		4.26[b]		2.86[b]		1.64[b]
Manipulate toy		4.94[c]	3.42[b]					86.18[c]
Locomote		7.38[c]		2.52[a]		2.43[b]		1.91[c]
df =	1, 48	2, 48	2, 48	2, 96	2, 96	4, 96	4, 96	48, 54

[a] $p \leq .10$ (two-tailed).

[b] $p \leq .05$.

[c] $p \leq .01$.

Table 2

Measures of General Affective State: Adjusted Means

Condition	Episode 1	2	3
Facial Expression[a]			
Familiar Peer	4.38	4.37	4.50
Unfamiliar Peer	4.28	3.82	4.18
Alone	3.68	3.02	3.83
Crying[b]			
Familiar Peer	-.08	-.02	-.05
Unfamiliar Peer	.15	1.43	.26
Alone	1.29	3.85	1.93
Looking at the Door[b]			
Familiar Peer	.22	1.05	.24
Unfamiliar Peer	.62	3.43	1.18
Alone	.99	3.96	1.05
Standing by the Door[b]			
Familiar Peer	.23	.32	.01
Unfamiliar Peer	.49	1.97	.77
Alone	.30	1.89	.39

(Table 2 is continued on the next page.)

Table 2, continued

Condition	Episode 1	2	3
Non-distress Vocalizing[b]			
Familiar Peer	2.60	2.49	3.40
Unfamiliar Peer	1.82	1.71	2.46
Alone	1.36	.22	1.64
Locomoting Across Squares[b]			
Familiar Peer	7.95	9.00	7.53
Unfamiliar Peer	5.69	5.80	6.94
Alone	3.89	4.75	5.72
Manipulating Toys[b]			
Familiar Peer	10.54	13.15	12.29
Unfamiliar Peer	9.37	9.45	9.82
Alone	7.51	7.68	8.98

[a]Averages based on a 7-point scale.

[b]Frequencies; maximum score = 16.

Table 3

Stranger-Directed Behaviors: Adjusted Mean Frequencies

Condition	Episode 1	Episode 3
Looking at the Stranger[a]		
Familiar Peer	9.03	9.00
Unfamiliar Peer	9.12	10.09
Alone	7.54	7.51
Taking Toys from the Stranger[a]		
Familiar Peer	.16	.19
Unfamiliar Peer	.12	.20
Alone	.36	.69
Touching, Showing to, or Giving to the Stranger[b]		
Familiar Peer	2.93	2.23
Unfamiliar Peer	2.07	2.63
Alone	2.16	2.94
Proximity to the Stranger[c]		
Familiar Peer	3.75	5.87
Unfamiliar Peer	8.16	8.52
Alone	4.31	6.95

(Table 3 is continued on the next page.)

Table 3, continued

Condition	Episode 1	Episode 3
Avoiding the Stranger[a]		
Familiar Peer	.19	.10
Unfamiliar Peer	.01	.03
Alone	.09	.17

[a]Maximum score = 16.

[b]Maximum score = 48.

[c]Maximum score = 32.

Table 4

Peer-Directed Behaviors: Adjusted Mean Frequencies

Condition	Episode 1	Episode 2	Episode 3
Looking at the Peer[a]			
Familiar Peer	6.90	6.73	6.15
Unfamiliar Peer	6.41	7.41	6.66
Taking Toys from the Peer[a]			
Familiar Peer	.50	.55	.41
Unfamiliar Peer	.03	.39	.09
Touching, Showing to, or Giving to the Peer[b]			
Familiar Peer	.20	1.12	.45
Unfamiliar Peer	.16	1.05	.07
Proximity to the Peer[c]			
Familiar Peer	16.12	11.61	16.68
Unfamiliar Peer	16.63	11.26	14.94
Avoiding the Peer[a]			
Familiar Peer	.02	.14	.08
Unfamiliar Peer	.00	.09	.06

[a]Maximum score = 16.

[b]Maximum score = 48.

[c]Maximum score = 32.

Table 5

Summary of Results Showing Variables on which Partners in the Familiar and Unfamiliar Peer Conditions had Reliably Similar Scores

Variables	F	p≤
Facial expression	2.32	.001
Crying	4.49	.001
Looking at the door	1.03	ns
Standing by the door	1.24	ns
Non-distress vocalizing	1.64	.05
Manipulating toys	2.02	.01
Locomoting across squares	1.91	.01
Looking at the stranger	1.41	ns
Taking toys from the stranger	1.55	.10
Touching, showing to, or giving to the stranger	1.47	.10
Proximity to the stranger	1.73	.05
Avoiding the stranger	2.11	.01
Looking at the peer	1.49	ns
Taking toys from the peer	10.07	.001
Touching, showing to, or giving to the peer	2.73	.01
Avoiding the peer	.67	ns

Note: F-ratios were obtained via ANOVA by testing the factor, Pairs/(Sex X Conditions) against the factor, Individuals/(Sex X Conditions X Pairs). For measures of general affective state and stranger-directed behaviors, df = 48, 54. For peer directed behaviors, df = 32, 36.