Developmental changes in antecedents and outcomes of peer conflict among preschool children: A longitudinal study

YOSHIKO KINOSHITA
Department of Educational Psychology, Faculty of Education, Saitama University, Urawa, Saitama 338

KOZUE SAITO
Faculty of Arts, Kokugakuin University, Shibuya-ku, Tokyo 150

AKEMI MATSUNAGA
Faculty of Education, Yamagata University, Koshirakawa-cho, Yamagata 990

In this study the authors tried to answer the following questions: What are the antecedents of peer conflict? How are peer conflicts brought to a close? How do the antecedents and outcomes of peer conflict change as children grow older? A longitudinal observational study was carried out on children who had just entered a kindergarten. Peer interaction during two hours of free play was recorded on videotape once a week throughout the three year period. From 81 observation sessions, 36 were chosen for analyses. All episodes of peer conflict were identified and classified according to their causes and outcomes. The results showed that the causes and outcomes of peer conflict changed as children grew older. However, the changes were greater in outcomes than in causes. In many cases very young children did not protest or resist the offensive acts of other children, and those offensive acts did not result in overt conflict. The outcome of peer conflict changed from simple resistance or submission by one side to mutually satisfactory endings, as children got older.

Key words: peer conflict, antecedent, outcome, preschool children.

Although peer conflict tends to be discouraged and avoided in Japan, disputes can serve positive functions. By solving disputes, for example, children can learn how to resolve social conflicts and how to get along with other people.

Resolution of peer conflict requires significant social skills. Each child must satisfactorily respond to others' opinions and needs by judging accurately and responding quickly in a dynamic situation which involves the moods, attitudes, and reactions of both children. For example, each child must be able to infer how other child feels, to control his or her own feelings, and to use social rules effectively. Moreover, since successful resolution of peer conflict requires children to communicate their own opinions and needs, children must be able to assert themselves and communicate their opinions and needs in addition to accurately grasping those of other children.

In this decade, many researchers focusing on various aspects of peer conflict have paid attention to its positive aspects (Shantz & Shantz, 1985; Shantz, 1986; Shantz, 1987; Hay & Ross, 1982; Hay, 1984; Sackin & Thelen, 1984; Hartup, Laursen, Stewart, & Eastenson, 1988; Laursen & Hartup, 1989). As Shantz (1987) points out, however, developmental changes in what initiates peer conflict and in how these conflicts are ended...
have not yet been systematically examined.

The authors hypothesize that peer conflict itself is a developmental phenomenon. Although peer conflict proceeds and develops according to the dispositions of the children involved and the situation in which they are placed, the authors also hypothesize that peer conflict varies according to the level of development of their social competence (e.g., the acts that initiate conflict among toddlers may not necessarily initiate conflict among preschoolers).

In support of this hypothesis, Hay (1984) reported that among toddlers only a quarter of physical assaults provoked conflict; however, many struggles over objects were initiated merely because one child touched a toy in front of another child. Furthermore, the frequency of aggressive behavior between peers decreases between two and five years of age (Cummings, Iannotti, & Zahn-Waxler, 1989). Shantz and Shantz (1985) showed that children's level of social cognition correlated with the content of their disputes.

The authors' study examined peer conflict among preschool children in an urban area of Japan. In a three-year longitudinal study, the authors tried to answer the following questions:

1. What are the antecedents of peer conflict?
2. How are peer conflicts brought to a close?
3. How do the causes and outcomes of peer conflict change as children grow older?
4. Are there any relationships between antecedents and outcomes? Do the relationships change as children grow older?
5. Are there any gender differences in the antecedents and outcomes of peer conflict?

The authors adopted a longitudinal observation as our method because the authors thought that longitudinal studies were less subject to influence of sample variability than cross-sectional studies, and that it would provide us with more precise information about the changes in peer interactions.

The interactions that the authors classified as episodes of conflict covered a range of cases. In many cases, peer conflict is defined as one child verbally or physically behaving in a way that is objectionable to another child, who then responds with some verbally or physically critical behavior (Eisenberg & Garvey, 1981; Shantz & Shantz, 1985; Hartup, et al. 1988). Even if the second child made no observable critical response, however, the authors classified such an episode as an episode of conflict (involving psychological conflict). The authors adopted such a broad criterion because very young children sometimes make no observable responses to behaviors to which they object, and the authors assume that whether or not an offensive act initiates an observable peer conflict depends on children's developmental level.

Method

Subjects and Observations

Children in one class in a kindergarten located in an urban area near Tokyo participated in the present study. Most children were from upper-middle or middle-class families. Twenty children were in the class (10 boys, 10 girls) at the beginning of the study. In the second year of observation, an additional 20 children (10 boys, 10 girls) entered the class and one boy left. So 39 children were observed in the second and third years of observation.\(^2\)

The children's ages averaged 3 years and 7 months (range = 3:02–4:01) when the observations began, 4 years and 6 months (range = 4:02–5:01) at the beginning of the

\(^2\) As the authors observed the children in an actual school setting, it was impossible to observe all of the same 20 children for three years. As a result, it is not strictly correct to call this a three-year longitudinal study. However, the authors consider the continuity significant because half of the children remained the same and the class-environment was the same.
second year, 5 years and 6 months (range = 5 : 02–6 : 01) at the beginning of the third year, and 6 years and 3 months (range = 5 : 11–6 : 09) when the observations were completed.

**Procedure**

The authors started observing in May 1983 and stopped in February 1986. During this period, the authors visited the kindergarten on the same day every week (except in the summer, winter and spring vacations) and observed peer interactions for about two hours in the morning. The observations were made mainly during the children’s free-play time using a focal-child method. The kindergarten teachers felt that the children’s free play was important and usually did not intervene in children’s conflict unless a child was being hurt.

In observational sessions, a target child was selected from among the members of the entire class. The target was shifted from one child to another after observation of one peer interaction involving the target. The authors did not determine the observation time per target child in advance because the authors were more interested in the coherency of the interaction than in equal distribution of observation time among all members.

Interactions were videotaped and later transcribed. Tape-recorders and written records were used to supplement the videotapes. Wireless microphones were also used to record the children’s speech accurately; the microphones were attached to the target child and other children. Super-directional microphones were used when the wireless microphones hindered the children’s free activities during outdoor play. All observers refrained from approaching the children except when responding to approaches made by the children themselves.

**Data for Analyses**

From 81 observation sessions, 36 sessions were chosen for analyses. These 36 sessions were composed of 12 sessions from each observation year; the 12 sessions consisted of four sessions randomly chosen from each of three school terms: spring (May to July), autumn (September to December), and winter (January and February). All episodes of peer conflict were transcribed verbatim. On the transcript paper the authors also included the following information about each conflict: the action or situations preceding and following the peer interaction, and the speech and behavior of each participant (including any teachers, if present) during the interaction.

As noted above, the authors used a broad definition of conflict. Conflicts are occasions when one child behaved offensively toward another child with or without any explicit justifiable reason and the recipient showed some or no observable objection or resistance.

Two judges independently identified the conflict episodes and agreed that a conflict had occurred on 96.4% of episodes. Episodes that one judge did not classify as a conflict were excluded from analyses. Episodes of conflict with children from other classes, episodes videotaped after the conflict started, and episodes in which the cause could not be identified were also excluded from analyses. Fourteen episodes resolved by a teacher’s intervention were also excluded: eight episodes in the class of three-year-olds, three episodes in the class of four-year-olds, and three in the class of five-year-olds.

In the 36 sessions, 370 episodes were analyzed: 163 in the first year of observation (3-year-olds), 90 in the second year (4-year-olds), and 117 in the third year (5-year-olds).

**Coding System**

Both the antecedent and the outcome of each episode of peer conflict were classified into one of the categories below.

**Categories for describing the antecedents of conflict.**

The antecedents of peer conflict were classified into five main categories: (1) disputes over possession, (2) offensive approaches, (3) rule violations, (4) disagreements connected with play, and (5) opinion differences. These main categories were then broken down into
more detailed sub-categories. These categories were based on the classifications used in previous research and reviewed by Shantz (Shantz & Shantz, 1985; Shantz, 1987), and also on an analysis of the conflicts observed during this study. The following are the five categories described in more detail:

1. Possession—Conflicts caused by disagreements over possession of either objects or places.
   a. Objects: Conflicts caused by disagreements over possession of objects.
   b. Places: Conflicts caused by disagreements over possession of places.

2. Offensive approaches—Conflicts caused by a child's behavior which was performed with or without malicious intentions but which offended another child.
   a. Aggressive behavior: Confrontations caused by unwarranted bodily attacks, criticisms, or interruptions of another child's activity.
   b. Play activity: Confrontations caused by speech and actions of a child during role-playing.
   c. Neutral approaches: Confrontations caused by speech and actions without malicious intentions, such as accidental touching, and which caused conflict.

3. Violation of rules—Conflicts caused by violations of rules.
   a. Norm: Conflicts caused by speech or actions running counter to the rules of the class, kindergarten, or society.
   b. Arbitrary rules: Conflicts caused by speech or actions which are criticized by another child on the basis of the other child's arbitrary rules (e.g., “Only children without shoes can play in the sand-pit.”).

4. Disagreement over play—Conflicts caused by disagreements over how to play.
   a. Participation in play: Conflict caused by one child wishing to join in the play and being rejected by the others.
   b. Contents of play and role allocation: Conflict caused by disagreement over which game to play or role allocation.

(5) Opinion difference—Conflicts caused by differences in opinion.
   a. From common knowledge: Conflicts caused by disagreement over opinions or knowledge (e.g., about the characteristic speech or actions of a TV hero).
   b. From personal standards: Conflicts caused by differing opinions concerning the contents of play or objects used during the play.

Fifty episodes from each age group were coded by a second coder. The agreement rate for classification for each age group was more than 92%.

Categories for describing the outcomes of peer conflicts. The categories describing the outcomes of conflict were classified into three groups: those involving one turn of interaction, two turns, and three or more turns. Disputes with more than two turns were subdivided into two groups: unresolved (ended without mutual understanding), and resolved (ended with mutual understanding). Further sub-division led to the following 10 categories:

1. No resistance: One child does not resist or protest the offensive action of another child.
2. Simple resistance (episodes ended in two turns):
   a. Simple resistance: The episode ends by one child resisting, protesting or weeping against the offensive action of another child. (The offender “wins.”)
   b. Submission to resistance: The episode ends by the first child submitting to the protest made by the second child against the first child's offensive action. (The offender “loses.”)
3. Spontaneous cessation: The episode ends after three or more turns of interaction with neither an apology from one child nor an arrival at mutual understanding of how to play. (Usually one child (sometimes both) becomes interested in something else and stops disputing.)
4. Rupture: The children do not come
to an agreement, but the episode ends after three or more turns of interaction because one child leaves the other child, abandoning efforts at reconciliation or resolution.

(5) Pressure from one side: The children do not come to an agreement, but the episode ends after three or more turns of interaction during which one child imposes unjust pressure on the other child who submits to it without consenting to it.

(6) Mutual understanding: The conflict is resolved, and the episode ends after three or more turns of interaction during which both children make efforts at reconciliation. The behavior of both participants indicates their mutual understanding and consent.

a. Opinion sharing: When the conflict is due to opinion differences between two children, the episode ends when they communicate their respective opinions to each other by speech and behavior and come to share a new common opinion.

b. Verbal explanation: Two children verbally express opinions about the cause of the conflict, and reach an agreement.

c. Use of rules: Two children resolve a conflict by applying mutually accepted methods or rules such as the traditional game of “paper-scissors-stone”\(^3\).

d. Compromise and concessions: Conflict is solved by mutually presented compromises or concessions.

Two observers independently classified 50 episodes from each age group. The agreement rate for classification for each age group was more than 92%.

Results

1. Antecedents of Peer Conflict

Table 1 shows frequencies and percentages

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\(^3\) This is a way of decision-making commonly used in Japan as “Toss up” in England, or in other countries.
Table 2

Frequencies and percentages of episodes in each age group classified by outcomes

<table>
<thead>
<tr>
<th>Category</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) No resistance</td>
<td>16 (10%)</td>
<td>1 (1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>(2) Simple resistance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Simple resistance</td>
<td>19 (12)</td>
<td>4 (4)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>b. Submission to resistance</td>
<td>17 (10)</td>
<td>21 (23)</td>
<td>11 (9)</td>
</tr>
<tr>
<td>a + b</td>
<td>36 (22)</td>
<td>25 (28)</td>
<td>12 (10)</td>
</tr>
<tr>
<td>(3) Cessation</td>
<td>28 (17)</td>
<td>2 (2)</td>
<td>12 (10)</td>
</tr>
<tr>
<td>(4) Rupture</td>
<td>19 (12)</td>
<td>22 (24)</td>
<td>11 (9)</td>
</tr>
<tr>
<td>(5) Pressure</td>
<td>20 (12)</td>
<td>12 (13)</td>
<td>8 (7)</td>
</tr>
<tr>
<td>(6) Mutual understanding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Opinion sharing</td>
<td>9 (6)</td>
<td>3 (3)</td>
<td>3 (3)</td>
</tr>
<tr>
<td>b. Explanation</td>
<td>15 (9)</td>
<td>7 (8)</td>
<td>23 (20)</td>
</tr>
<tr>
<td>c. Use of rules</td>
<td>5 (3)</td>
<td>1 (1)</td>
<td>12 (10)</td>
</tr>
<tr>
<td>d. Compromise</td>
<td>15 (9)</td>
<td>17 (19)</td>
<td>36 (31)</td>
</tr>
<tr>
<td>a + b + c + d</td>
<td>44 (27)</td>
<td>28 (31)</td>
<td>74 (63)</td>
</tr>
<tr>
<td>Total number of episodes</td>
<td>163 (100)</td>
<td>90 (100)</td>
<td>117 (100)</td>
</tr>
</tbody>
</table>

of the episodes classified according to the cause of the conflict. In all age groups, peer conflict was most likely to arise from trouble over the possession of objects or places. The differences among age groups were not big and only the difference between 4-year-olds and 5-year-olds was significant ($\chi^2 = 8.39, p < .01, df=1$). The second most frequent cause was an offensive approach by another child.

While peer conflict caused by violation of rules and disagreement over play increased with age ($\chi^2 = 5.73, p < .10$, and $\chi^2 = 15.96$, $p < .01, df=2$ respectively), peer conflict caused by opinion differences decreased ($\chi^2 = 16.25, p < .01, df=2$) and there was a significant difference in the percentage between 3-year-olds and 4-year-olds.

2. **Outcomes of Peer Conflict**

Table 2 shows the frequencies and percentages of the episodes classified according to the type of outcome. The table shows that whereas 10 percent of the episodes of the 3-year-old children ended with no resistance to the other child’s unfair behavior ($\chi^2 = 18.26, p < .01, df=2$) almost all episodes of the 4- and 5-year-olds led to resistance to behavior such as snatching away a toy, hitting, or pushing. In addition, the likelihood that a child will show simple resistance but will eventually yield to the aggressor is greater among 3-year-olds than among older children ($\chi^2 = 13.92, p < .01, df=2$). Conflict episodes which end after two turns become less likely with age ($\chi^2 = 10.88, p < .01, df=2$). For episodes which end after three or more turns, termination without consent (categories 3, 4, and 5) decreased with age ($\chi^2 = 7.03, p < .05, df=2$). On the other hand, outcomes characterized by mutual understanding increased with age ($\chi^2 = 40.94, p < .01, df=2$) and the increase is notable especially for 5-year-old children.

3. **Relationships between Antecedents and Outcomes**

To examine whether certain antecedents correlate with certain outcomes, some categories were merged into larger categories. Because both “Disagreement over play” and “Opinion difference” indicate disagreement during play, both were merged into a new antecedent category “Disagreement.” Some of the outcomes were merged into the general categories “Submission” (which included the more specific “No resistance” and “Simple resistance”) and “Without Consent” (which included the more specific “Spontaneous
Table 3
Frequencies and percentages of outcomes corresponding to each type of antecedent

<table>
<thead>
<tr>
<th>&lt;Antecedents&gt;</th>
<th>Submission (1) + (2)</th>
<th>Without consent (3) + (4) + (5)</th>
<th>Mutual understanding (6)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possession</td>
<td>30 (24%)</td>
<td>45 (36%)</td>
<td>49 (40%)</td>
<td>124 (100%)</td>
</tr>
<tr>
<td>Offensive approach</td>
<td>37 (37)</td>
<td>36 (36)</td>
<td>26 (26)</td>
<td>99 (100)</td>
</tr>
<tr>
<td>Rule</td>
<td>17 (32)</td>
<td>18 (34)</td>
<td>18 (34)</td>
<td>53 (100)</td>
</tr>
<tr>
<td>Disagreement</td>
<td>6 (6)</td>
<td>35 (37)</td>
<td>53 (56)</td>
<td>94 (100)</td>
</tr>
<tr>
<td>Total</td>
<td>90 (24)</td>
<td>134 (36)</td>
<td>146 (39)</td>
<td>370 (100)</td>
</tr>
</tbody>
</table>

(Sub-classified by age)

<table>
<thead>
<tr>
<th>Possession</th>
<th>3 years</th>
<th>4 years</th>
<th>5 years</th>
<th>3 years</th>
<th>4 years</th>
<th>5 years</th>
<th>3 years</th>
<th>4 years</th>
<th>5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offensive approach</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
</tr>
<tr>
<td>Rule</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
</tr>
<tr>
<td>Disagreement</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
<td>3 years</td>
<td>4 years</td>
<td>5 years</td>
</tr>
</tbody>
</table>

(Sub-classified by gender)

<table>
<thead>
<tr>
<th>Possession</th>
<th>Boys</th>
<th>Mixed</th>
<th>Girls</th>
<th>Boys</th>
<th>Mixed</th>
<th>Girls</th>
<th>Boys</th>
<th>Mixed</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offensive approach</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
</tr>
<tr>
<td>Rule</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
</tr>
<tr>
<td>Disagreement</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
<td>Boys</td>
<td>Mixed</td>
<td>Girls</td>
</tr>
</tbody>
</table>

cessation,” “Rupture,” and “Pressure from one side”).

Table 3 shows frequencies and percentages of outcomes corresponding to each type of antecedent. Chi square analysis for the table of all ages revealed a significant relationship between antecedents and outcomes ($\chi^2 = 32.38$, $p < .01$, $df = 6$). Adjusted residuals were calculated for each cell. Conflicts caused by offensive approach were found to correlate more to submission and less to mutual understanding than expected ($z = 3.53$, \(\chi^2 = 32.38\), \(p < .01\), \(df = 6\)).
4. Effect of Gender on Antecedents and Outcomes of Peer Conflict

Episodes of peer conflict were divided into three groups according to the gender of the participants; boys only, boys and girls (mixed), and girls only. Table 4 shows the frequencies of antecedents and outcomes classified according to the combination of the gender of the participants. Chi square and residual analysis revealed that conflicts among girls were more likely caused by disagreement about play \((z = 2.87)\), and more likely resolved with mutual understanding and less likely ended with submission or without consent \((z = 3.69, -2.23)\), respectively. Table 3 shows further that conflicts among girls ended most often with mutual understanding irrespective of antecedents. Conflicts among boys also ended less often with submission \((z = -2.60)\). Conflicts among boys and girls were more often brought about by offensive approach and less often by disagreement \((z = 2.20, -3.57)\) than expected. In interactions between boys and girls, conflicts ending in submission were significantly more and endings with mutual understanding were significantly less \((z = 4.60, -5.67)\) than the expected value. Further analysis of Table 3 shows that 57% of conflicts among the mixed group were caused by either possession or offensive approach, and ended by either submission or without consent.

Discussion

The results support our hypothesis that peer conflict changes according to the development of children. Though both antecedents and outcomes change with age, developmental changes affect the outcomes of conflicts more strongly than it affects their causes.

1. Antecedents of Peer Conflict

The results show that trouble over the possession of objects or places is the prime cause of peer conflict among preschoolers. This is consistent with previous research (Shantz & Shantz, 1985; Laursen & Hartup, 1989). Other differences in the causes of conflict were less obvious but still present, and they indicate important developments in the quality of children's play. Disagreement about
play increased with age, but conflicts because of opinion differences decreased with age. This finding might reflect development in children’s play patterns. Three-year-old children are at the transition level from parallel play to cooperative one (Parten, 1932). They try to play together but they cannot play completely cooperatively. They often begin to play without common planning about what to play or without sharing opinions. Their own concepts dominate their play, and they do not try to share their ideas with their playmates. Thus each child insists on his or her own concepts (e.g., Appendix, Case 3). Moreover, opinion differences about which behavior is suitable for some fantasy role produced conflicts only among the younger children.

As children become older, play becomes more constructive and cooperative, and the number of participants also increases. So, it is to be expected that conflicts concerning the contents of play or role allocation also increase.

Conflicts involving violations of rules also increased with age. This pattern is expected because older children are more sensitive to rules than younger children and so are correspondingly more strict about rule-breaking (Piaget, 1932). At the same time, more older children (10%) resolve conflict by relying on rules, as Bakeman and Brownlee (1982) suggested (e.g., Appendix, Cases 5 and 6).

2. Outcomes of Conflicts
   a. Occurrence of peer conflict. Among 3-year-olds, a relatively high proportion of cases (15%) consisted of one child suddenly hitting another child for no apparent reason or suddenly snatching away another child’s toy. Many of these incidents did not result in an extended conflict, however, because the victim remained silent and showed either no resistance or only simple resistance. This finding shows that initiation of conflict itself requires some sort of developmental sophistication in children. When children are not assertive enough to get angry with another’s unfair behavior, they do not resist or protest. This “nonresistance” was observed especially after children had just entered the kindergarten. Thirteen of the sixteen episodes which ended with no resistance occurred in the first three months of the class of 3-year-olds. The finding reported by Hay (1984) that a large number of episodes among toddlers did not result in conflict might also be due to the participants’ relative immaturity.
   b. From simple submission to mutual understanding. This study shows that, as children get older, the outcome of peer conflict changed from submission by one of the children to mutual understanding. Submission without resistance or simple resistance (e.g., Appendix, Cases 1 and 2) decreased with age. Among the 4-year-old group, although a quarter of the episodes ended with simple resistance, submission without protest occurred in only one episode. Moreover, the rupture of interactions increased; in these cases children insisted on their own opinions and needs and were unable to compromise with each other, so that the conflict was brought to an end in a negative mode.

On the other hand, 63% of conflicts among 5-year-olds were solved with mutual understanding. The oldest children could use verbal explanations, rules, and compromises to resolve conflicts. In contrast, among 3-year-olds in the period just after entering the kindergarten (May to July) the percentage of this outcome was as low as 13%. The percentages increased across school terms (Autumn 29%, Winter 37%).

As they get older, children seem to learn better negotiation strategies and learn how to resolve conflicts peacefully. For example, when two five-year-old children wanted to play with the same toy, they could solve the conflict with “paper-scissors-stone”; or when one child asked another child to lend him or her a toy and was refused, the first child could use such strategies as, “I’ll lend you my toy if you let me use yours” rather than trying to snatch the toy away. Children also learn to compromise and to continue their play (e.g.,
3. Relationship between Antecedents and Outcomes

It was found that conflicts caused by an offensive approach positively correlated with the conflicts ending in simple submission. This fact seems linked with the social-competence level of children. As shown in Table 3, the majority of offensive actions occurred in the 3-year-old group. This is to be expected because three-year-old children cannot communicate their desires very well and so they tend to snatch away other children's toys instead of asking for them: this offensive action causes conflict. On the other hand, such conflicts tend to end in simple submission with the recipients submitting to the aggressors, or in simple resistance (e.g. in crying) instead of explicit verbal opposition. Conflicts caused by offensive approaches were more complex and were resolved with more sophisticated methods as children grew older.

Conflicts caused by disagreement correlated positively with conflicts ending with mutual consent. It seems natural that this type of conflict would end less often with simple submission.

4. Effects of Gender on Peer Conflict

Conflicts occurred more frequently among boys than among girls. This is consistent with previous findings (Hay, 1984; Shantz & Shantz, 1985).

Conflicts caused by an offensive approach arose more often when the interaction occurred between boys and girls. Moreover, conflicts ending with simple submission were most frequent in these cases. Further analysis revealed that 81% of offensive activities in the 3-year-old group were done by boys against girls. This result reflects the fact that, as in most cases, boys are more aggressive than girls.

5. Socio-Cognitive Development Underlying the Changes in Peer Conflict

All the above findings support our assumption that peer conflict changes with age and reflects the social-competence level of the subjects. Let us discuss this point with more concrete examples. Researchers' observations of specific conflicts in this study suggested that development of the following abilities underlies the changes in peer conflict. First, the development of verbal abilities seems to be crucial to those changes. In our observation, at three years old, boys were generally not able to communicate so well as girls. Thus they tended to rely upon their physical power instead of asserting their intention verbally, if the opponent seemed not so strong as they were. Among mixed groups, 70% of conflicts were caused by either struggles over possession or offensive approach. And nearly half of them (45%) closed by submission of one side. In most of these cases, boys approached offensively with physical power and girls submitted to them. Thus when boys become able to communicate their intention verbally, the number of instances of this kind of offensive approach decreased.

Secondly, it was found that among the youngest group, a number of unfair attacks failed to cause any conflict at all. This fact suggests that peer conflict requires some degree of ego-development or development of a sense of justice in children enough to realize that they have been unfairly assaulted.

Thirdly, children seem to acquire various kinds of interaction skills during play. The authors observed some cases in the three-year-old group where a child attacked a participant in a role-play which had already started, and by getting the attention of the other participants, the child succeeded in joining the role-play. It seems that interfering with others is a primitive way of joining the play. However, this kind of strategy rarely succeeds and often causes conflicts. As children become older, they learn more effective strategies for joining and better ways of conflict resolution.

The authors also observed in three-year-old group that from the second period (autumn) they began to use “paper-scissors-stone” for conflict resolution. In some of these cases the rule was not necessarily applied
properly, but it was effective in conflict resolution. This example suggests that children found that “paper-scissors-stone” was a useful way of conflict resolution and applied it without fully understanding it.

6. Conclusion
This study focused on developmental differences in the causes and outcomes of peer conflict. It showed that peer conflict changes with age. The authors hypothesize that these changes in peer conflict are supported by socio-cognitive developments such as communication skills, a sense of justice, and social interaction skills, and will be accelerated by social interactions among peers (DeVries & Goncu, 1987; Genishi & Dipaolo, 1982). Further studies are needed to relate changes in play patterns and conflict resolution to social cognitive development.

References

Appendix

Examples of peer conflict from verbatim records.

A: A grabs hold of the book and tries to take it away.
B: B firmly holds onto the book, and does not let go.
A gives up and the two of them continue looking at the book.

Case 2. Three-year-olds. Autumn. Three boys (A, B, C)
Three children place a long board across a wooden box and play by bouncing up and down on the board.
A: A, who is quite strong, says to two other children, “Stop for a minute, stop it.”
C: C gets down from the board.

4 In translating children's conversation into English, we could not express the grammatical errors of their speech.
B: B continues to bounce without getting off the board.
A: A yells at B, “I said ‘stop it!”
B: B gets down from the board.
A: A gets up onto the board and bounces up and down by himself.
B, C: B and C stare silently at what A is doing.

Case 3. Three-year-olds. Autumn. Two boys (A, B)

B is in a corner of the room. The corner is called the “Role-playing Corner” and is covered with straw mats. In the corner on a small stand is a cardboard box which is covered with white paper. There is a door painted on the box; the children use this as a prop during their play.
While B is playing, A arrives.
A: While stroking the white box A asks, “Excuse me, is the washing-bowl broken?”
B: B replies, “It’s not broken. There’s some butter in here,” and also strokes the box.
A touches the box.
B: B says, “Because there’s plenty of butter in the refrigerator.”
A pretends to open the door painted on the box, and checks inside.
B: B says, “There you see,” and approaches A.
A: “There’s nothing.”
B: “It’s okay, fib there’s butter.”
A: “So, what’s wrong with that?”
B: “There’s nothing anywhere . . . . in my house.”
A: “Hmmm, what wrong with that?”
B: “What . . . .”
A: Saying, “I’ll check the smell,” A puts his ear to the box.
B: Saying, “It’ll have to be repaired here,” B goes to a table and sits down. “If it’s not this computer . . . .”
A: A, removing his ear from the box, says, “Ah, this thing, the core’s bad,”
B: “Core isn’t bad.”
A: “The core, core, the core is butter,”
B: “The core’s bad.”
A: Saying, “The place the butter comes out of, out of here,” A touches the box.
B: B turns to A and says in a loud voice, “Go away.”
A: While putting his hand on the box, and standing up, A says “This is opposite,” and turns to face B.
B: B turns to A and says, “It’s okay, that way,” and rises out of his chair.
A: “It’s the opposite,” says A, and he tries to change the position of the box.
B: B tries to stop A and says, “It’s okay, it’s okay.”
A: “It’s okay, like that.”
B: “Then take a look at it”, says A, and tries to invert the top half of the box.
B: “Like that, the butter’s upside down.”
A: Continuing to say, “It’s the opposite,” A attempts to turn over the box.
B: A finishes turning over the box and says “It’s opposite, it’s opposite. This isn’t so good.”
B: B immediately reverses the box.
A: A says “Hmm, this—,” then his attention is caught by the voice of a teacher reading a picture book behind him.
B: “Put the frig back the way it was.”
B: B looks over his shoulder at A and says, “The butter will go bad, like this.”
A: After a little while, A points to the box and says, “Is butter inside this?”
B: B: “It’ll be rotten . . . . here . . . . become so.”
A: “Hmm. Things like butter never go rotten.”
B: “If you don’t put butter in a fridge, it goes rotten.”
A: “But the butter’s been put in, so it isn’t rotten.”
B: “I don’t like the old man anymore.”
A: A pouts and leaves.
B: B chases after A and taunts, “Old man, bleeh,” and sticks out his tongue. B then returns his former place.

Case 4. Three-year-olds. Winter. Two boys (A, B)
A and B are role-playing being in a hospital. After discussion they are building a hospital out of toy blocks.
A: A places a chair and says, “Do it this way.”
B: “Okay. So how do you sit?”
A: “It’s not a bus.”
B: “So... what do you mean... this... here, you said here was a hospital.”
A: “Didn’t we decide to make it a hospital, already?”
B: “Huh?”
A: “Me. Didn’t we decide to make it a hospital?”
B: “How come it came like this?”
A: “This way. like this is okay.”
B: “That’s weird. Like that no-one can sit.”
A: “Sit straight, like this, like Mummy,” so saying, A kneels on the chair.
B: “What! That’s weird.”
A: “Then, I won’t become a doctor here,” says A, and gets down from the chair.
A: A changes his mind and says, “I’ll help you build your place.”
B: “I... I... I... I’m a patient. Excuse me.”
A: “Yes.”
B: “My leg hurts.”
After this, the play continues.

Case 5. Four-year-olds. Spring. Two girls (A, B)
A and B are disagreeing over who takes the role of a baby during play. (Both want to be a baby.)
A: “Okay, let’s use paper-scissors-stone.”
B: “One, two, three.”
They show their hands, but it is a draw.
B: “Four, five, six.”
This is repeated several times. Finally,
A: “I won.”
B: “Umf.”
A: “(B) you can be the mother.”
B: “I want to be the big sister.”
A: “Okay, but the big sister has to cook. Okay?”
B: “I’ll go shopping.”
B leaves, carrying a shopping basket.

On a pair of swings, A is swinging on one of the swings, and B is on the other. B attempts to turn the swing over to C.
B: “(C), touch,” says B, and gets off the swing. C and E scramble to sit on the swing at the same time.
C: “It’s mine!”
E: “It’s mine!”
However, E wins possession of the swing.
C: C, looking at E, says, “Don’t.”
B: Seeing what happened, B says, “That’s wrong. (E), it’s (C)s.” Turning to A, B continues the protest, “Un, see now... (E)... it was (C)s turn, (E), he took it out of turn.”
A: A loudly says, “(E), stop it. It’s (C)s.”
E: Silently, E gives up the swing to C.