SELF-DISCLOSURE IN THE EVERYDAY CONVERSATIONS
OF KINDERGARTEN-AGED CHILDREN

by

Karen Peterman

Department of Psychological and Brain Sciences
Duke University

Date: 4/17/02

Approved:

Carol O. Eckerman, Supervisor

Dissertation submitted in partial fulfillment of
the requirements for the degree of Doctor
of Philosophy in the Department of Psychological
and Brain Sciences in the Graduate School of
Duke University
2002
ABSTRACT

(Psychology – Developmental)

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ABSTRACT

What function does self-disclosing conversation play in the conversations of young children? Two studies were conducted to investigate how 5 ½ year old children self-disclose in their everyday conversations. Both studies video-recorded children’s self-disclosing conversations while they participated in an art activity. Study 1 investigated the effect of two conversational partner characteristics (age of partner and partner familiarity), and of the conversational context on children’s self-disclosing behavior. Children were paired with an unfamiliar adult, an unfamiliar peer, or a familiar peer play partner, and conversations were recorded in three interaction contexts. Self-disclosure was found to be a more frequent topic of conversation in a fairly barren conversational environment than during an art activity. In each context, however, children self-disclosed at least twice as often with an unfamiliar as with a familiar play partner. There was no difference in self-disclosing behavior for children paired with an unfamiliar adult or an unfamiliar peer. Study 2 was designed to investigate a possible function for increased self-disclosing with an unfamiliar partner: that children use self-disclosure in early conversations with unfamiliar partners to gauge the desirability of future interaction. It was hypothesized that children would evaluate unfamiliar partners who did not participate in self-disclosure less favorably than children paired with a self-disclosing partner. A methodology was designed to allow children to think they were talking to another child when they were actually speaking with a researcher trained to talk like a five-year-old. Children were randomly paired with a play partner who either reciprocated or did not reciprocate self-disclosing conversation, and behavioral and evaluative reactions were measured. Results indicated that children paired with a non-reciprocating
partner became less persistent in their self-disclosing initiations over time. Children paired with a reciprocating partner self-disclosed at similar levels throughout the interaction. Evaluative differences were also found. Children paired with a non-reciprocating partner rated the unfamiliar peer significantly lower than children paired with a partner who reciprocated self-disclosure. Based on these findings, it was concluded that young children are differentially sensitive to the self-disclosing behavior of unfamiliar conversation partners, and that they use participation in self-disclosure as a gauge for establishing initial connections with unfamiliar partners.
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I would also like to thank my committee, each of whom contributed to my learning experience in different ways. I would like to thank Amy Needham for her unwavering support in the classroom, in my research, and in life. I would like to thank Steve Asher for introducing me to the world of friendship research, and, in particular, for helping push my research ideas in new directions. I would like to thank Peter Ornstein for his encouragement and support, and for being my guide into the world of memory development. Finally, I would like to thank Naomi Quinn for encouraging me to step away from psychology to look at my research from other points of view. All of you have been so generous with your time and support. Thank you for your help along the way.
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Self-disclosure, a conversational process whereby the self is made available for the perception of others (Berndt & Hanna, 1995; Erwin, 1993; Howe, Aquan-Assee & Bukowski, 1995), involves the discussion of important thoughts, evaluations and personal experiences (Rotenberg, 1995). Self-disclosing topics are common among the friendship conversations of both adolescents and adults, however, little is known about the self-disclosing behavior of young children. Interestingly, the few studies that have focused on self-disclosure in childhood have found that the vast majority of children’s self-disclosures are with parents, and not with friends (see Buhrmester & Prager, 1995 and Buhrmester, 1996 for a review). More research has been done on a specific form of self-disclosure, the development of autobiographical reminiscing. Here, too, the majority of self-disclosures are with adults. This research demonstrates that 2 ½ year old children participate in an average of 4 reminiscing conversations with mothers per hour (Miller, Sandel, Liang & Fung, 2001), but that with childhood friends, reminiscing is still fairly rare as late as 5 year of age (Engel, 1997; Peterman & Magnuson, 1999). Further, this research has demonstrated that the mother-child reminiscing context, in particular, is a rich learning environment for young children. Theory about the functions of mother-child reminiscing posit that these conversations function to help children learn how to construct a self-concept based on personal narrative (Fivush, 1998; Fivush & Buckner, 1997; Fivush & Swartzmüller, 1998; Miller, 1994; Snow 1990), and teach children how to use talk about past experiences as a way to communicate the self to others (Miller, 1994; Nelson, 1993). These ideas highlight the similarities between reminiscing and self-
disclosure. In fact, these two functions of reminiscing embody the definition of self-disclosure: to define and share information about the self.

Despite the fact that both literatures highlight these two functions, neither area has focused on empirically investigating these ideas. In addition, little work in either area has focused on conversation outside the family context. A recent study by Peterman and Eckerman (2001), however, attempted to describe how young children use conversation as a communicative tool with a number of different partners. Although the study was originally designed to investigate reminiscing behavior, many aspects of self-disclosure were also coded. The conversations of 5 ½ year olds were observed during a typical reminiscing session with their mothers, and in naturalistic conversation with an unfamiliar adult experimenter and a best friend. Reminiscing alone was not frequent in either the best friend or unfamiliar adult context. A descriptive comparison of the self-disclosing behavior of children in each group, however, indicated that children seemed to discuss self-disclosing topics more often with an unfamiliar adult than with a familiar child partner.

What might be driving this difference in the self-disclosing behavior of children paired with an unfamiliar adult versus a familiar child partner? There are two characteristics that are obviously different between these two conversational partners: the type of partner (adult versus child), and the familiarity of the partner (unfamiliar versus familiar). Either of these partner characteristics could be related to differences in disclosing behavior. For example, perhaps children have different ideas about the types of conversation appropriate for adult versus child partners. Recall that both reminiscing
and self-disclosure are often the topic of conversation between parents and children. Even at young pre-school ages, children participate in many parent-child reminiscing conversations (Miller, Sandel, Liang & Fung, 2001), and until late childhood or early adolescence the vast majority of children’s self-disclosures are with parents (Buhrmester & Furman, 1987; Buhrmester & Prager, 1995). Both literatures also demonstrate that self-disclosure is not a common topic of conversation among young friends. Although reminiscing has been demonstrated among kindergarten-aged peers in a carpool setting (Preece, 1987), reminiscing among young peers is not a common occurrence in other contexts (Peterman & Eckerman, 2001; Peterman & Magnuson, 1999). In Peterman and Eckerman (2001), for example, only 2% of the conversations between best friends during an art activity and a snack involved reminiscing. Similarly, both observational and self-report measures of children’s self-disclosing conversations indicate that until late childhood or early adolescence, children do not self-disclose often with peers (Buhrmester & Furham, 1987; Reid, Landesman, Treder & Jaccard, 1989; Rotenberg & Sliz, 1988). Perhaps, based on their seemingly abundant experiences self-disclosing with parents, and the lack of disclosure found among age-mates, children have learned that self-disclosure is appropriate in adult-child interaction, and thus children self-disclose more frequently with any adult partner.

Alternatively, perhaps children vary self-disclosure based on their familiarity with their conversational partner. Although little research has focused on this topic directly, studies have looked at the play behavior of children paired with familiar versus unfamiliar partners. Doyle, Connolly & Rivest (1980), for example, found that when
paired with a familiar peer, preschool-aged children played more actively with each other, and that play was more organized and purposeful than the play of unfamiliar peers. There are also hints in the friendship literature that self-disclosure might be important to the conversations of unfamiliar partners. Gottman (1983) found that self-disclosure was one of a number of topics that helped unfamiliar children become friends over time. Parker (1986) also found that self-disclosure was important to children paired with an unfamiliar partner. Self-disclosure was one of a set of characteristics that, when manipulated, changed children’s perceptions of their unfamiliar peer. This finding in particular may indicate that self-disclosure is perceived by young children and considered an acceptable conversation topic with unfamiliar partners. Perhaps, then, it is not the type of partner that children are paired with, but their degree of familiarity with that partner, that determines children’s self-disclosing behavior. Either scenario would provide interesting data to supplement our current understanding of how children use self-disclosing conversation.

Study 1 was designed to answer several questions about self-disclosure in the everyday lives of young children. For example, does the context in which a conversation occurs affect self-disclosure, as demonstrated in the reminiscing literature (Engel, 1998; Olszewski & Fuson, 1986)? Do children change their conversational behavior based on the characteristics of their conversation partner? If so, is it the type of partner or the degree of familiarity with a partner that affects children’s disclosing behavior? The current study was designed to manipulate both partner characteristics and conversation context in order to understand better the function of self-disclosure in the conversations
of young children. Children were paired with an unfamiliar adult, an unfamiliar peer or a familiar peer partner, and their conversations were observed in both structured and unstructured conversational contexts. To determine how context affects self-disclosure, conversation was compared across conversational context. To investigate the effect of type of partner and degree of familiarity on self-disclosure, a number of comparisons were made. The behavior of the two groups of children paired with child partners was compared to the group paired with an adult partner to determine if, and how, type of partner affects self-disclosure. Similarly, the two groups of children paired with unfamiliar partners were compared to the group paired with a familiar partner to investigate the effect of familiarity on young children’s self-disclosing conversations.
Study 1

Participants

Forty-eight 5½ year old “target children” (24 female) participated in one play session within plus or minus two months of their 5½ year old birth date. Children were randomly assigned to one of three play partner groups: unfamiliar adult (UNFAM-A), unfamiliar peer (UNFAM-P) or familiar peer (FAM-P). Sixteen additional children were recruited to serve as the UNFAM-P partner for one third of the sample. The ages of the UNFAM-P partners ranged from one year older to one year younger than the target child. A final group of sixteen children (the FAM-P partners) were recruited through their best friend who had already agreed to take part in the study as a target child. The ages of the FAM-P partners ranged from one year older to one year younger than their target child best friend. Both FAM-P and UNFAM-P partners were always the same gender as the target child. All children recruited by the researchers were from either an existing database of mothers interested in participating in research, or were found through local birth records.

The majority of families participating in the study were white (87%). Eight African American families participated (1 in the UNFAM-A group, 4 in the UNFAM-P group and 3 in the FAM-P group); one Asian family and one Hispanic family also participated in the FAM-P condition. The majority of children lived with both parents (see Table 1 for other demographic characteristics).
Table 1

Means and Standard Deviations for Participant Characteristics by Condition

<table>
<thead>
<tr>
<th></th>
<th>Participant Age (years, months)</th>
<th>Peer Age (years, months)</th>
<th>Mother Education (years)</th>
<th>PLS Score (normed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNFAM-A</td>
<td>5,5 (0,1)</td>
<td>NA</td>
<td>16.93 (2.12)</td>
<td>98.86 (8.92)</td>
</tr>
<tr>
<td>UNFAM-P</td>
<td>5,4 (0,1)</td>
<td>5,4 (0,9)</td>
<td>17.73 (2.25)</td>
<td>100.19 (9.72)</td>
</tr>
<tr>
<td>FAM-P</td>
<td>5,6 (0,3)</td>
<td>5,4 (0,9)</td>
<td>17.75 (2.05)</td>
<td>97.53 (8.47)</td>
</tr>
</tbody>
</table>
Due to a procedural problem during data collection, the data from one dyad of FAM-P partners could not be used. To maintain equal numbers of children in each condition, an additional dyad was added to the FAM-P group.

Procedure

Families were first sent a letter that described the study. Within a week of receiving the letter, families were called and asked to participate. All children were asked to come to the lab to participate in one one-hour visit that included an art project and completing the expressive component of the Preschool Language Scale–3 (Zimmerman, Steiner & Pond, 1992).

Unfamiliar-Adult, Unfamiliar-Peer and Familiar-Peer Play Partners. Children were randomly assigned to the FAM-P, UNFAM-P or UNFAM-A play partner condition. Mothers of children assigned to the FAM-P group arranged to bring their child’s best friend to the lab visit. Children assigned to the UNFAM-P and UNFAM-A conditions were simply asked to come into the lab. For children assigned to the UNFAM-P group, the experimenter scheduled two same-gender children to come to the lab at the same time to serve as play partners for each other. For the UNFAM-A condition, a second experimenter (Experimenter B) served as play partner. Each observation session was broken down into 3 sections: a beginning 3-minute wait period (WAIT1), a 15-minute art project activity (ART), and a 3-minute ending wait period (WAIT2). The entire observation session was video-recorded.
Because this study was designed to tease apart an effect found in a prior study (Peterman & Eckerman, 2001), it was important to retain the methodology used in the adult-child interaction of the previous study. To replicate the methodology previously used, Experimenter B was instructed to be an active but non-eliciting participant in the conversation. That is, Experimenter B was instructed only to initiate task-based conversations. If the child initiated a non-task conversation, Experimenter B was instructed to give placeholder responses (“oh” or “uhhuh”) rather than asking the child to elaborate on the topic. In this way, Experimenter B was active and responsive to non-task topics, but she did not elicit information during those conversations.

*Play Partner Interactions.* Children and play partners met in a large laboratory playroom that contained three large blue screens (each measuring 3X6 feet) that divided the room into a smaller play space, and concealed the video equipment. Within the smaller play space there was a child-sized table with two child-sized chairs, two adult-sized chairs, and a one-way mirror. An observation room was located on the opposite side of the one-way mirror. The observation room held several chairs and a television. Live video and audio feed were connected from the playroom to the observation room, so a parent could both listen to, and watch his/her child during the play partner interaction.

Once in the playroom, Experimenter A explained the specifics of the study to the parent(s) and child(ren). Children were told that they were going to do an art project. Once the parent(s) had signed the consent form, Experimenter A told the child(ren) that she was going to get their art project, and she escorted the parent(s) to the adjacent
observation room. The child(ren) waited in the playroom with their play partner until Experimenter A returned.

Three minutes after leaving the playroom with the parent(s), Experimenter A returned with the supplies needed to do the art activity. The art project consisted of decorating a T-shirt that had been pre-printed by the experimenters for the purposes of this study. Each T-shirt consisted of a black screen print of 5 animals driving racecars on a white shirt. Children were given a set of 9 fabric markers to share, and instructed to decorate their T-shirts any way they liked. A pre-decorated shirt was placed on the table to demonstrate what the project would look like when finished. Each T-shirt was pulled over a large piece of cardboard to prevent the markers from bleeding through onto the back of the shirt. To make coloring the fabric easier for the children, the shirts were attached to the cardboard by large clips that held the shirt in place.

Children were given 15 minutes to interact while coloring their T-shirts. After 15 minutes, Experimenter A returned to the playroom and told the dyad that she wanted to take the shirts next door to show the child’s parent what a good job they were doing. Once Experimenter A removed the art supplies and left the playroom, the second wait period began. The child and play partner waited in the playroom for 3 minutes. After 3 minutes, Experimenter A returned and completed the expressive component of the Preschool Language Scale-3 (PLS-3) with each child. In the FAM-P and UNFAM-P conditions, the target child was sent to the observation room to finish their art project with their parent while the play partner remained in the playroom to complete the PLS-3. Once the play partner had completed the PLS-3, the children changed rooms and the
PLS-3 was administered to the target child. Afterwards, children were given as much time as needed to finish their T-shirts.

**Coding**

To code the play partner interactions, a content-based coding scheme was devised (The Self-Disclosure Coding Scheme). The scheme consists of 11 codes that describe conversational content. Codes are divided into three general content categories: Task-Based Utterances, Self-Disclosing Utterances, and General Codes. Task-Based Utterances involve description of ongoing task events, the surrounding environment, or general knowledge and fantasy talk cued by ongoing events. Evaluations of the task, and comparing aspects of the art activity between one another were also coded as Task-Based. Four types of Self-Disclosing Utterances were coded including personal evaluations, discussion of personal characteristics, and talk about personal past and future events. General Codes were used when either an interruption occurred or when an utterance was unintelligible (see Appendix A for definitions and examples of each code).

Rather than transcribing each interaction, a video-based software package called The Observer was used to code the data directly from videotape. The Observer adds an invisible time code to coding tapes that allows a researcher to assign codes for any given behavior. The Observer organizes observations based on their corresponding time code and thus creates a time-based list of behavior codes. For the purposes of the current study, codes were assigned on an utterance-by-utterance basis, and each utterance received only one code. Inter-coder reliability was calculated on approximately 20% of
the transcripts for the ART context and the WAIT1 and WAIT2 contexts combined. Records were quasi-randomly selected to include equal numbers of boys and girls from each of the three conditions. Because codes were assigned while listening to and parsing utterances rather than from transcripts, the overall percent agreement of assigning a code was calculated. Inter-coder reliability for assigning a code in the WAIT1/WAIT2 contexts was 80%; percent agreement for assigning a code to the ART context was 79%. Based on those utterances that were assigned a code, reliability was then calculated for the codes included in the Self-Disclosure Coding Scheme. Mean percent agreement for the WAIT1/WAIT2 context was 75% (kappa .67). For the ART context, mean inter-coder reliability was 78% (kappa .68).

To determine normative language development, standardized PLS-3 scores were calculated. All participants scored within the normal range for children their age, and thus the conversational data for all participants was included for analysis.

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1 Because each of the wait sessions was only 3 minutes long, and because children usually focused on only a few conversation topics in each wait period, WAIT1 and WAIT2 records were combined for reliability testing.
Results

This study was designed to investigate the effect of both conversational context and conversational partner characteristics (type of partner and degree of familiarity) on children's self-disclosing behavior. To control for talkativeness, all analyses were calculated on the proportion of time children spent in self-disclosing conversation. That is, the number of self-disclosing utterances was divided by the total number of utterances made by each child. Data were collapsed across gender for all analyses.¹

Context and Self-Disclosure

To investigate how self-disclosure varied across the WAIT1, ART and WAIT2 contexts, a repeated measures ANOVA was calculated on the proportion of self-disclosing utterances in each context. Results indicated an overall effect for context (F(2,46) = 16.76; p<.01). Further investigation of this difference using Tukey comparisons indicated that children used self-disclosure significantly more often in the WAIT1 context (M = .33) than in either other context. Children also self-disclosed significantly more often in the WAIT2 context (M = .19) than in the ART context (M = .12).

Partner Characteristics and Self-Disclosure

To investigate the effect of two conversational partner characteristics (type of partner and degree of familiarity) on self-disclosing behavior, a series of independent-

¹ No gender differences were found in the WAIT1 or WAIT2 contexts. A gender difference was found in the ART context. Further exploration of this difference indicated that boys and girls behaved similarly with each type of partner; the difference between boys behavior with an UNFAM-A and FAM-P partner, however, was only marginally significant at p = .058, with boys self-disclosing more with an UNFAM-A partner. Because the pattern of data was consistent with that of the girls data for the ART context, the data were collapsed across gender for all analyses, including the ART context.
samples t tests were calculated. To investigate the effect of type of partner, separate comparisons were made between the UNFAM-A condition and each child group (UNFAM-P and FAM-P); a type of partner effect would be demonstrated by differences in disclosing behavior between the adult group and both child groups. To investigate the differences between familiar and unfamiliar conversational partners, comparisons between the FAM-P condition and the UNFAM-P and UNFAM-A groups were of interest; a familiarity effect would be demonstrated by significant differences in disclosing behavior between the FAM-P partner group and each group paired with unfamiliar partners.

A similar pattern of results was found for each of the 3 contexts. In the WAIT1 context, no significant difference was found between the proportion of total talk spent in self-disclosure between children paired with an UNFAM-A versus UNFAM-P play partner (t(46) = 1.38; ns). Children paired with an UNFAM-A partner self-disclosed significantly more than their FAM-P counterparts (t(46) = 4.57; p<.01); children in the UNFAM-P condition also self-disclosed significantly more than children in the FAM-P group (t(46) = 3.56; p<.01). Thus, from the beginning of their time together, children paired with both UNFAM-P and UNFAM-A play partners spent a greater portion of their conversation in self-disclosure than children paired with FAM-P partners (see Table 2 for means).

Children paired with an UNFAM-A partner and an UNFAM-P partner also spent significantly more conversation in self-disclosure than children in the FAM-P condition in the ART context (t(46) = 3.03; p< .01, and t(46) = 3.61; p<.01, respectively). As
Table 2
Means and Standard Deviations for the Proportion of Self-Disclosing Conversation by Condition and Context

<table>
<thead>
<tr>
<th></th>
<th>UNFAM-A</th>
<th>UNFAM-P</th>
<th>FAM-P</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAIT1</td>
<td>.57 (.37)**</td>
<td>.41 (.30)**</td>
<td>.12 (.13)</td>
</tr>
<tr>
<td>ART</td>
<td>.22 (.22)**</td>
<td>.20 (.20)**</td>
<td>.08 (.06)</td>
</tr>
<tr>
<td>WAIT2</td>
<td>.32 (.33)*</td>
<td>.23 (.19)*</td>
<td>.10 (.16)</td>
</tr>
</tbody>
</table>

Note: Separate t-tests were calculated between each combination of the three groups for each context. No significant difference was found between the self-disclosing behavior of children paired with ADULT and UNFAM play partners in any conversational context. Asterisks represent a significant difference in self-disclosure from the FAM group.

* p<.05
** p<.01
in the WAIT1 context, children paired with UNFAM-A and UNFAM-P play partners did not differ in their self-disclosing behavior ($t(46) = .45$; ns, see Table 2 for means).

Finally, in the WAIT2 context, both children paired with an UNFAM-A and UNFAM-P play partner self-disclosed significantly more than children in the FAM-P condition ($t(46) = 2.41; p<.05$ and $t(46) = 2.13; p<.05$ respectively), and children in the UNFAM-A and UNFAM-P conditions did not differ significantly in their self-disclosing behavior ($t(46) = .36$; ns). As in the previously described contexts, children paired with an UNFAM-P or UNFAM-A partner spent significantly more of their conversation in self-disclosure than children paired with a FAM-P play partner. Again, children in the UNFAM-P and UNFAM-A conditions did not differ significantly in their self-disclosing behavior (see Table 2 for means).

Thus, in each context observed, children self-disclosed more when paired with an unfamiliar play partner (whether a child or an adult) than when paired with a best friend. To investigate the specific conversational behaviors that contributed to this difference, several additional measures were scored during the ART conversations of the UNFAM-P and FAM-P play partner groups: the total number of self-disclosing conversations initiated, the percentage of initiations that yielded an initial response, and the duration of self-disclosing conversations.²

Initiations were defined as the introduction of a self-disclosing conversation topic. An independent-samples $t$ test indicated that UNFAM-P play partner dyads initiated

² Because the partner in the UNFAM-A condition was given instructions on how to interact with the child, conversations in that condition were constrained differently from either the UNFAM-P or FAM-P partner interactions. The UNFAM-A condition was therefore excluded from further analysis.
significantly more self-disclosing conversations during the art project activity than did dyads of FAM-P play partners ($t(30) = 2.75; p<.05$). An initial response to a self-disclosing initiation was defined as any self-disclosing response, including question responses, that served to continue the self-disclosing conversation. An initiation was considered to have received an initial response if the play partner provided at least one response to the initiation. An independent-samples $t$ test was calculated on the percent of initiations receiving an initial response. Results indicated that FAM-P and UNFAM-P dyads were equally likely to provide an initial response to a self-disclosing conversation topic once introduced ($t(30) = .62; \text{ns}; \text{see Table 3 for means}$). Importantly, both groups of children responded to the majority of self-disclosing topics (over 70%).

Finally, the length of a self-disclosing conversation was measured by the number of conversational turns (i.e. switches between conversational partners) per bout of self-disclosing conversation. The more shifts between the target child and their play partner, then, the longer the self-disclosing conversation. An independent-samples $t$ test calculated on the mean number of self-disclosing turns in each group indicated that UNFAM-P play partner dyads discussed self-disclosing topics at greater length than did FAM-P dyads ($t(30) = 29; p<.01$).

Together, these findings indicate that while both groups of dyads were likely to respond initially to a self-disclosing conversation topic, self-disclosing conversations were initiated more often, and lasted for a longer duration between unfamiliar play partners than among familiar dyads. To demonstrate what these types of conversations look like among children of this age, examples of typical self-disclosing conversation are
presented in Appendix B. The first excerpt, labeled Example 1, is a discussion of personal characteristics, and also demonstrates the length and complexity found in some of these conversations. Example 2 is an example of a conversation focusing on self-disclosing evaluations, and Example 3 focuses on autobiographical reminiscing.
Table 3

Mean and Standard Deviation Scores for Specific Self-Disclosing Conversational Components

<table>
<thead>
<tr>
<th></th>
<th>UNFAM-P</th>
<th>FAM-P</th>
</tr>
</thead>
<tbody>
<tr>
<td># Self Disclosing Conversations Initiated</td>
<td>6.63 (4.06)*</td>
<td>3.50 (2.03)</td>
</tr>
<tr>
<td>% Initiations Receiving A Response</td>
<td>77% (16%)</td>
<td>72% (29%)</td>
</tr>
<tr>
<td>Mean Duration of Self Disclosures (in turns)</td>
<td>5.49 (1.96)**</td>
<td>2.92 (1.46)</td>
</tr>
</tbody>
</table>

* \( p < .05 \)
** \( p < .01 \)
Discussion

The current study investigated the effect of both conversational context and conversational partner characteristics on children’s self-disclosing behavior. Two types of context (structured and unstructured) were broken down into three different components (a beginning wait period, an art activity and an ending wait period). Overall, children spent more time in self-disclosure during the beginning wait period than in either other context. Further, children spent more of their overall conversation engaged in self-disclosure during the waiting periods than they did during the art project activity. These findings suggest that self-disclosure may be more important at the outset of a new activity, or when introduced to a new environment. They further suggest that children are more likely to self-disclose in rather boring unstructured contexts than during a structured play activity. These ideas are consistent with research on peer reminiscing (a specific type of self-disclosure) which has demonstrated context effects on conversation topic use (Engel, 1997; Olsewski & Fuson, 1986). These data demonstrate that reminiscing is a less frequent topic of conversation during play than when children are engaged in a slightly structured task like an art project. Further, in a rather boring and unstructured carpool setting, Preece (1987) demonstrated that 5-year-old children frequently discussed a wide variety of reminiscing conversation topics. The current study confirms these findings by demonstrating further that conversational context impacts the topics that preschool-aged children discuss. As in previous studies, the current findings suggest that a conversation environment with few distracters may be a richer context for studying self-disclosing behaviors than either a free-play or structured activity task.
Although differences were found in the overall amount of self-disclosure across conversational contexts, remarkable consistency was found in children’s self-disclosing behavior with different types of play partners in each of these contexts. In each context, children spent significantly more conversation in self-disclosure when paired with an unfamiliar play partner (whether an adult or child) than when paired with a familiar partner. Further, children paired with unfamiliar adult and unfamiliar child partners did not differ significantly in their self-disclosing behavior in any context. These data suggest that it is not the type of partner with which children are paired, but the degree of familiarity with that partner that affects children’s self-disclosing behavior. In each context, children self-disclosed at least twice as often if paired with an unfamiliar play partner than they did if paired with a familiar conversation partner. A note of caution must be noted, however. Recall that the unfamiliar adult was limited in her conversational feedback to children’s self-disclosing conversations. Although the unfamiliar adult partner was receptive and responsive, she did not make comments or ask questions to encourage the children to continue self-disclosing. As such, these conversations may represent atypical adult-child interactions. It could be the case, then, that if interacting in a more typical conversational environment, that children would self-disclose more with an unfamiliar adult than an unfamiliar child partner. If this were the case, the demonstrated preference for self-disclosing with unfamiliar partners would be heightened when paired with an unfamiliar adult.

Three components of the children’s self-disclosing conversations were compared across the familiar and unfamiliar peer conditions. Children in both groups were equally
likely to provide an initial response to self-disclosing conversations when initiated by the partner. Children provided initial responses to the vast majority of self-disclosing initiations in both the familiar and unfamiliar peer groups. This finding indicates that self-disclosing topics are well received (at least initially) by children at this age. Differences were found, however, in the number of initiations made and in the maintenance of self-disclosing conversation. Children in unfamiliar peer dyads initiated self-disclosing topics more frequently, and maintained those topics for more conversational turns than their familiar peer counterparts.

It seems the case, then, that although children vary their self-disclosing conversation based on conversational context, that children are more interested in self-disclosing with an unfamiliar rather than familiar conversation partner. This preference is indicated by an overall difference in self-disclosure driven by an increase in the number and length of self-disclosing conversations. These findings stand in contrast to the relation between familiarity and self-disclosure found for adult conversational behavior. Adult conversation tends to become more self-disclosing as familiarity increases. Both surveys about their own self-disclosing behaviors (Rubin, Yang & Porte, 2000), and behavioral observation of conversations (Berg, 1984; Gaebelien, 1976; Hornstein & Truesdell, 1988) indicate that adults self-disclose more often with friends than with either strangers or acquaintances. Similarly, Planalp and Benson (1992) found that when asked to observe conversations and then rate how intimate the relationship of the conversational partners (either as acquaintances or friends), self-disclosure was
reported to be one of the most frequent criteria used to distinguish the conversations of friends and acquaintances.

Adults also use self-disclosure to evaluate unfamiliar partners. Derlega and Stepień (1977) found that vignette characters that disclosed personal information to a character identified as a stranger were rated as both less likable and more psychologically maladjusted than characters that disclosed the identical personal information to someone identified as a friend. Similarly, research has shown that when interacting with an unfamiliar partner, a confederate who self-discloses personal information early in the conversation is rated less favorably than a confederate that discloses the same personal information later in the conversation (Archer & Burleson, 1980; Wortman, Adesman, Herman & Greenberg, 1976).

Recent evidence demonstrates that children are also sensitive to disclosure in interactions with familiar versus unfamiliar partners, but in an opposite direction. Mathur (2001) paired third and seventh graders with either a friend or an acquaintance, and recorded their conversations. Afterwards, children rated their conversation. Results suggested a negative relation between amount of self-disclosure and the ratings of friends’ conversations. This relation was not found, however, for children paired with an acquaintance. Although it is unclear exactly how self-disclosure was defined, Mathur concludes that the unfamiliar dyads may be using self-disclosing conversation to get to know each other. Talking about the self, then, was considered appropriate for children paired with an unfamiliar partner. With a familiar partner, however, self-disclosure was not valued.
It seems to be the case, then, that the rules for self-disclosure are different for children than they are for adults. Behaviorally, children do not use self-disclosure often in their daily interactions with friends, while adults frequently self-disclose with friends. Adults and children also seem to evaluate the use of self-disclosure differently. In adult interaction, self-disclosure is considered inappropriate in interactions with strangers. Third and seventh graders, in contrast, rated conversations with friends lower if self-disclosure was a frequent topic of conversation.

Why would young children make the opposite distinction about self-disclosing with familiar versus unfamiliar partners? What function does self-disclosure serve in early interactions with an unfamiliar partner? The friendship literature provides a potential explanation in its discussion of the varied conversational dynamics important to friendship from early childhood through adolescence (Gottman & Mettetal, 1986; Tesch, 1983). According to this research, the goal of early childhood friendship is sustaining coordinated play. Thus conversation focused on initiating and maintaining play activities is of the utmost importance. Fantasy talk, resolving conflict, and having a high level of agreement between partners, for example, are all important aspects of interaction; they each function to sustain play. In contrast, by middle childhood and adolescence, the goal of friendship is inclusion in a large peer group. At this age, children become concerned with the norms of their peer group, how their peer group is alike, and how their group is unlike other groups. Gossip, exchanging information about the self, and intimate self-disclosure all become central topics of conversation at this stage in development. The goals of friendship, then, change from being focused on managing shared activities early
in development, to being focused on loyalty, intimacy and social support during adolescence. It would not be surprising, then, to find that conversation topics change as the goals of friendship change across development. Perhaps children do not self-disclose often among friends in early childhood because self-disclosure does not help meet the goals of early childhood interaction. Later in development, when self-disclosure does meet the goals of friendship interaction, self-disclosing behaviors become prominent.

Research on self-disclosing behavior with peers across development confirms these ideas. Rotenberg and Sliz (1988), in a paradigm that asks children to audio-record self-disclosing messages to friends, found that as age increased, so too did the amount of self-disclosing conversation in the recorded messages. Buhrmester (1996), in a meta-analysis of research on self-disclosure across development, confirms that it is not until late childhood or early adolescence that self-disclosure becomes a frequent topic of peer conversation. Self-disclosure, then, does not appear an important part of early childhood friendship. Given these findings, it is not surprising that the best friend dyads in the current study did not self-disclose frequently. But what about the unfamiliar groups? Children self-disclosed twice as often with an unfamiliar play partner as did children paired with a best friend. Why do children use self-disclosure in their initial interactions with new conversational partners? What function does self-disclosure serve in these early interactions?

Gottman (1983) provides evidence that self-disclosure is important in the formation of young children’s friendships. In a study designed to create a model of friendship formation, children between the ages of 3 - 9 years were paired with an
unfamiliar play partner, and their conversations were observed as they played together over several sessions. Based on these conversations, Gottman identified several interaction characteristics that predicted which children became friends over time, including communication clarity and connectedness, information exchange, exploration of similarities and differences, establishment of common ground play activities, resolution of conflict, positive reciprocity and self-disclosure. Importantly, many of these conversational characteristics involve self-disclosure. Information exchange, for example, involves conversation about the self, others, and personal possessions. Discussion of similarities and differences involves comparing personal attributes, attitudes, and possessions to those of the peer. Finally, self-disclosure involves discussion of feelings, thoughts, opinions and past behaviors. In sum, many of the conversational components related to friendship formation in Gottman’s model are self-disclosing in nature. It may be the case, then, that although self-disclosure is not often found among established childhood friendships, that it is important in the early stages of friendship formation.

Parker (1986) provides confirmatory evidence for Gottman’s model, and for the importance of children’s self-disclosing conversations with an unfamiliar partner. Parker, in an attempt to show Gottman’s characteristics of friendship formation at work, created the Panduit Paradigm. In this paradigm, children between the ages of 3 and 5, met and conversed with a child-sized alien named Panduit. The Panduit doll was equipped with a microphone that allowed a researcher (stationed in another room) to provide Panduit’s half of the conversation, and children interacted with either a “skilled” or “unskilled”
Panduit. The skilled Panduit used all of the conversational characteristics that Gottman’s model indicated important to friendship formation while conversing with the children. The unskilled Panduit did not display any of the conversational characteristics from Gottman’s model. Children conversed with Panduit for 30 minutes, and then were asked if they (a) wanted to play with Panduit for 5 more minutes, (b) wanted to play for 5 more minutes by themselves, or (c) wanted to go home. Parker also took measurements from a post-Panduit parent-child conversation, and had parents fill out surveys on how often their child discussed Panduit within the 2-4 days following the lab visit. Combining these measurements, Parker considered a child to have “hit it off” with Panduit if they (a) wanted to continue playing with him after the visit, (b) if they had favorable things to say about Panduit in the parent-child conversation, and (c) if they mentioned Panduit frequently in the days following the lab visit. Based on these criteria, significantly more children in the skilled versus unskilled condition “hit it off” with Panduit. Almost none of the children “hit it off” with the unskilled Panduit partner. Parker concludes that these data illustrate that children are aware of the communicative competence of conversational partners. Preschool aged children, then, monitor (at least to some extent) the conversational competence of an unfamiliar partner and then evaluate that partner based on his/her perceived competence (that is, they use the partner’s competence to determine the desirability of future interaction).

Together, Gottman’s theory, Parker’s experimental data, and the results from the current study suggest that self-disclosure plays an important role in the early interactions of unfamiliar young children. Gottman’s theory posits that self-disclosure is one of a set
of conversational components important in moving initial acquaintanceship to friendship. Indeed, the current study demonstrates that in naturally occurring, everyday conversations, children self-disclosed more when paired with an unfamiliar rather than a familiar conversational partner. Parker’s work suggests that children also monitor the conversational contribution of an unfamiliar partner and react differently to their partner if conversational components (including self-disclosure) are manipulated. It seems likely, then, that self-disclosure does serve an important function in the early interactions of young children. In adult relationships, self-disclosure functions to maintain friendship.

What function does self-disclosure serve in childhood interactions with unfamiliar partners? Do children use self-disclosure in this context to evaluate unfamiliar partners as the children in Parker (1986) evaluated Panduit? Are children using self-disclosure to get to know each other as Mathur (2001) suggests? If self-disclosure functions as an evaluative gauge in early conversations with unfamiliar partners, then children should be particularly and differentially sensitive to how unfamiliar partners participate in self-disclosing conversations. That is, the success or failure of self-disclosing conversations alone should predict children’s perceptions of new partners. If this were the case, then manipulating the self-disclosing participation of an unfamiliar peer should affect how children react to, and evaluate that unfamiliar partner. As such, the self-disclosing behavior of an unfamiliar partner should relate to behavioral and evaluative differences in children’s reactions to that new partner.

Study 2 is designed to test these ideas. Similar to the Panduit paradigm, children were paired with either a reciprocating or non-reciprocating self-disclosing play partner.
Rather than being paired with a completely skilled or unskilled partner, however, the play partner only differed his/her conversational behavior in the initiation of, and response to, self-disclosure. It was hypothesized that if children use early self-disclosing conversations to gauge future interaction with an unfamiliar partner, then manipulating the self-disclosing behavior of an unfamiliar peer should yield different behavioral and evaluative responses from children. That is, children paired with a partner who did not participate in self-disclosure would be expected to change their self-disclosing behavior over time, and evaluate the play partner more negatively after the interaction. In contrast, it was predicted that children paired with a partner who did participate in self-disclosure would continue self-disclosing throughout the interaction, and would evaluate the peer favorably at the conclusion of the interaction.
Study 2

Participants

Thirty-two 5 ½ year old children (16 female) were recruited to participate in a staged play session with a same-gender 5 year old play partner. Children were recruited through an existing database of mothers interested in participating in research, an advertisement placed in a local parent magazine, and flyers distributed to local summer camps and elementary schools. Seventy-five percent of the children who participated were recruited through the database. Children were randomly assigned to one of two groups: reciprocating (REC) or non-reciprocating (NON).

Because the outcome measures of interest were dependent on children experiencing and reacting to the conversational manipulation, a set of conversational criteria was established for participants to be included in the study. For the conversational manipulation to be effective, children had to participate in both task-based and self-disclosing conversations. That is, children had to initiate a self-disclosing conversation in order to receive either reciprocating or non-reciprocating feedback. Similarly, children had to participate in task-based conversations in order to experience reciprocal feedback to those topics. As such, three criteria had to be met for children to be included in the study: children had to make at least one self-disclosure in the first 5 minutes of conversation, they had to make a minimum of 5 task-based utterances in the first 5 minutes of conversation, and their parent had to rate the child’s behavior “natural” on a rating scale used during the interaction. Children who did not meet these criteria were not included in the study. Of the 7 children not included, 5 did not self-disclose in
the first 5 minutes, 1 used less than 5 content-based utterances in the first 5 minutes, and 1 failed to meet either of these criteria. All parents rated their child’s behavior as natural. Of those children excluded from analysis, 5 were female. An additional female participant was not included due to a procedural problem during data collection. To maintain equal numbers of children in each condition, additional children were recruited to maintain a sample size of 32 (16 in each group).

Of those children in the final sample, the majority of children in both groups were white. One Hispanic, one African American, and one mixed race family participated in the NON condition; one Asian and one mixed race family participated in the REC condition. With the exception of one REC child, every participant lived with both parents (see Table 4 for other demographic characteristics for each condition).
Table 4

Means and Standard Deviations for Participant Characteristics by Condition

<table>
<thead>
<tr>
<th></th>
<th>Participant Age (years, months)</th>
<th>Mother Education (years)</th>
<th>PLS Score (normed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocating</td>
<td>5,6 (0,1)</td>
<td>18.25 (1.91)</td>
<td>102.69 (11.92)</td>
</tr>
<tr>
<td>Non-Reciprocating</td>
<td>5,6 (0,1)</td>
<td>17.33 (2.58)</td>
<td>101.39 (9.66)</td>
</tr>
</tbody>
</table>
Apparatus

To manipulate the conversational feedback children received, participants interacted with their play partner through the Interactive Television System (ITS). The ITS was designed to allow participants and their play partner (located in another room) to interact through a pair of television sets. In reality, participants were watching a pre-recorded videotape of another child, while talking with a researcher trained to converse like a 5-year-old. To accomplish this manipulation, two play partner videotapes were created, and the ITS allowed live conversation to be added to the pre-recorded video tapes.

Study 2 was designed to emulate the unfamiliar peer interaction of Study 1. As such, children visited the same playroom used in Study 1 and participated in the same art activity. To make the interactive environment as similar as possible to that found in Study 1, several components of Study 1 were used to design Study 2. By using Study 1 as a guide, it was the hope that the most salient difference between the interactive environments in the two studies would be that children in Study 2 interacted through the ITS rather than with a live peer.

The Jack and Jane Tapes. Separate videos were made of one male and one female child completing the art project used in Study 1; for purposes of the study, the boy and girl were referred to as Jack and Jane. Each tape was filmed at a slight profile angle from approximately 45 degrees behind the child. Jack and Jane chewed a piece of gum during taping so that the facial muscles were often being used. Because of the behind-profile
angle used during filming, it was impossible (in most cases) to tell when children were speaking versus simply chewing their gum.

Jack and Jane completed the art project according to a behavioral script based on data coded from the unfamiliar peer group in Study 1. Behavioral data were collected on how many animal locations children colored, how many markers they used, how often children switched between animal locations, how often they switched between markers, the order of animal locations colored, and the order of markers used. Based on these data, a behavioral script was created to simulate how 5½ year olds typically completed the art project activity (see Appendix C for the behavioral script). The script was then used to instruct Jack and Jane's behavior during filming.

Scripting the pre-recorded video permitted the Jack and Jane tapes to be remarkably similar. Although some body movements differ across the two tapes, the general progression through the art project is identical; the animal location being colored, the marker being used, the approximate amount of time spent using each marker, and the approximate amount of time spent coloring each location are the same for both tapes.

*The Interactive Television System.* The playroom used in Study 1 was used again in Study 2. Rather than having two small chairs at the table, however, one chair was used. To effectively manipulate the conversation of the play partner, participants interacted with their play partner through the ITS (see Figure 1 for a schematic diagram of the ITS). Participants watched and talked with Jack/Jane through a 13-inch television that was placed on the table opposite the child’s chair. As in Study 1, interactions were video-recorded by a camera hidden behind large blue screens. The camera was
positioned to record both Jack/Jane’s behavior as seen by participants on the television in the playroom, as well as the participant’s verbal and non-verbal interaction with Jack/Jane.

Live video and audio was transmitted from the playroom to (a) the observation room for parents to observe, and to (b) Experimenter B located in a control room. The live video and audio feed allowed Experimenter B to monitor both the Jack/Jane video, and each participant’s verbal and non-verbal behavior. To allow participants to see and hear Jack/Jane, the television in the playroom was connected to a VCR and microphone located in the control room. The VCR was used to play the Jack/Jane tapes. The video from the Jack/Jane tape was transmitted from the control room to the television in the playroom. The audio from the Jack/Jane tape was not transmitted to the playroom. Instead, Experimenter B used a microphone connected to the audio panel of the television in the playroom to add conversation to each ongoing interaction. In this way, participants were led to believe that the audio and video images originated from the same source (i.e. Jack/Jane).
Figure 1

The Interactive Television System

Note: Live audio and video footage of the participants was transmitted from the playroom to the observation room and control room via video camera, as indicated by the solid black lines. The Jack/Jane video image, and the corresponding audio provided by Experimenter B were transmitted into the playroom from the control room, as indicated by the broken gray lines.
Procedure

Families recruited through the existing database were sent a letter that described the study. Within a week of receiving the letter, families were called and asked to participate. Families who learned about the study either by receiving a flyer or through the parent magazine, contacted the researcher to participate. All children were asked to come to the lab to participate in one one-hour visit that included an art project, an interview questionnaire, and a language assessment. As in Study 1, the art project consisted of decorating a pre-printed T-shirt with a set of 9 fabric markers. The T-shirt design and presentation were also the same as that used in Study 1. Participants interacted with Jack/Jane during a 2½ minute warm-up period and for 15 minutes while completing the art project. As in Study 1, the Preschool Language Scale-3 (Zimmerman, Steiner & Pond, 1992) was used to assess expressive language ability. The interview questionnaire was new to Study 2.

Reciprocating and Non-Reciprocating Play Partners. Using the ITS, Experimenter B observed and interacted with each participant as he/she watched and spoke to Jack/Jane. Experimenter B used a conversational script to provide Jack/Jane’s conversational contribution. To create the conversational script, typical speech for each code of the Self-Disclosure Coding Scheme was transcribed from the unfamiliar peer interactions of Study 1. Typical utterances from each of the five task codes were then extracted and used to make the conversational script. This allowed the conversational script to consist of utterances as they typically appeared in children’s conversations. The majority of the conversational script was the same for both tapes (see Appendix D and
Appendix E for the Jack and Jane scripts). When necessary, conversation particular to each tape was also added. For example, Jane points to her shirt on one occasion, and Jack drops his gum out of his mouth. Conversation was added to each respective script to comment on these occurrences. All utterances were kept general so that they could be naturally inserted at the most appropriate moment during each conversation; however, the general order of comments was fixed.

With the exception of self-disclosure, all child-initiated conversation received like-responses from Jack/Jane. Responses to child-initiated self-disclosure were manipulated. Participants were randomly assigned to one of two peer groups: reciprocating (REC) and non-reciprocating (NON). Based on condition assignment, participants received different conversational feedback from Jack/Jane when they self-disclosed during the interaction.

Children in the NON group received neutral participation responses when they initiated a self-disclosing conversation. Neutral participation responses consisted of either ignoring the self-disclosure altogether (saying nothing), or returning the topic of conversation to the task (defined in this study as a topic shift). Based on the naturally occurring topic shifts found in the conversations of the unfamiliar peer group in Study 1, a list of topic shifts was created. Using this list, Experimenter B alternated between ignore and topic shift responses to all child-initiated self-disclosures. To keep track of the number of ignore and topic shift responses used during each interaction, Experimenter B used

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1 Both ignore and topic shift responses were common occurrences among the conversations of unfamiliar peer partners in Study 1, and thus were considered common occurrences in children's conversations at this age.
used a check sheet (see Appendix F). The check sheet allowed Experimenter B to indicate the specific topic shifts used while also keeping a tally of ignore responses. To make the conversational experience of the children in both groups as similar as possible, the topic shifts and ignores used for each child in the NON condition were yoked to a child in the REC condition (see below).

Rather than receiving neutral responses to initiated self-disclosures, participants in the REC condition received self-disclosing responses when they initiated self-disclosing conversation topics. Further, for each instance that the child initiated a self-disclosing conversation, Jack/Jane initiated a self-disclosing conversation later in the interaction. That is, if a child initiated two self-disclosing conversations, Jack/Jane also initiated two self-disclosing conversations during the interaction. Jack/Jane self-disclosing initiations were based on common initiations from the conversations of the unfamiliar peer group in Study 1.

In addition, each REC participant was yoked to a participant in the NON condition. The number of ignore responses and the specific topic shifts used with a same-gender NON participant was matched to those used with a REC participant. Rather than receiving neutral participation to self-disclosure, however, REC participants received neutral participation responses to task-based initiations. As in the NON condition, a checklist was created for REC participants (see Appendix G). The checklist consisted of neutral participation as well as the list of possible self-disclosing initiations to be made by Jack/Jane. To match a REC and NON participant, each specific topic shifts
used, the order in which topic shifts were used, and the number of ignore responses used with the NON participant were noted on the REC participant’s neutral participation sheet before the REC interaction began. During the interaction, topic shifts and ignore responses were crossed off the neutral participation sheet as they were inserted into the conversation with the REC participant.

*Play Partner Interaction.* Once at the lab, parents and children were escorted to a playroom. The playroom consisted of a child-sized table with one child-sized chair, one adult-sized chair, and a one way mirror. As in Study 1, the room was divided by three blue screens (each measuring 3X6feet) to conceal the video equipment. Once in the playroom, Experimenter A explained the specifics of the study to the parent and child. As she explained the art project activity, Experimenter A asked the child to list his/her favorite colors. After the experimenter discussed the child’s favorite colors, she continued explaining the play session. Children were told that another child was down the hall and that the researcher had set up televisions so that they could talk to each other while doing their art projects. Experimenter A also explained that Jack/Jane was going to get a piece of gum, and that with their parent’s permission, the participant could have a piece of gum too. The last sentence of instructions to the parent and child cued Experimenter B to begin playing the warm-up segment of the Jack/Jane tape from the control room. Once Experimenter B had been cued, Experimenter A suggested that the child talk about his/her favorite colors with Jack/Jane (a self-disclosing conversation topic), turned on the television, and escorted the parent to the adjacent observation room.
Children were asked to wait in the playroom and talk to Jack/Jane until Experimenter A returned.

Two and a half minutes after leaving the playroom, Experimenter A returned with the supplies needed to do the art activity: a sample shirt, a shirt for the child to decorate, and a mug of 9 fabric markers. Upon entering the playroom, Experimenter A turned off the television to allow Experimenter B to cue the Jack/Jane tape to the art project segment. Experimenter B watched Experimenter A give each child instructions on how to complete the art project. The last sentence of the instructions cued Experimenter B to begin playing the art project segment of the Jack/Jane tape. After giving each child instructions on how to complete the art project, Experimenter A turned on the television and joined the parent in the observation room. Children were given 15 minutes to complete their art project. Both the warm-up session and the art activity were video-recorded.

The Interview. After 15 minutes, Experimenter A returned to the playroom and interviewed the participant about Jack/Jane. Experimenter A told the child that she was checking to see how things were going, and turned off the TV. She then told each participant that they could decide what they wanted to do next. They could (a) finish coloring their shirt with Jack/Jane, (b) finish coloring their shirt alone, or (c) get ready to go home. Each participant’s response was recorded, and Experimenter A proceeded to ask the child a short series of questions about their interaction with, and opinions of, Jack/Jane (see Appendix H). A felt board with 5 faces was used to help children answer each question. The faces ranged from very happy to very sad, and each face
corresponded to one of five Likert-style responses ranging from a very positive to a very negative evaluation of Jack/Jane. A sample question ("Do you like ice cream?") was first used to demonstrate how the participants could use the smiley and frowny faces to respond to the questions. After the child responded to the sample question, Experimenter A repeated the child’s answer and asked if it was correct. If the child said “yes” then Experimenter A continued with the interview questions. If the child said “no” and then gave a different answer, Experimenter A asked another sample question and continued asking sample questions until the child did not change responses. For each interview question, Experimenter A repeated the child’s answer and asked if it was correct. If the child agreed, Experimenter A moved on to the next question. If the child disagreed, she asked the question again until the child consistently responded to the question.

Experimenter A also asked each child to guess Jack/Jane’s age. Answers were recorded, and afterwards children were debriefed. As part of the debriefing process, children were allowed to visit the control room to use the ITS to talk to their parents in the playroom. Finally, after debriefing, Experimenter A administered the expressive component of the PLS-3. Once the PLS-3 had been completed, children were allowed to finish coloring their shirts before going home.

Coding

Conversations between participants and Jack/Jane were coded with the Self-Disclosure Coding Scheme. Three new codes were added to the scheme to include neutral participation responses: Topic Shift, Ignore and Repeat Initiate (see Appendix I
for definitions). As in Study 1, coding was done directly from the videotapes into The Observer software system, and codes were assigned on an utterance by utterance basis. Inter-coder reliability was calculated on approximately 20% of the video-tapes. Records were quasi-randomly selected to include equal numbers of boys and girls from each condition. Because codes were assigned while listening to and parsing utterances rather than from transcripts, the overall percent agreement of assigning a code was calculated. Inter-coder percent agreement for assigning a code was 86%. Based on those utterances that were assigned a code, reliability was then calculated for the codes included in the Self-Disclosure Coding Scheme. Mean percent agreement was 84% (kappa .68).

To score the Interview Questionnaire, children’s responses were summed into one Evaluation Score. Points were assigned to each response type (from 1 – 5), with higher points indicating more positive evaluations of Jack/Jane. The points for each question were then summed to calculate the Evaluation Score. A score of 20 reflected the highest Evaluation Score possible, while a score of 4 indicated the most negative possible Evaluation Score.

As in Study 1, the PLS-3 was used only to assess normative language development for each participant. All participants scored within the normal range for children their age, and thus the conversational data for all participants were included for analysis.
Results

Before exploring the effect of the self-disclosure manipulation, it was important to examine the methodology itself to learn what effect (if any) the ITS had on the self-disclosing behavior of young children.

The ITS and Self-Disclosing Conversation

Study 2 was designed to emulate the unfamiliar peer conversations observed in Study 1. It was the hope that children would converse with Jack/Jane though the ITS similarly to the children paired with an unfamiliar, live peer in Study 1. To determine what difference (if any) the ITS had on the self-disclosing behavior of children in Study 2, several self-disclosing conversation components were coded and compared between the unfamiliar group of Study 1 and the REC group of Study 2.¹

First, the number of self-disclosing initiations made by the target children in the unfamiliar peer condition of Study 1 was compared with the number of initiations made by children in the REC condition of Study 2 (see Table 5 for means). No significant difference was found ($t(30) = -1.4; \text{ ns}$), indicating that the initiation of self-disclosing conversations was not significantly changed using the ITS methodology.

The amount of self-disclosing conversation used by the target children in the unfamiliar peer condition of Study 1 and the REC children in Study 2 was also compared. As demonstrated in Table 5, overall self-disclosing participation, and the participation in each individual category of self-disclosing talk, were quite similar across studies.

¹ These analyses were not calculated for the NON group because while interacting through the ITS, their conversational behavior was being manipulated. Because it was impossible to tease apart the effect of the ITS from the effect of the manipulation on the self-disclosing behavior of NON participants, they were not included in this series of analyses.
Table 5

A Comparison of Self-Disclosing Characteristics With A Live Partner Versus Jack/Jane

<table>
<thead>
<tr>
<th></th>
<th>Study 1 Unfamiliar Peers</th>
<th>Study 2 Reciprocating “Peer”</th>
</tr>
</thead>
<tbody>
<tr>
<td># Self-Disclosing Initiations</td>
<td>3.56 (3.03)</td>
<td>4.81 (1.91)</td>
</tr>
<tr>
<td>Percent Self-Disclosure</td>
<td>.20</td>
<td>.26</td>
</tr>
<tr>
<td>Self-Disclosing Evaluations</td>
<td>.07</td>
<td>.06</td>
</tr>
<tr>
<td>Characteristics</td>
<td>.10</td>
<td>.15</td>
</tr>
<tr>
<td>Reminiscing</td>
<td>.02</td>
<td>.04</td>
</tr>
<tr>
<td>Future Talk</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Length of Self-Disclosing Conversations</td>
<td>5.48 (1.96)</td>
<td>5.85 (1.47)</td>
</tr>
</tbody>
</table>

(in turns)
Finally, an independent-samples t test was calculated to investigate differences in the maintenance of self-disclosing conversations across studies. As is Study 1, maintenance was defined as the number of turns (i.e., partner switches) that occurred during self-disclosing conversations (see Table 5 for means). Results indicate no difference between the number of turns that self-disclosing conversations were maintained for children in the unfamiliar peer group of Study 1 and the REC group in Study 2 (t(30) = -.59; ns).

Based on the data presented here, the ITS does not seem to change the self-disclosing conversations of children. Neither the number of self-disclosing initiations made, the overall participation in self-disclosing conversations, nor the maintenance of those conversations significantly differed when children were paired with a live partner versus a reciprocating partner interacting through the ITS.

The Role of Jack/Jane

To check that children believed that Jack/Jane was a child rather than an older person, children were asked to guess Jack/Jane’s age at the end of the interaction. Children in both groups guessed that Jack/Jane was about 5 years old (M, REC = 5.0; M, NON = 4.7).

To effectively manipulate the conversational participation of Jack/Jane, it was important for Experimenter B’s behavior to be consistent across the reciprocating and non-reciprocating groups in every way except in her participation in self-disclosing conversation. To achieve this goal, Experimenter B attempted to respond to all non-disclosing child utterances with like-responses. That is, if the child provided a task
utterance, Experimenter B responded with a task utterance, if the child provided a lab-based utterance, Experimenter B responded with a lab utterance, etc.. To investigate how well matched Experimenter B’s conversational participation was to the participation of the children in Study 2, correlation coefficients were calculated between Experimenter B’s conversational participation and the conversational participation of each participant for each individual content-based utterance in the Self-Disclosing Coding Scheme. That is, for each of the 10 possible content-based codes, the number of utterances made by Experimenter B was correlated with the number of utterances made by the participant during that interaction. Analyses were done separately for each group. The correlation coefficients for each of the 10 codes ranged from .59 - .90 in the REC condition, and from .63 - .93 in the NON condition (see Table 6). To determine an overall score for how well matched Experimenter B’s contribution was with each group, correlation coefficients were averaged across each of the six task-based codes. The average level of connectedness was similar for both groups. Further, all coefficients for each content code were significantly correlated, indicating that Experimenter B’s participation in the conversations was well matched to the participation of each group of children in Study 2.
Table 6

Correlation Coefficients Between Child and Jack/Jane Conversational Participation For Each Code By Condition

<table>
<thead>
<tr>
<th>Code</th>
<th>Reciprocating</th>
<th>Non-Reciprocating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Here-And-Now</td>
<td>.77</td>
<td>.63</td>
</tr>
<tr>
<td>Here-And-Now Evaluations</td>
<td>.59</td>
<td>.76</td>
</tr>
<tr>
<td>Fantasy Talk</td>
<td>.69</td>
<td>.88</td>
</tr>
<tr>
<td>Lab Talk</td>
<td>.84</td>
<td>.92</td>
</tr>
<tr>
<td>Social Comparisons</td>
<td>.69</td>
<td>.64</td>
</tr>
<tr>
<td>Knowledge</td>
<td>.78</td>
<td>.93</td>
</tr>
<tr>
<td>Average Level of Connectedness</td>
<td>.73</td>
<td>.79</td>
</tr>
<tr>
<td>Self-Disclosing Evaluations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td>.82</td>
<td></td>
</tr>
<tr>
<td>Reminiscing</td>
<td></td>
<td>.90</td>
</tr>
<tr>
<td>Future Talk</td>
<td></td>
<td>.90</td>
</tr>
</tbody>
</table>

Note: All correlations are significant at p < .05. Because the last four categories of talk only received responses from Jack/Jane in the reciprocating condition, correlations were only calculated between the participation of reciprocating participants with Jack/Jane. The Average Level of Connectedness score is the mean of the correlation coefficients for the six codes shared by both groups.
The amount of neutral participation used with reciprocating and non-reciprocating participants was also well matched. Recall that each REC participant was yoked to the neutral participation used with a gender-matched NON participant. The neutral participation used in response to self-disclosure in the NON condition was used in response to task-based initiations in the REC condition. As such, the level of neutral participation received by the children was designed to be highly correlated across conditions. To compare the level of neutral participation used with children in each condition, a correlation coefficient was calculated on the neutral participation used with each NON and matched REC participant. The neutral participation received by children in each group was highly correlated ($r = .84; p < .01$), indicating that children in both conditions received similar levels of neutral participation. It is not the amount of neutral participation, then, but the type of responses that yielded neutral participation, that varied by group.

Finally, as part of Experimenter B’s reciprocating behavior with children in the REC condition, Experimenter B attempted to match the number of self-disclosing initiations she made to the participant with the number of self-disclosing initiations the participant made him/herself.2 To investigate the similarity in self-disclosing initiations made by Experimenter B and each REC participant, a correlation coefficient was calculated. The number of self-disclosing initiations made by Experimenter B and the number of self-disclosing initiations made by each matched REC participant was

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2 Recall that, for children in the non-reciprocating condition, self-disclosure was not initiated by Jack/Jane. The current analysis, then, is a check for one component of the manipulation used with children in the REC condition.
significantly correlated ($r = .93; p<.01$), indicating a high degree of similarity between the number of self-disclosing conversations made by each dyad member in the reciprocating condition.

Overall, Jack/Jane’s behavior seems highly similar across the reciprocating and non-reciprocating groups. Experimenter B’s use of each content-based conversation code was matched well to that of the participants in each group, and the level of neutral participation received by children in each group was similar. For children in the reciprocating condition, the amount of self-disclosing initiations made by Experimenter B and participants was also well matched.

**Conversational Behavior with Reciprocating and Non-Reciprocating Play Partners**

To understand how reciprocating and non-reciprocating partners affect children’s self-disclosing behavior, several measures were calculated to describe the different conversational dynamics of reciprocating and non-reciprocating conversations (see Figure 2 for a summary).

First, it was predicted that children paired with a reciprocating partner would self-disclose consistently throughout the conversation. A paired-samples $t$ test calculated on the amount of time (in seconds) that children spent in self-disclosing conversations during the first five and last five minutes of the interaction was calculated. No significant difference was found in self-disclosure between the first and last five minutes ($M = 41.06$ and 44.31; SD 32.02 and 41.52 respectively) of the interaction ($t(15) = .28; ns$), indicating a consistent level of self-disclosing behavior across time. Conversations were also maintained
Figure 2.

Conversational Behavior of Children With Reciprocating and Non-Reciprocating Partners
consistently across time. A paired-samples t-test indicated that there was no difference in the number of turns that conversations were maintained from the first 5 (M = 4.25, SD = 2.13) to the last 5 (M = 5.08, SD 5.08) minutes of interaction (t(15) = .53; ns; see Figure 2).

Because of the differences in how Jack/Jane responded to self-disclosure in the non-reciprocating condition, the amount of time spent in self-disclosure was not a good measure of behavioral change for this group. Instead, change in the persistence of non-reciprocating participants’ self-disclosing initiations was assessed. Children were considered to be persistent in initiating self-disclosure if they initiated the same self-disclosing topic of conversation in the turn following a neutral participation response from Jack/Jane. That is, children repeated their self-disclosing initiation in the absence of a self-disclosing response from Jack/Jane. In many cases, these repeat-initiations occurred as Experimenter B was trying to complete an ignore neutral participation response. In these cases the children repeated their initiation before the 5 second interval required for an ignore response. To investigate differences in persistence over time, a paired-samples t test was calculated on the number of these persistent initiation utterances used in the first versus last five minutes of interaction (see Figure 2). A significant difference was found between the persistence of children’s self-disclosing initiations over time (t(15) = 2.33; p<.05), indicating that children become less persistent in initiating self-disclosure throughout the interaction (M = .63 and .06; SD = 1.09 and .25 respectively). Importantly, the number of initiations children made did not decrease significantly from the first 5 (M = 1.56, SD 1.55) to last 5 (M = .94, SD 1.29) minutes of
conversation (t(15) = 1.40; ns). These results indicate that although children paired with a non-reciprocating peer kept trying to initiate self-disclosing conversations, they became less invested in their self-disclosing initiations over time.
Evaluating Reciprocating and Non-Reciprocating Play Partners

As previously mentioned, it was hypothesized that children would evaluate unfamiliar peers differently based on their participation in self-disclosing conversations. As an initial indication of how much children enjoyed talking with Jack/Jane, children were asked if they wanted to finish their shirts with Jack/Jane, if they wanted to finish their shirts alone, or if they wanted to get ready to go home. The vast majority of children in both conditions chose to continue talking with Jack/Jane (13/16 NON and 14/16 REC participants). To investigate children's impressions of Jack/Jane further, the four questions used in the Child Interview Questionnaire were summed into an overall Evaluation Score. To investigate differences in how children evaluated reciprocating and non-reciprocating partners, an independent-samples t test was calculated. Results indicated a significant overall difference in how favorably children rated reciprocating versus non-reciprocating partners (t(30) = -2.21; p<.05), with children rating the reciprocating Jack/Jane more favorably than children paired with a non-reciprocating partner (see Table 7 for means).

To investigate how each individual question contributed to this overall Evaluation Score difference, independent-samples t tests were also calculated on each of the four questions from the Child Interview Questionnaire. Results indicated that children in both groups enjoyed talking with Jack/Jane equally (t(30) = .75; ns) and rated Jack/Jane as an equally nice person (t(30) = -.71; ns). Differences were found, however, in how much children in the two groups reported liking Jack/Jane (t(30) = -2.78; p<.05), and in how
they felt about being friends with Jack/Jane (t(30) = -2.82; p<.05). Children paired with a reciprocating partner were significantly more likely to report liking Jack/Jane and wanting to become friends with Jack/Jane than children paired with a non-reciprocating partner. Thus, although children in both groups reported that they enjoyed their interaction with Jack/Jane, children paired with a reciprocating partner still evaluated their peer more favorably than children paired with a non-reciprocating partner (see Table 7 for means).

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3 All children in the reciprocating group gave Jack/Jane a perfect score for each of these two questions, thus, there is no variability in the their scores. This lack of variability violates an assumption of the independent samples t test. After consulting with several statisticians, this still seems to be the only option for analyzing these data. Because no alternative has been found, the scores for the t tests are reported.
Table 7
Mean Evaluation Scores for Reciprocating Versus Non-Reciprocating Peers by Condition

<table>
<thead>
<tr>
<th>Evaluation Score</th>
<th>Reciprocating</th>
<th>Non-Reciprocating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you like talking to Jack/Jane?</td>
<td>4.88</td>
<td>4.75</td>
</tr>
<tr>
<td>What kind of person is Jack/Jane?</td>
<td>4.75</td>
<td>4.56</td>
</tr>
<tr>
<td>How do you feel about Jack/Jane?</td>
<td>5.00</td>
<td>4.56*</td>
</tr>
<tr>
<td>Do you want to be friends with Jack/Jane?</td>
<td>5.00</td>
<td>4.37*</td>
</tr>
</tbody>
</table>

* p < .05
Discussion

In order to investigate further the function of self-disclosure in children’s everyday conversations with unfamiliar partners, Study 2 used a new methodology to manipulate the conversations of young children. The Interactive Television System (ITS) allowed children to participate in a conversation with an unfamiliar partner as in Study 1, but because the conversation took place through the ITS, Experimenter B controlled (and manipulated) the conversational participation of the unfamiliar partner. Overall, the ITS seems a valid methodology to use with children of this age. When compared to the live peer interactions of the unfamiliar peer group in Study 1, children in the reciprocating group of Study 2 behaved similarly across a number of measures, including the number of self-disclosing conversations initiated, the proportion of conversation spent in self-disclosure, and the maintenance of self-disclosing conversations. Based on these data, the ITS seems a valid tool to manipulate and measure conversational behavior with children of this age.

With the exception of self-disclosure, it was important to the design of this study that children in both the reciprocating and non-reciprocating conditions had similar conversational experiences. To achieve this goal, a conversational script was created to give Experimenter B a guideline for initiating task-based conversations. In addition to using the script, Experimenter B tried to create a high degree of connectedness with each participant. Recall that according to Gottman’s model of friendship formation (Gottman, 1983), conversational connectedness and clarity was one component important to friendship formation. To achieve connectedness in the conversations of Study 2,
Experimenter B monitored the conversational contribution of each participant and tried to match her own conversational responses to that of each child. Results indicate that across the sample, the conversational contribution of Experimenter B was highly correlated with the contribution of each matched participant for each possible conversation topic. As such, the conversational contribution of Jack/Jane was highly related, and thus connected, to each child’s participation during the interaction. For children in the reciprocating condition, the self-disclosing initiations made by each child and Experimenter B were also highly connected. For children in this group, the number of self-disclosing initiations made by Experimenter B was highly correlated to the number of initiations made by each matched participant.

Finally, the neutral participation received by the children in each group was very similar. The neutral participation used with non-reciprocating participants and their matched reciprocating participants was highly correlated, indicating a similar level of non-responsiveness across groups.

In sum, the conversational experiences of participants in the reciprocating and non-reciprocating conditions were highly similar. Children in each group interacted with a partner who initiated conversation from the same script. Children also interacted with a partner who created a connected conversation environment by providing like-responses during conversation. Finally, the amount of neutral participation (that is, the level of non-responsiveness) also matched well across conditions. As such, it seems that with the exception of their self-disclosing conversations, children in each condition had similar interactive experiences with Jack/Jane.
Although the overall experiences of children in each group were highly similar, their self-disclosing interactions were markedly different. Children in the non-reciprocating condition were paired with a connected conversational partner for every topic except self-disclosure. When children attempted to self-disclose in this condition, they were either ignored or their partner changed the topic of conversation to a task-based topic. Children in the reciprocating condition, in contrast, were paired with partner who behaved in a conversationally connected manner for every topic, including self-disclosure. Based on the manipulation received, both evaluative and behavioral differences were expected in how children reacted to their unfamiliar partner. The behavioral changes in how children interacted with Jack/Jane across time demonstrate their reaction to the self-disclosing participation of the unfamiliar partner. For example, children paired with a reciprocating partner self-disclosed consistently throughout the interaction. No differences were found in either the overall proportion of conversation spent in self-disclosure, or the maintenance of self-disclosing conversations from the first to last five minutes of interaction. This consistency in self-disclosing behavior may indicate that, from the participant's perspective, self-disclosure was going well. For children paired with a non-reciprocating partner, however, self-disclosing behavior changed across time. Although the number of initiations did not change across time, children paired with a non-reciprocating partner became less persistent in their self-disclosing initiations across the interaction. Children in this group seemed to demonstrate a kind of conversational learned helplessness; they still attempted to initiate self-disclosing conversations; however, they became less invested in those initiations across
time. It may be the case, that if these children had been given a longer interaction period, they might have completely given up, and stopped initiating self-disclosure altogether.

In addition to these behavioral differences, evaluative differences were also found between children paired with reciprocating and non-reciprocating peers. As predicted, an evaluative difference was found between how favorably children in each group rated Jack/Jane. Children paired with a reciprocating peer rated their partner more favorably (based on their overall Evaluation Scores) than children paired with a non-reciprocating peer. It should be noted, however, that all children rated Jack/Jane fairly high. In fact, Jack/Jane was never given a rating of less than 3 by any child on any question. Given this ceiling effect, it is impressive that children in the reciprocating group still rated Jack/Jane significantly higher than children in the non-reciprocating condition.

Looking at the individual items on the Child Interview Questionnaire was also interesting. Although children in both groups chose to continue interacting with Jack/Jane, and rated the interaction as enjoyable, children in the reciprocating condition were more likely to report wanting to be friends with Jack/Jane, and liking Jack/Jane as a person, than children in the non-reciprocating condition. It is intriguing that although children did not rate the experience as less enjoyable they did show differences on the more personally evaluative questions of the Child Interview Questionnaire. It seems that although children enjoyed the interaction, they still formed different opinions of reciprocating versus non-reciprocating partners. A word of caution must be given, however. Children in both conditions were asked the questions on the Child Interview
Questionnaire in the same order. The two questions that showed group differences were questions 3 and 4, the last questions to be asked. It could be that these items are indicative of a cumulative evaluation of the partner, rather than demonstrating differential responses based specifically on the content of each question. Either interpretation of the data is in line with the stated hypothesis; future work, however, should counterbalance the types of questions used to tease apart the possibility of cumulative versus content-based evaluation effects.

Both the behavioral and evaluative differences found between children paired with reciprocating versus non-reciprocating partners indicate that children are sensitive to the self-disclosing participation of unfamiliar conversation partners, and that they use early participation in self-disclosing conversations to evaluate unfamiliar partners. Although children in each group interacted with a partner who was receptive and connected in their conversational behavior on every topic except self-disclosure, children paired with a non-reciprocating partner still rated their peer less favorably than children paired with a reciprocating peer. These findings indicate that children do, in fact, use self-disclosure to gauge unfamiliar partners. It seems the case, then, that although self-disclosure is not common among friendship conversations in childhood, that it does serve an important function in establishing young children's relationships: self-disclosure acts as a criterion variable used in establishing initial connections with unfamiliar partners.
Conclusion

The current research describes the self-disclosing behavior of 5 ½ year old children in order to understand the utility (or function) of such behavior. Study 1 demonstrated that children self-disclosed more often with an unfamiliar partner (whether a child or adult) than a familiar partner. The friendship literature confirms that young children do not self-disclose often during their friendship conversations (Buhrmester, 1996; Buhrmester & Prager, 1995; Reid, Landesman, Treder & Jaccard, 1989; Rotenberg & Sliz, 1988). Based on theory about the goals of friendship in early childhood (Gottman & Mettetal, 1996; Tesch, 1983), it was hypothesized that children do not self-disclose in friendship conversations because self-disclosure does not help meet the goal of early friendship, sustained coordinated play. However, a small number of studies, including Study 1 have demonstrated that children do self-disclose with unfamiliar partners (Gottman, 1983; Mathur, 2001). It was hypothesized, then, that self-disclosure is found in childhood conversations with unfamiliar partners because it serves a gauge function. Children use self-disclosure to set the stage for, or determine the desirability of, future interaction. Study 2 demonstrates that this seems to be the case. By manipulating only the self-disclosing participation of an unfamiliar partner, Study 2 demonstrated that children do in fact rate partners more or less favorably depending on their participation in self-disclosing conversations. As such, children do seem to be differentially monitoring self-disclosure in early interactions with unfamiliar partners, and using self-disclosing interactions to evaluate that person.
Identifying how children use self-disclosure in their interactions with unfamiliar peers is really only the first step in understanding the role of self-disclosure in the friendships of young children. Self-disclosure does seem to be an important component of establishing an initial connection between unfamiliar children. But which components of these conversations are the most important? Recall that with children in the reciprocating condition, Jack/Jane used like-responses when a child initiated self-disclosure and he/she also initiated his/her own self-disclosing topics of conversation. It would be interesting to unpack these components to better understand what is most important to children. For example, is it enough for an unfamiliar peer to be responsive to the child’s initiations, but to never initiate self-disclosing conversations? Conversely, how do children rate unfamiliar peers who are not responsive to child-initiated self-disclosing conversation, but who initiate self-disclosure? Similarly, how does the content of like-responses affect children’s ideas of a new conversational partner? In the current study some of Jack/Jane’s responses focused on similarities between the children while others stated differences in self-disclosing topics. Given that a response has been given to self-disclosure, it would be interesting to learn how much (if at all) children are monitoring the content of self-disclosing conversation, and the role that content plays in later evaluations of an unfamiliar child. Each of these questions would lead to a better understanding of which specific components of self-disclosure are so important to the early interactions of young children.

Further investigation of non-reciprocating conversation partners would also shed light on the importance of self-disclosure in the conversations of young children. The
complete lack of self-disclosing participation used with children in the non-reciprocating condition of Study 2 is a major departure from what typically occurs in childhood conversation. Recall that in Study 1, children paired with unfamiliar partners responded to over 70% of self-disclosing initiations with at least an initial response. While it was important to the current study to use the complete lack of self-disclosure to demonstrate the importance children place on self-disclosing participation, this study does not address how resilient children are to violations in self-disclosing reciprocity. Further exploration of children’s reactions to differing levels of self-disclosure participation would be helpful in further identifying the importance of self-disclosure in the early conversations of children with unfamiliar partners. Once this threshold has been established, it would be interesting to investigate individual differences in children’s self-disclosing behavior against the norms for this age group. How do individual differences in children’s self-disclosing behaviors, for example, affect their ability to form friends? In both the adolescent and adult literatures, lonely individuals demonstrated different self-disclosing patterns than individuals who were not lonely (Rotenberg & Holowatuik, 1995). Is there a similar pattern of disclosing behavior in children who have trouble forming friendships? If so, would teaching these children to be better self-disclosing partners affect their success at forming friendship relationships?

Future research also needs to describe further the role and process of self-disclosure in the conversations of young children as they become better acquainted. For example, if we assume that self-disclosure is only important for establishing friendships in young childhood, how does self-disclosure change as the relationship develops? As
children progress toward friendship, when and how does self-disclosure fade out of conversation? Given that research has demonstrated that self-disclosure in an infrequent occurrence in the conversations of young friends, when is self-disclosure used (if at all) in the conversations of young friends?

More broadly, research should investigate the relations between self-disclosure and other social-cognitive processes. For example, to differentially monitor the self-disclosing contribution of an unfamiliar partner, children first must have the ability to recognize self-disclosure as a distinctive and important topic of conversation. To participate in these conversations children must also have some understanding of theory of mind. They must understand that their conversational partner is not privy to their own knowledge about personal preferences, characteristics, or experiences. Based on that understanding they must then choose to disclose the relevant information. Similarly, they must monitor what they have disclosed, what the partner has disclosed, and make judgements based on the relation between the participation of both partners.

The role that a child’s personality and the role that family environment play in children’s developing self-disclosing behavior are also of interest. In adulthood, extroversion is highly related to self-disclosing behavior (Erwin, 1993). It would be interesting to learn which components of the child’s developing personality relate to individual differences in self-disclosing behavior. Research also has shown that the level of self-disclosure between older children to parents is positively related to adaptive and flexible family environments (Howe, Aquan-Assee & Bukowski, 1995). It would be interesting to learn how early in development a relation exists between family
environment and the self-disclosing behavior of young children. Understanding how that relation affects children's self-disclosure in the peer context would also contribute to our understanding of self-disclosure in young children's conversations.

Importantly, the methodology used in Study 2 could be easily adapted to answer many of these questions in children across a broad age range. The current findings clearly establish a basis for evaluating further the role of self-disclosure in the lives of young children. Both the ITS methodology and the results of the current work are an exciting beginning that will hopefully lead to future research focused on understanding the role of self-disclosure in childhood friendship development.
Appendix A

Self-Disclosure Coding Scheme

Task-Based Utterances

**Here-and-Now** – discussion of ongoing actions and perceptions, labeling task-related objects, and discussion of immediate past and immediate future actions and perceptions.

This is pink. My lion is going to be blue.

**Task-Based Evaluations** – emotion-based talk that refers to the ongoing task.

This is fun. I am doing a good job.

**Social Comparisons** – task-based comparison between the child and the conversational partner.

You have the green and I have an orange. Mine is better than yours.

**Lab Talk** – discussion of characteristics of the playroom, speculation about the observation room, and discussion of the camera recording the children’s interaction.

Look, there’s a mirror. Oh, I can see the microphone.

**Fantasy** – discussion of made-up, fantastical stories or characteristics based on the objects related to the ongoing task.

This is the big blue rocket! My cars are racing.

**Knowledge** – discussion of general facts and knowledge including children’s ideas about how the world works.

What is fuchsia? I know how to draw a star.

Self-Disclosing Utterances

**Characteristics** – discussion of characteristics of the self or others and discussion of non-present people and/or objects.

Look at my new shoes. Do you have the Santa Clause movie?

**Self-Disclosing Evaluations** – non-task emotion-based talk and personal assessment.

I love Hungry Hungry Hippos. I like blue.

**Past Talk** – discussion of past personal experiences.

I saw a zebra. One time I saw a big huge scary spider!

**Future Talk** – discussion of future plans.

I am going to have a birthday party. We are going to Duke Chapel after I am done.
General Codes
Because every sentence received a code, two codes were used that were not of specific interest for analysis purposes. These utterances did not fit into any of the above coding categories.

**Interruptions** – utterances in which the child is talking to someone other than the interaction partner.

**Uncodeable** – utterances that are unintelligible, or utterances in which it is not clear to what the child is referring.
Appendix B

Examples of Self-Disclosing Conversations Among Unfamiliar Peers

Example 1.

UNFAM What church do you go to?
TAR Cole Mill Road, over on um...
UNFAM I go to Bethel Baptist.
TAR Um, I go to Cole Mill Road Church of Christ.
     It is a good place.
     It is cool.
     I love it.
     You know what?
     I have two friends there.

UNFAM I have seventeen friends.
TAR Oh.
     You know what my two friends are named?

UNFAM No.
TAR Jeffrey and J.D.. J.D.’s name...
UNFAM Jeffrey, there is a Jeffrey that goes to our church.
TAR I know two Jeffreys.
UNFAM Hmm.
TAR Did you know that?
     I know two Jeffreys.
     One lives close to us on our street.
UNFAM Yeah.
TAR Half of our street somewhere, and the other
UNFAM Look at this.

Example 2.

TAR I love elephants.
     Don’t you?
UNFAM Uh huh.
TAR They are nice.
UNFAM Uh huh.
TAR I like them to trumpet (makes trumpeting noise).
Example 3.

TAR I bet my brother is not having any fun.
Have you ever seen a green one of those (=hippopotamus)?

UNFAM ## Have you seen a green hippopotamus?

TAR Never.
I have seen a green alligator.

UNFAM I have seen a green you.

TAR I am not green.

UNFAM You are white.

TAR Told you yellow would show up.
Appendix C

Behavioral Script

<table>
<thead>
<tr>
<th>Behavior#</th>
<th>Behavioral Instructions</th>
<th>Time Per Location</th>
<th>Running Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Take the orange marker. Now find the hippo's car on your shirt, and use the orange to color the hippo's car</td>
<td>0.00</td>
<td>0.30</td>
</tr>
<tr>
<td>2</td>
<td>Look up at the TV and while you are still looking at the TV, tell me what you see</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Finish coloring the hippo's car with the orange</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Now put the orange back in the cup and take out the yellow</td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Use the yellow to color the hippo's headlight and his tires</td>
<td>1.30</td>
<td>1.30</td>
</tr>
<tr>
<td>6</td>
<td>Now put the yellow back in the cup and move the markers around like you are looking for a color. Take out the dark blue</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Glance up at the TV screen and then find the elephant's car on your shirt. Use the dark blue to color the elephant's car</td>
<td>0.45</td>
<td>2.10</td>
</tr>
<tr>
<td>8</td>
<td>Look up at the TV and while you are still looking at the TV, tell me what you see</td>
<td>2.40</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Finish coloring the elephant's car with the dark blue marker</td>
<td>1.06</td>
<td>2.55</td>
</tr>
<tr>
<td>10</td>
<td>Now find the hippo again. Use the same dark blue marker to color the hippo</td>
<td></td>
<td>3.20</td>
</tr>
<tr>
<td>11</td>
<td>Look up at the TV and then look down at your shirt. Glance back up at the TV and then finish coloring your hippo dark blue</td>
<td>3.35</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Now put the dark blue back in the cup and move the markers around in the cup.</td>
<td>4.20</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Take out the pink marker. Find the elephant on your shirt and use the pink marker to color the elephant</td>
<td>1.10</td>
<td>4.30</td>
</tr>
<tr>
<td>14</td>
<td>Stop coloring for a second and look up at the TV and then look at the big mirror. Tell me what you see in the big mirror</td>
<td>5.30</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Look back at the TV</td>
<td>5.45</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Now sit up straight in your chair and look over to this side of the room and tell me what you see on the wall.</td>
<td>5.50</td>
<td></td>
</tr>
</tbody>
</table>
17. Look back at the TV quickly and then finish coloring your pink elephant.

18. Now put the marker back in the cup and move the marker around in the cup.

19. Take out the green marker. Find the zebra’s car on your shirt. Now use the green marker to color the back part of the zebra’s car just like I did in my shirt.

20. Stop coloring and look at your shirt. Look at your elephant. And then look at your hippo. Now look back at your zebra.

21. Now color some more of the back of the zebra’s car green.

22. Now look up at the TV and watch the TV until I tell you to stop.

23. Now put the green marker back in the cup and take out the yellow marker again.

24. Use the yellow marker to color the front of the zebra’s car just like I did in my shirt.

25. Now find the ostrich on your shirt. Use the yellow to color the beak. Now put the yellow marker back in the cup.

26. Glance up at the TV. Now take out the orange marker. Use the orange to color the ostrich’s body.

27. Now look up at the TV and then down at your shirt. Look up at the TV again until I tell you to stop (10 seconds).

28. Now finish coloring your ostrich.

29. Put the orange back in the cup and move the markers around like you are looking for one. Take out the red.

30. Look up at the TV until I tell you to stop (5 seconds).

31. Now find the lion. Use the red to color the lion’s mane/hair.

32. Stop coloring for a second a put your arms down by your sides. Now lean back in your chair a little bit.

33. Now look up at the TV and then start coloring the lion’s mane again.
<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Put the red marker back in the cup and then take out the light blue marker</td>
<td>1.15</td>
<td>11.15</td>
</tr>
<tr>
<td>35</td>
<td>Color the lion’s body with the light blue marker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Now put the light blue back in the cup and move the markers around in the cup. Take out the red marker.</td>
<td>1.30</td>
<td>12.45</td>
</tr>
<tr>
<td>37</td>
<td>Find the ostrich’s car again. Make a big red stripe on the back of the ostrich’s car, just like I did on my shirt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Put the red back in the cup and take out the orange</td>
<td>0.30</td>
<td>13.15</td>
</tr>
<tr>
<td>39</td>
<td>Color a big orange stripe in the middle of the ostrich’s car just like the one on my shirt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Put the orange back in the cup</td>
<td>0.30</td>
<td>12.45</td>
</tr>
<tr>
<td>41</td>
<td>Take out the yellow marker and color one last stripe on the ostrich’s car just like on my shirt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Put the yellow marker back in the cup and move the markers around</td>
<td>0.30</td>
<td>14.15</td>
</tr>
<tr>
<td>43</td>
<td>Take out the green and color the front part of the ostrich’s car just like I did in my shirt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Put the green marker back in the cup and move the markers around until you find the light blue.</td>
<td>0.30</td>
<td>14.45</td>
</tr>
<tr>
<td>45</td>
<td>Use the light blue marker to color the wheels on the ostrich’s car</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Look up at the TV and then finish coloring the wheels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Use the light blue marker to color the smoke coming out of the back of the ostrich’s car</td>
<td></td>
<td>END</td>
</tr>
</tbody>
</table>
Appendix D

Conversational Script - Jack

You have xx (insert color as he starts to color).
I have orange.

Are you doing it like hers? (as he looks up and talks)
I am not.
I have an orange car.

Ok, now what color (as he moves the markers around in the cup)?
Next color.
Yellow. (pause)
Yellow for the rest of the car.

These are a lot of colors (as he moves markers around in the cup).
Blue.
Hmmm.
This one. ??

My elephant car and my hippo are dark blue (as he shifts from elephant to hippo).

What is your hippo (going to be)? (as he looks up)
XX (answer if TAR does not respond).

We’re doing different. (as he looks up)

It is kindof hard to color on this shirt (after he takes out the pink).
We decorate the whole thing.

Hey, this pink looks like red (as he is coloring the elephant).

I am taking my time on my elephant.
Doing a good job.

It is quiet in here. (as he looks up at the mirror).

I can see what you are doing. (as he looks up)
A xx xx (fill in with color and location).

Which one next?
This one (as he takes out the green).
You haven’t done your zebra yet.  
I’m making a green zebra car.

Look, I have three done already. (as he sits back and looks at the shirt)

Green is for grass.

Your xx is xx (insert location and color for what TAR is doing).  
Looks good.

A little more green (as he starts coloring green again).  
I almost forgot.

Now I am going to do yellow.  
You did a yellow xx (fill in as he points).

My zebra has two colors.

This is a lot of coloring!

I have to stand up to reach this one (as he leans up on table to color)!

This orange works pretty well on the shirts (as he glances at TV).  
Really dark.

Do we get to keep these (as he sits back)?  
She didn’t tell me.

The lion is my last one (as he starts to color lion’s mane).  
But I still have cars to finish.

Which one are you working on (as he sits back)?

I need more red (as he starts to color the lion’s mane again).

I’m doing light blue because I haven’t used any yet (while he is coloring the rest of the lion).

You have a lot done (as he glances up).  
Oops! (as gum falls out of his mouth)

I am making stripes.  
For a fancy car.
I did, just my ostrich is going to be fancy.

Orange again (as he selects marker).

Almost done.

Now green (as he selects marker).
It is very fancy.

I am almost finished my ostrich.
I little more blue.
No, light blue (as he puts back the dark blue and takes out the light blue).
Appendix E

Conversational Script - Jane

You have xx (insert color after she selects marker).
I have orange.

Are you doing it like hers? (when she glances up while coloring)
I am not.
I have an orange car.

Ok, now what color (as she moves makers around in cup).
Next color.
Yellow.
Yellow for the rest of the car.

These are a lot of colors (as she moves markers around in cup).
Blue.
Hmmm.
No, this one (as she points to the hippo but does the elephant car).

My elephant car and my hippo are dark blue (as she shifts from elephant to hippo).
What is your hippo (going to be)?
XX (answer if TAR does not respond).

We’re doing different.

It is kindof hard to color on this shirt (toward the end of coloring the blue elephant).
We decorate the whole thing (as she points down at shirt with marker).

Hey, this pink looks like red (as she is coloring the elephant).

I am taking my time on my elephant.
Doing a good job.

It is quiet in here. (as she looks up at the mirror).

Oh, I need a little more pink (as she leans back on the table to finish coloring).
I almost forgot!

Which one next?
This one (as she points to zebra car).

You haven’t done your zebra yet.
I'm making a green zebra car.

Look, I have three done already. (as she looks at the shirt)

Green is for grass.

Your xx is xx (insert location and color for what TAR is doing as she looks up). Looks good.

Oops! (as she drops green putting it in cup)

Now I am going to do yellow. You did a yellow xx (fill in).

My zebra has two colors.

This is a lot of coloring!

I have to stand up to reach this one! (as she leans up to color ostrich)

This orange works pretty well on the shirts. Really dark.

Do we get to keep these? She didn’t tell me.

The lion is my last one (as she starts to color the lion’s mane). But I still have cars to finish.

Which one are you working on (as she looks up)?

I’m doing light blue because I haven’t used any yet (while she is coloring the rest of the lion).

You have a lot done (as she glances up).

I am making stripes. For a fancy car. I did, just my ostrich is going to be fancy.

Orange again (as she takes the marker).

Almost done.
Now green.
It is very fancy.

I am almost finished my ostrich.
I little more blue (as she takes the marker).
Appendix F

Neutral Participation Sheet – Non-reciprocating Condition

**Topic Shifts**

- This chair is too small for me.
- Why are we in here by ourself?
- Did you just hear that girl?
- This is a little room I am in.
- Do you know where your parents are at?
- I hope we do more fun things.
- You can use different colors.
- Look at this.
- Hey, I was just about to do that.
- When you are done the makers go in the cup.
- The lion is supposed to have red dots.
- You can color the wheels any color.
- Come on, let’s hurry up.
- Why don’t they have black?

**Ignore Responses**

——- Ignore

**Direct Question Responses**

——- “No”

——- “I don’t know”
Appendix G

Neutral Participation – Reciprocating Condition

**Topic Shifts**

___ This chair is too small for me.  
___ Why are we in here by ourself??  
___ Did you just hear that girl?  
___ This is a little room I am in.  
___ Do you know where your parents are at?  
___ I hope we do more fun things.  
___ You can use different colors.

___ Look at this.  
___ Hey, I was just about to do that.  
___ When you are done the makers go in the cup.  
___ The lion is supposed to have red dots.  
___ You can color the wheels any color.  
___ Come on, let’s hurry up.  
___ Why don’t they have black?

**Ignore Responses**

________ Ignore

**Direct Question Responses**

________ “No”

________ “I don’t know”

**Self-Disclosing Initiations for REC condition**

___ Do you have any brothers and sisters?  
___ I like doing art. Do you?  
___ I watched the Dalmations movie today.
___ What’s your name? My name is Jack/Jane.
___ Hey, you know what? My mom works at Duke and we are at Duke.
___ Do you have the game Hungry Hippos?  
___ I have seen a lion before.
___ Do you like Scooby Dooby Doo?  
___ Do you go to kindergarten?
Appendix H

Child Interview Questionnaire

Sample Question: How do you feel about ice cream?
   a. I like ice cream a lot.
   b. I like ice cream.
   c. I don’t really care about ice cream.
   d. I don’t like ice cream.
   e. I don’t like ice cream at all.

1. Did you like talking to Jack/Jane while you were coloring your shirt?
   a. I liked talking to him/her a lot.
   b. I liked talking to him/her.
   c. I thought talking to him/her was ok.
   d. I did not like talking to him/her.
   e. I did not like talking to him/her at all.

2. What kind of person do you think Jack/Jane is?
   a. I think Jack/Jane is really nice.
   b. I think Jack/Jane is nice.
   c. I don’t really know.
   d. I do not think Jack/Jane is nice.
   e. I don’t think Jack/Jane is nice at all.

3. How do you feel about Jack/Jane?
   a. I like him/her a lot.
   b. I like him/her.
   c. I think he/she is ok.
   d. I don’t like him/her.
   e. I don’t like him/her at all.

4. Do you think that you might like to be friends with Jack/Jane?
   a. I would really like to be friends with Jack/Jane.
   b. I would like to be friends with Jack/Jane.
   c. I don’t really care if I am friends with Jack/Jane.
   d. I would not like to be friends with Jack/Jane.
   e. I really would not like to be friends with Jack/Jane.
Appendix I.

Self-Disclosure Coding Scheme – Revised

Task-Based Utterances

**Here-and-Now** – discussion of ongoing actions and perceptions, labeling task-related objects, and discussion of immediate past and immediate future actions and perceptions. *This is pink. My lion is going to be blue.*

**Task-Based Evaluations** – emotion-based talk that refers to the ongoing task. *This is fun. I am doing a good job.*

**Social Comparisons** – task-based comparison between the child and the conversational partner. *You have the green and I have an orange. Mine is better than yours.*

**Lab Talk** – discussion of characteristics of the playroom, speculation about the observation room, and discussion of the camera recording the children’s interaction. *Look, there’s a mirror. Oh, I can see the microphone.*

**Fantasy** – discussion of made-up, fantastical stories or characteristics based on the objects related to the ongoing task. *This is the big blue rocket! My cars are racing.*

**Knowledge** – discussion of general facts and knowledge including children’s ideas about how the world works. *What is fuchsia? I know how to draw a star.*

Self-Disclosing Utterances

**Characteristics** – discussion of characteristics of the self or others and discussion of non-present people and/or objects. *Look at my new shoes. Do you have the Santa Clause movie?*

**Self-Disclosing Evaluations** – non-task emotion-based talk and personal assessment. *I love Hungry Hungry Hippos. I like blue.*

**Past Talk** – discussion of past personal experiences. *I saw a zebra. One time I saw a big huge scary spider!*

**Future Talk** – discussion of future plans. *I am going to have a birthday party. We are going to Duke Chapel after I am done.*
Neutral Participation Responses

**Topic Shift** – codes the use of any of the possible topic shift responses on the Neutral Participation Sheet.

**Ignore (I)** – a pause in conversation of at least 5 seconds after the participant has initiated a self-disclosing topic.

**Repeat Initiation (R)** – for children in the NON condition, multiple initiations of the same self-disclosing topic in the absence of a like-response from Jack/Jane

**General Codes**
Because every sentence received a code, two codes were used that were not of specific interest for analysis purposes. These utterances did not fit into any of the above coding categories.

**Interruptions** – utterances in which the child is talking to someone other than the interaction partner.

**Uncodeable** – utterances that are unintelligible, or utterances in which it is not clear to what the child is referring.
References


Biography

Date of Birth:
   February 27, 1974

Place of Birth:
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Education:
   B.A. in Psychology, Emory University, May 1996
   Ph.D. in Psychology, Duke University, May 2002

Publications:
   Needham, A., Barrett, T., & Peterman, K. (in press). A pick-me-up for infants’
   exploratory skills: early simulated experiences reaching for objects using ‘sticky mittens’
   enhances young infants’ object exploration skills. Infant Behavior and Development.

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development pp. 326-350.

Professional Presentations:
   Peterman, K. (April, 2002). Self-disclosure in the everyday conversations of

   Peterman, K. (March, 2002). Too much information? Self-disclosure in the
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   childhood memory conversations in three interpersonal contexts. A poster presented at
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   Peterman, K., & Magnuson, K.A. (April, 1999). The development of
   autobiographical talk in preschool peer conversations. A poster presented at the Biennial
   Meeting of the Society for Research in Child Development, Albuquerque, New Mexico.

Awards:

Highest Honors in Psychology, Emory University, 1996
Edna Bissette Research Award, Duke University, 2000, 2001

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