Children’s Scripts for Peer Conflict

During the Transition to School

by

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Abstract

Scripts for peer conflict were examined in a sample of 55 four- and five-year-old children. Children provided a full sequential report of the conflict strategies used in six hypothetical peer conflict situations involving disputes over possessions. Interviews were conducted at two time points (early and late) during the children’s first year of school. Scripts were studied at two different analytical levels examined separately in two papers: in the first paper, conflict scripts were examined at the group level to reveal general patterns across the participants. The second paper explored individual differences in children’s conflict scripts by identifying subgroups of children on the basis of how their scripts unfolded from beginning to end. Analyses in the first paper offered support for the stability of children’s scripts across situations. Findings suggested that children internally represent the sequential unfolding of conflict. In particular, their scripts became more constructive as conflicts progressed towards termination, a pattern that was especially apparent later in the school year. As well, analysis of if-then contingencies within scripts revealed that problem solving (e.g., offering to share or negotiate) was perceived by children to de-escalate hostility in conflict, as problem solving was rarely followed by power assertive responses. Averaging actions across conflicts masked specific conflict processes that were captured with sequential
analysis of patterns. In the second paper, the types of scripts children reported were examined in relation to their receptive language abilities, theory of mind, and social adjustment to school. There was some support for the hypothesis that children whose scripts were constructive (i.e., containing references to problem-solving and conciliation) had better receptive language skills and were more prosocial than children whose scripts were less constructive. Theory of mind was unrelated to children’s ability to represent perspective-taking in their scripts. Directions for future research on children’s conflict scripts are discussed.
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Preface

This dissertation consists of two manuscripts that explore 4- and 5-year-old children’s scripts for peer conflict. Scripts are mental representations of familiar events that consist of ordered sequences of actions (Schank & Abelson, 1977). Scripts are thought to organize, facilitate, and guide behaviour, enabling individuals to operate more efficiently and focus on novelty within their environment. I draw on script theory to capture how children might construct representational models of peer conflict. Conflict is viewed as an essential impetus to change by nearly every major theory of human development (Shantz, 1987). Influential theorists such as Freud (see Hall, 1954), Erickson (1959), and Piaget (1932) have emphasized the role of intrapsychic or interpersonal conflict in human development and adaptation. Interpersonal conflict is thought to engender inner conflict which in turn drives cognitive, psychosocial, and moral development. Conflict is ubiquitous in young children’s peer interactions and it is through these early interactions that children learn how to take turns, share resources, take another’s perspective, and regulate emotions (Laursen, Hartup, & Koplas, 1996). I focused on conflicts over possessions and limited resources as these represent the most frequently observed source of disagreements between 4- to 5-year old children (Chen, Fein, Killen, & Tam, 2001). Limited resource situations undoubtedly occur throughout the lifespan, but it may be during the preschool period that children develop basic skills for managing such conflicts (Putallaz & Sheppard, 1990). In this study, children were followed at the time of school entry, a period that may set the course for their social and scholastic trajectories.

There is a wealth of literature on children’s conflict behaviour. Prior research on children’s conflicts has focused primarily on isolated conflict behaviours (e.g., aggression) or has averaged conflict behaviours across interaction sequences. This dissertation builds on prior
research by examining how children represent the sequential unfolding of conflict. Conflicts are “time-distributed social episodes” consisting of a provoking event, initial opposition from one child, further opposition from the other child, and subsequent ending of mutual opposition (Shantz, 1987, pp. 285). Conflicts have a beginning and ending, and I asked how children conceive of the ways in which conflicts evolve.

To study children’s conflict scripts, I developed an interview procedure called the Conflict Script Interview (CSI). The procedure was informed by existing measures of children’s interpersonal problem solving skills and previously developed interview protocols for obtaining children’s scripts of familiar situations.

In this dissertation, scripts were studied at two different analytical levels. In the first manuscript, I described the general pattern of 4- to 5-year-old children’s conflict scripts. The second manuscript identified individual differences in children’s conflict scripts by examining subgroups of children based on how their scripts evolved from beginning to end. In comparison to the first manuscript, the second manuscript moves beyond describing the average script of the average child and instead adopts a person-centered approach. I then determined how these subgroups might be linked to aspects of children’s development (receptive language ability and theory of mind) and social functioning (e.g., peer relations) as children make the transition to school.

In both manuscripts, I have used the pronoun “we” to represent my professor and I as co-authors for the purpose of eventual publication. My professor’s contribution to these manuscripts was supervisory and consultative.
STUDY #1

“He grabs it, I say it’s mine, and then we share”:

Scripts for peer conflict of kindergarten-age children
Scripts for peer conflict situations were examined in a sample of 55 four- and five-year-old children. During interviews involving puppets and props, children provided a full sequential report of the conflict strategies used in six hypothetical peer conflict situations involving disputes over possessions. Interviews were conducted at two time points (early and late) during the children’s first year of school. Analyses examined the consistency of children’s scripts across the six situations and identified sequential patterns in conflict strategy use and constructiveness within children’s scripts. Results offered support for the stability of children’s response patterns when they were examined holistically. Findings also suggested that children’s conflict scripts contained temporal patterns. Specifically, scripts became more constructive as conflicts progressed towards termination, a pattern that was especially apparent later in the school year. Analyses of if-then contingencies within scripts revealed that problem solving (e.g., offering to share or negotiate) was perceived by children to de-escalate hostility within conflicts, as problem solving was rarely followed by power assertive responses. Averaging actions across conflicts masked specific conflict processes that were captured with sequential analysis of patterns.
Scripts for peer conflict of kindergarten-age children

Conflicts between children are frequent and emotionally intense events that have important implications for children’s development and functioning (Shantz & Hartup, 1992). The process of conflict can be conceptualized as either constructive or destructive (Deutsch, 1973). Constructive conflicts are characterized by de-escalation whereby opponents progress towards achieving an equitable or mutually satisfying solution to the issue of contention. The experience of constructive conflict helps children develop an appreciation for others’ perspectives thereby improving their ability to problem-solve and maintain relationships with others (Dunn & Slomkowki, 1992; Katz, Kramer, & Gottman, 1992; Rose & Asher, 1999). In contrast, destructive conflicts are marked by escalation as well as expansion of the conflict issue during which power assertive, hostile, and controlling tactics culminate in win-loss outcomes. Destructive conflict management erodes the quality of the relationship between the opponents. It also represents a harbinger for peer rejection which in turn is associated with an array of maladaptive outcomes for children (see Perry, Perry, & Kennedy, 1992). In light of the developmental significance of conflict, it is important to understand the processes that underlie children’s conflict interactions.

In the current study, we explore how children conceive of the ways in which conflicts unfold. One way that people are thought to make sense of frequently occurring events is by developing scripts to represent those events. A script is a mental representation of the actions and events that occur in commonly experienced situations. Scripts organize and guide behaviour in these situations (Abelson, 1981). The frequency and intensity of conflict should lend itself to script formation. The purpose of this study is to gain an understanding of children’s conflict scripts during their first year of school. We have chosen this period because it is one in which
important developmental changes occur as children are faced with increasing social demands of cooperation, perspective-taking, and the sharing of limited resources (Pianta & Cox, 2002). Teachers emphasize the importance of peer relationships and conflict resolution in children’s successful adaptation to school (e.g., National Centre for Education Statistics, 1993). As youngsters transition to school, they are expected to internalize classroom and peer group norms and modify their own behaviour in accordance with such norms (Supplee, Shaw, Hailstones, & Hartman, 2004). Children may enter school with scripts for conflict that developed over their pre-school years first with family members and later with peers. As children adapt to school, their conflict scripts may change, particularly for peer conflicts that occur in the classroom context. The present study examined children’s scripts for peer conflict in the fall and again in the spring of their first school year in order to capture change in their scripts during this period. Given our interest in scripts as cognitive structures, we relied on children’s reports of hypothetical conflicts as opposed to direct observation of their conflict behaviour. In the sections that follow, we review literature on sequential patterns within conflict and suggest linkages between these patterns and how children represent knowledge about conflict in the form of scripts. We then draw on concepts from script theory and existing research on children’s conflict management to make inferences about the nature of children’s conflict scripts.

Sequential patterns in conflict

Conflict has been defined as mutual opposition between at least two individuals (Shantz, 1987). More specifically, a conflict begins when the actions of at least one child are met with protest, opposition, resistance, or retaliation by another child (Hay & Ross, 1982). Conflicts are considered to have terminated when the opponents are no longer opposing each other’s actions (Shantz, 1987). There is a large body of literature examining conflict between children (see
Laursen, Finkelstein, & Betts, 2001, for a review). The literature consists of observational studies of children’s conflicts as well as children’s own reports of how they manage real and hypothetical conflicts. Children use (or describe using) a variety of different strategies for managing conflict such as physical and verbal aggression, ignoring the conflict, withdrawing from the interaction, complying with the opponent, asserting one’s point of view, negotiating and compromising. School-age children show more prosocial or constructive responses such as negotiation than preschoolers who rely more on destructive actions such as aggression (Laursen et al., 2001). Much of the existing research on children’s conflict has examined the prevalence of specific conflict strategies by averaging conflict behaviours across observed interaction sequences or by having children select strategies for dealing with hypothetical conflicts (e.g., Abrahami, Selman, & Stone, 1981; Killen & Turiel, 1991; McElwain, Olson, & Volling, 2002; Miller, Danaher, & Forbes, 1986; Miller & Olson, 2000; Mize & Ladd, 1988; Murphy & Eisenberg, 2002; Rinaldi, 2002). Relying on aggregates of behaviours overlooks the fact that conflict is a sequential process consisting of a series of behaviours that extend over time. This sequential process can progress toward an amicable resolution, or escalate to a win-loss outcome. While the above-mentioned research has revealed the types of strategies used by children during a dispute, less is known about when these strategies are displayed over the course of a dispute. Moreover, children who show equal use of specific strategies may use those strategies in response to different behaviours displayed by their opponent.

Based on observations of conflicts, researchers have found that certain behaviours tend to follow one another (Eisenberg & Garvey, 1981; Patterson, 1982; Perlman & Ross, 2005; Phinney, 1986; Vuchinich, 1984). For example, Eisenberg and Garvey’s (1981) analysis of conflicts between preschool-age peers revealed that simple insistence from one child (“I want the toy”) was likely to be followed by simple insistence from the opponent (“No, I want it”).
However, when a child provided a reason (“I haven’t had a turn”), the child’s opponent was likely to respond by suggesting a compromise (“I’ll give you a turn as soon as I’m finished”). Phinney (1986) examined sequential patterns in conflicts involving five-year-old children and their siblings and peers. Children’s conflict actions were categorized as simple (i.e., simple rejections, denials, and contradictions) or elaborated (i.e., providing reasons, explanations, justifications). Each action strongly influenced the following action, with simple responses following simple actions and elaborated responses following elaborated actions. One way to examine sequences is through analysis of two-step (if-then) behavioural contingencies or patterns. In these patterns, specific behaviours (i.e., ifś) tend to be followed by specific responses (i.e., thenś). An example of an if-then pattern within a conflict interaction might be: if my opponent reasons with me, then I comply. Perlman and Ross (2005) identified if-then contingencies in young children’s sibling conflicts and found that children’s actions were influenced by what their sibling had just done. Children were likely to respond with reasoning when their opponent reasoned with them, but reasoned less often after their siblings used power assertive tactics such as verbal or physical aggression. These contingency analyses demonstrate that conflict opponents do not randomly or independently use strategies. Rather, they respond to the actions of their opponent. The identification of if-then patterns in children’s conflict narratives would offer insight into how children conceive of the immediate responses to different conflict actions.

Little is known about changes that occur over the duration of young children’s disputes. Conflicts appear to “continue as they begin” (Phinney, 1986, pp. 58), as inferred by the observed chains of repeated actions within conflict episodes. Similarly, the final strategy within conflicts between preschoolers is frequently characterized by insisting on one’s original goal (Hartup, Laursen, Stewart, & Eastenson, 1988). However, using conditional probabilities, Eisenberg and
Garvey (1981) found that actions that consider both opponents’ perspectives (e.g., compromises) were most likely to end conflicts, while insistence, aggravation, and ignoring were least likely to result in the termination of conflicts between preschool-age children.

Like the observational literature, most studies of children’s responses to hypothetical conflict situations have examined the prevalence of specific conflict strategies. To explore the contingent nature of preschoolers’ conflict strategies, Thornberg (2006) presented five-year-old children with conflict vignettes that varied according to the actions of a hypothetical peer, and then asked the participants to provide their own response. Results are consistent with the findings in the observational literature that children reciprocate the actions of their opponent. This was most apparent for simple insistence, self-oriented justifications (“I said it first”), and aggression. As well, children were most likely to comply when their opponent had suggested a compromise. The current study builds on these findings by having participants provide a full sequential report of how hypothetical conflicts unfold.

Scripts

This study will explore the possibility that children have scripts for managing peer conflict. A script is a generalized mental representation of the actions and events that occur in commonly experienced situations. Through repeated exposure to routine situations, individuals begin to internalize scripts for specific situations, and once internalized, scripts come to guide our behaviour in these situations (Abelson, 1981). Scripts are activated in the presence of appropriate environmental or internal stimuli, and they are translated into action without conscious reflection (Abelson, 1981; Byng-Hall, 1985). Scripts are derived from experientially based knowledge, and as such, “the acquisition of scripts is central to the acquisition of culture” (Nelson, 1986, pp. 110). Children may become “enculturated” through their acquisition of scripts
as they internalize behavioural norms and routines from their environments. Children’s response patterns in conflicts may be sensitive to enculturation processes that occur with age and exposure to significant environmental changes such as school entry (Perlman, Ross, & Garfinkel, 2009).

All participants in the current study were situated in one school. We examined whether children’s conflict scripts become more like those of their peers over the course of the school year as they may internalize a similar (or shared) script for peer conflict.

Scripts are functional in that they enable us to predict and anticipate recurrent events in our lives and they provide a framework for understanding new or novel events (Fivush, 1984). Having a script for a routine event simplifies and organizes the abundance of information encountered each time we are presented with that event (Ginsburg, 1988; Nelson, 1981). This allows individuals to focus on variations in routine events rather than having to repeatedly negotiate patterns of interchange with their social environments. When something atypical occurs during a scripted event, one is likely to remember the deviation, especially if it disrupts goal attainment (Hudson, Fivush, & Kuebli, 1992). Deviations are “flagged” in memory and may impact how the individual approaches subsequent occurrences of the scripted event. Among young children, scripts may also provide a framework of shared knowledge about a specific scripted situation (e.g., grocery shopping) that enables them to communicate more effectively (for example, when playing “store”) (Furman & Walden, 1990). Young children have been shown to form generalized event representations of familiar events such as going to preschool or attending a birthday party. When asked to report on these events, children as young as 3-years-old structure their event narratives using the general pronoun and the “timeless” present tense (e.g., “You do X”) and they also report the component actions in their correct temporal sequence (Fivush, 1984). That is, the information contained in scripts is sequential in that the order of
appearance of behaviours is significant, not simply their presence or absence (Schank & Abelson, 1977).

Children’s descriptions or enactments of scripts may differ from what actually transpired in a specific occurrence of the event because scripts are generalized accounts of what children believe usually happens in a given situation (Nelson, 1981). As stated by Mize and Ladd (1988), “scripts are knowledge templates that guide actions in sets of circumstances, not the actions themselves” (p. 783). Scripts are based on previous experiences that tend to occur frequently. When those experiences are associated with a strong emotional reaction (“He takes my toy, I yell, then he returns my toy”), the script is likely to influence subsequent behaviours in similar situations (Tomkins, 1987). Because conflict is a commonly occurring and emotionally charged experience, we expect children to have (and be able to report on) scripts for conflict situations. Moreover, the evidence that sequential patterns and behavioural contingencies exist within conflict suggests that an individual’s mental representation of conflict may be organized in the form of a script.

Stability and flexibility of conflict scripts

Theories of script development suggest that children’s event representations are initially generalized but highly sparse and these scripts gradually become more elaborated and complex as children re-encounter the event and begin to notice and catalogue discrepancies from their usual script (Hudson, Fivush, & Kuelbi, 1992). Children’s representations about conflict may become varied according to their role within conflicts (i.e., as instigator versus responder) (David, Murphy, Naylor, & Stonecipher, 2004; Ross, Smith, Spielmacher, & Recchia, 2004) and also how conflicts begin (i.e., aggressively versus non-aggressively) (Thornberg, 2004).
Individuals may develop a generalized or stable script that is also flexible (i.e., it can have somewhat different manifestations) depending on the demands of the situation (Fivush, 2006). Personality researchers such as Shoda, Mischel, and Wright (1994) argue that it is difficult to find behavioural consistency across different activities that are not meaningfully connected (i.e., there is little consistency when comparing children’s behaviour at canoeing, woodworking, and at meals). They claim that consistency in behaviour must be examined in psychologically meaningful contexts, such as if-then patterns within social exchanges. In keeping with Shoda et al. (1994), we selected the fairly narrow and psychologically meaningful context of peer conflict over possessions. We designed this study in a way that would reveal a stable representation that holds across similar events. The appeal of scripts is that they enable people to function more efficiently in their complex environments. For this reason, we introduced some variability by altering the initiating event and the child’s role (initiator vs. responder) in the situations presented, but all within the narrow context of peer conflict over possessions and limited resources. We focused on issues of possession/ownership because these are the most frequently observed source of disagreements between 4- to 5-year old children (Chen, Fein, Killen, & Tam, 2001).

Overview of the current study

The purpose of the study was to examine children’s scripts for peer conflicts at school. Scripts are studied early in the children’s first year of school and again near the end of the school year. We presented children with six hypothetical conflict situations. Using puppets and props, children provided a full sequential report of what happens following each hypothetical situation. This study had the following objectives: (1) We measured the length of scripts and identified specific conflict strategies; (2) We assessed the stability of children’s conflict scripts.
across the six situations. Given the similarity of the vignettes presented, we expected that children’s scripts will be stable across situations; (3) We examined change in children’s conflict scripts across the school year. Given that children were older and had been exposed to nearly a full school year of kindergarten teaching, curriculum, and peer group socialization by Time 2, we hypothesized that scripts would contain more references to constructive actions, such as sharing and turn-taking, later in the school year. We also expected that during the school year, children would become enculturated at school resulting in greater similarity between children in their scripts; (4) We described sequential patterns in scripts by comparing the beginning and ending of scripts, and by identifying if-then response patterns. We determined whether or not children internally represent the sequential patterns that have been reported in the literature on children’s conflict interactions (e.g., Eisenberg & Garvey, 1981; Phinney, 1985). Based on the literature, we expected that the ending of scripts, compared to the beginning, would contain more references to constructive conflict actions. As well, analysis of if-then patterns would reveal reciprocity in conflict strategy use.
METHOD

Sample

The sample consisted of children who were interviewed between October and early November (Time 1) and in May (Time 2) of their Junior Kindergarten school year. Participant recruitment was initiated shortly after the start of the school year. Information about the study was sent to parents of all Junior Kindergarten students in 13 classrooms. Classrooms consisted of both Junior and Senior Kindergarten students, but only the former were included in the study. All 13 classrooms were situated in a large public school in an urban community having a culturally and linguistically diverse population. Of the 71 children whose parents agreed for them to participate (60% of all eligible students), seven children declined to be interviewed, and two children did not participate because they spoke very little or no English. Thus, 62 children were interviewed at Time 1. To be included in the present sample, at least three of the six conflict script narratives provided by the child had to include more than one action. One child did not meet the criterion at Time 1 and was therefore not included in the sample. Interviews were conducted again six months later at Time 2. Of the 61 children included in the sample at Time 1, six children were no longer attending the same school when the Time 2 interviews occurred. Consequently, 55 children (29 boys, 26 girls) were included in the present study. At Time 1, participants were between the ages of 3 years, 10 months and 4 years, 10 months (Mean age in months = 52.02, SD = 3.45 months). At Time 2, they were between the ages of 4 years, 4 months and 5 years, 4 months (Mean age in months = 58.35, SD = 3.39 months). Approximately 90% of all interviewed children were born in Canada. English was the primary language spoken in the homes of 31% of children. For 39% of the sample, English and another language were spoken in the home equally. Eleven languages (e.g., Urdu, Punjabi, Mandarin, Cantonese, etc.) were identified as the primary language spoken in the homes of the remaining 30% of children.
Procedure

Individually administered interviews with each child were conducted outside of the classrooms. Interviews were approximately 25 minutes in length and included the Conflict Script Interview (CSI) which I developed (see Appendix). The CSI typically requires 10 to 15 minutes. The development of the CSI was informed by prior interview methods intended to obtain scripts of young children in the school context (e.g., Hudson et al., 1992) as well as existing measures of children’s interpersonal problem solving skills (Asher & Renshaw, 1981; Getz, Goldman, & Corsini, 1984; Musun-Miller, 1993; Rudolph & Heller, 1997). The CSI underwent extensive pilot testing with 31 children between the ages of 3- and 5-years-old. The piloting helped inform the content of the measure and the phrasing of instructions and prompts. As part of the CSI, children are presented with vignettes about hypothetical conflict situations (e.g., a dispute over a toy) that they enact or “play out” with a pair of hand puppets and small props relevant to the situation. When compared to children’s verbal accounts of how they manage conflicts, enactive procedures (use of puppets and props) are more likely to reveal children’s spontaneous responses rather than their reflections about particular conflict strategies (Mize & Ladd, 1988). This is consistent with the notion that scripts are more automatic than reflective (i.e., scripts reveal people’s actions, not their reflections and analysis of those actions) (Butler & Meichenbaum, 1981). Moreover, according to Nelson (1981), a child’s enactment of her/his behaviour using dolls or puppets is more likely to represent a generalized version of what she or he believes usually happens in similar situations, not a recounting of a specific past event. Finally, when compared to strictly verbal assessments, enacted responses to hypothetical situations are also better predictors of children’s actual social behaviour (Mize & Ladd, 1988).

Prior to beginning the CSI, participants provided their script for a typical school day (see Fivush, 1984; Pelletier, 1999) in order to familiarize the children with the structure of the CSI
(i.e., a sequential reporting of an event). Specifically, children were asked to list the series of events that occur when they arrive at school. Children then responded to hypothetical conflict situations that were presented in the same order for all participants. In each situation, one puppet represented the child being interviewed and second puppet represented a hypothetical classmate (“Another kid in your class”) of the same sex as the interviewed child. There were three pairs of hypothetical situations. The first pair described a situation in which one child took an object that the other child was using. In the second pair, one child asked the other child for a limited resource (i.e., there was only one of these items in the classroom). The final pair described a similar situation involving limited resources in which one child informs another child that she/he has been using a particular toy for too long. For each pair, the first situation always depicted the child being interviewed as the one who responded to the conflict (e.g. the one from whom the toy was taken in the first set), whereas in the second situation, the interviewed child was the initiator of the conflict. After presenting each situation, the interviewer directed the child to perform the next action by asking: “Now what do you say or do?”, or “Now what does the other kid say or do?”, depending on the interviewed child’s role within the conflict (i.e., initiator vs. responder). Children were then asked: “And then what happens?” until the child made it clear that the script had ended (“Nothing else happens”).

Coding and analysis of children’s scripts did not differentiate the interviewed child’s actions from the opponent’s actions. Rather, the objective was to capture how children mentally represent the general process of conflict interaction (i.e., their scripts) irrespective of who performed each action. Children’s responses to the hypothetical situations were coded in following three ways:

1) Specific conflict strategies (e.g., Oppose, Verbal Command, etc.)
2) Conflict script constructiveness
3) **If-then contingencies**

Coding of specific conflict strategies

Within each script, each separate action provided by the child was identified and coded as a specific conflict strategy. A conflict strategy is a specific action used to manage a conflict. The coding system for conflict strategies was influenced by theoretical and empirical work related to conflict between children based on observed conflicts (e.g., Eisenberg & Garvey, 1981; Perlman & Ross, 1997) as well as conflicts narrated or enacted by children (e.g., Asher & Renshaw, 1981; Mayeux & Cillessen, 2003; Stevahn, Munger, & Kealey, 2005). The conflict strategies are listed in Table 1. The following conflict strategies were excluded from our analysis of specific conflict strategy use because they occurred infrequently or because they appeared irrelevant to the narrative: threats and strong insults (0.7% of all actions), crying (1% of all actions), referring to rules (0.1% of all actions), saying “please” in the absence of other verbal utterances (3% of all actions), attempts to distract the opponent (0.2% of all actions), references to playing on one’s own, but not ignoring the opponents’ actions/remarks (2.5% of all actions), informational questions and statements (0.5% of all actions), and remarks and actions that were unrelated to the conflict narrative and/or could not be coded (2.5% of all actions). To assess the inter-rater reliability of the conflict strategy coding system, the scripts of 29 participants (containing 572 actions overall) were coded by a second rater. Cohen’s kappa for agreement between raters was .93. Percent agreement for each conflict strategy is presented in Table 1.

An example of a transcribed and coded conflict script is presented in Table 2. At times, a single conflict turn contained two or more actions. In general, each action was coded. For example, if a child reported simultaneously hitting and commanding the opponent to hand over a toy, both High Physical Power and Verbal Command were coded. The one exception was when...
opposition and reasoning (either self- or other-oriented) co-occurred (e.g., “Don’t, that’s mine”). Only reasoning was coded in these cases (because the reasoning justifies the opposition).

Coding of conflict script constructiveness

Following Deutsch’s (1973) conceptualization of constructive versus destructive conflict, the constructiveness of each conflict script as a whole was rated using a coding system developed by Murphy and Eisenberg (2002). The constructiveness rating system reflects the degree to which the child’s script contains consideration and coordination of both opponents’ goals and promotion of their relationship. The coding system (see Table 3) rated the constructiveness of each script on a continuum of 1 (Very Destructive) to 5 (Very Constructive). To assess inter-rater reliability, the scripts of 15 participants (containing 90 conflicts) were rated by a second coder. Cohen’s kappa for agreement between raters was .77.

Dividing scripts in halves to examine sequential patterns

Each script was divided into two halves (beginning and ending) based on the number of coded conflict actions within the script. For scripts with an odd number of actions, the beginning of the script always included the additional action. Use of specific conflict strategies was examined separately in each half script. Each half script was also scored separately using Murphy and Eisenberg’s (2002) constructiveness scale. Comparing the beginning and ending of children’s scripts provided a sense of how children view the unfolding of conflicts from start to completion. In particular, these contrasts allowed us to examine how conflict strategy use and constructiveness ratings changed from the start to the end of scripts.
Analysis of conditional probabilities using *if-then* contingencies

The data requirements for a conditional probability analysis are large because multiple instances of specific conflict strategies are needed for each child. To allow us to conduct such an analysis, the coded conflict strategies were collapsed into one of three groups based on a coding system developed by Ram and Ross (2001). Each conflict strategy was coded as reflecting one of the following three broad categories: (1) Constructive problem solving (other-oriented requests, statements, explanations, and arguments; references to conciliation and cooperation); (2) Contention (attempts to persuade the opponent to concede to one’s own desires, refusals to concede to the opponent, and attempts to avoid the conflict issue) or; (3) Struggle (aggressive actions including threats, insults, grabbing and hitting, or ignoring). All actions within the scripts, including those not examined in the specific conflict strategy analyses because of their low frequency, were included in this coding system (except for those actions that seemed unrelated to the narrative or could not be coded). Table 4 summarizes the specific conflict strategies divided into the three categories. Although the classification system is categorical, the three categories can be considered on a continuum of constructive (i.e., Problem Solving) to destructive (i.e., Struggle) conflict tactics following Deutsch’s (1973) conceptualization of constructive versus destructive conflict.

In *if-then* contingencies, the *if* component refers to a specific antecedent event and the *then* component refers to the response to that event (e.g., *If* my opponent grabs my toy, *Then* I hit him). We examined the presence of *if-then* contingencies within conflict scripts by identifying the action that immediately preceded use of a specific conflict strategy. To minimize the number of different *ifs* and *thens*, we used the three category conflict strategy coding system described above. As such, there were three *ifs* (Problem solving, Contention, and Struggle) and three *thens* (Problem solving, Contention, and Struggle). A transcribed script is presented in Table 5. In the
second column of the table, each action is transcribed and coded. The third column provides the
*If* code (i.e., the antecedent event) associated with the action shown in the second column. The
fourth column provides the *Then* code (i.e., the response) associated with the action shown in the
second column.

Data requirements precluded analysis of the actor (i.e., the interviewed child or the
hypothetical opponent) associated with each *if* and *then*. Thus, these analyses only address the
generalized presence of *if-then* contingencies and do not identify whom the child conceives of
performing the actions. In order to ensure that our data were reliable, we imposed inclusion
criteria of three *ifs*. That is, only children who used at least three instances of each *if* were
included in this analysis. This reduces the influence of a single point of data and increases the
stability of the data (Perlman & Ross, 2005; Shoda, Mischel, & Wright, 1993). To account for
the fact that children reported the different *ifs* at different frequencies, the data were
proportionalized. The frequency of each response (the *then*) for a given *if* was divided by the
total frequency of the occurrence of the *if*. For example, if the child reported Contention in
response to Struggle 7 times, and Struggle was reported a total of 10 times, the proportion of *If*
Struggle, *Then* Contention would be 0.70. Thus, analyses are based on the conditional
probabilities with which events take place rather than the raw frequencies of those events.

**Data analytic approach**

Three separate coding systems were applied in order for us to balance capturing script
patterns in a detailed way with the data demands of a conditional probability analysis. **Specific**
conflict strategies were coded as this provides the most detail about individual actions within
scripts. However, we dropped conflict strategies that had very low frequencies; as well, this
coding system did not lend itself to a conditional probability analysis because the minimal
inclusion criteria (i.e., each conflict strategy must occur a minimum of three times) would have led to extensive participant loss. The constructiveness rating system provided less specific information than the conflict strategy coding, but it offered a holistic way of capturing the quality of conflict scripts. The categorization of conflict strategies into one of three categories (e.g., Struggle, Contention, and Problem solving) is a compromise between the conflict strategy coding and the constructiveness ratings. It provides less detail about each action, but it is still broad enough to allow for analyses using conditional probabilities.

Children differed in the total number of actions they reported within their scripts. Analyses of conflict strategy use were conducted using proportionalized data to control for the influence of the overall frequency of actions reported by the child. Proportions were calculated separately at Time 1 and Time 2. Proportions for each conflict strategy were calculated by dividing the number of times the given strategy was used (in all scripts combined) by the total number of actions included in all of the child’s scripts combined. For example, if the child’s scripts had a combined total of 30 actions, and 5 of those actions were coded as oppose, the proportion for oppose would be 0.17. Proportions were also calculated separately for each conflict strategy in the beginning and the ending of children’s scripts. Cronbach’s alpha was generated to assess the internal consistency of conflict strategy use and conflict script constructiveness across the six situations. Multivariate analysis of variance was used to compare the beginning and ending of children’s scripts (with respect to conflict strategy use and conflict script constructiveness) at both time points. Individual univariate effects were only reported when overall multivariate effects were significant. All analyses were repeated measures to account for the clustering of children in classrooms.
RESULTS

Descriptive statistics

At Time 1, 289 scripts were examined (\(M = 3.37\) actions, \(SD = 1.93\), Range = 2 to 11 actions). At Time 2, 309 scripts were examined (\(M = 4.25\) actions, \(SD = 2.29\), Range = 2 to 12 actions). Scripts were significantly longer at Time 2, \(t(54) = -4.13, p < .001\). At each time point, the length of scripts was unrelated to children’s age. At Time 1, the beginning of scripts ranged in length from 1 action to 6 actions (\(M = 2.02\), \(SD = .69\)) and the endings ranged in length from 1 action to 5 actions (\(M = 1.59\), \(SD = .60\)). At Time 2, the beginning of scripts ranged in length from 1 action to 6 actions (\(M = 2.46\), \(SD = .71\)) and the endings also ranged in length from 1 action to 6 actions (\(M = 1.97\), \(SD = .69\)).

Mean proportions for each conflict strategy at Time 1 and Time 2 are presented in Table 1. Means and standard deviations for each conflict strategy in the beginning and in the end of scripts, and at both time points, are also presented in Table 1. Means and standard deviations for constructiveness ratings (overall and in beginning/end halves) are presented in Table 6.

Stability of conflict scripts across situations

Cronbach’s alphas were generated to assess the internal consistency of the conflict strategies and constructiveness ratings across the six situations, for each script as a whole (i.e., overall) and divided into halves (i.e., beginning and end). All alphas are listed in Table 7. For the overall use of conflict strategies, 6 of the 10 strategies were found to be stable across situations at both time points (\(\alpha \geq .70\)). Another two strategies were approaching acceptable levels of consistency (\(\alpha \geq .65\)). Alphas assessed separately in the beginning and end of scripts were found to be less stable for several of the strategies. Alphas did not improve when situations were examined in separate groupings (for example, only those conflicts that were initiated by the
interviewed child). With 10 different conflict strategies (plus the additional 7 coded strategies that occurred infrequently), and on average one to two actions within each half script, it is not surprising that children referenced different strategies across situations. Note that the conflict strategy proportions used in all subsequent analyses were not derived from means averaged across the six situations. Rather, all data (from all situations) were combined (i.e., pooled together) to form proportions for each conflict strategy. For example, if the child’s scripts had a total of 30 actions combined, and 5 of those actions were coded as oppose, the proportion for oppose would be 0.17. There was an acceptable level of consistency in constructiveness ratings across situations at both time points (see Table 6). Constructiveness ratings for the beginning and ending of scripts also had an acceptable level of consistency across situations and at both time points.

Change in conflict scripts across the school year

We compared conflict strategies and constructiveness ratings early (Time 1) versus later (Time 2) in the school year. In this section, we examine conflict scripts as a whole. In subsequent sections, we analyze scripts divided into the beginning and the end in order to determine if sequential patterns change across time. A Repeated Measures MANOVA determined that the proportional use of conflict strategies did not change significantly across the school year, $F(9, 46) = .98, p = .47$. A Paired Samples $t$-test determined that constructiveness ratings also did not change over time, $t(54) = -.61, p = .54$.

We examined whether children became more similar to each other over the course of the school year by comparing the variability of conflict strategy use across children at Time 1 with the variability at Time 2. The separate beginning and ending variances for each conflict strategy were used in this analysis. Since there are 10 strategies and 2 halves, we compared 20 variances
in Time 1 with 20 variances in Time 2. For 18 of the 20 comparisons, the variance was larger at
Time 1 than at Time 2. Using the Sign test, this pattern of results is significant at $p < .001$.

Sequential patterns in conflict scripts

To identify sequential patterns, we compared the beginning and the ending of scripts with
respect to conflict strategy use and conflict script constructiveness. Comparisons were analyzed
at both Time 1 and Time 2.

Patterns in conflict strategy use (e.g., physical power, verbal command etc.): A 2
(Beginning vs. Ending) X 2 (Time 1 vs. Time 2) Repeated Measures MANOVA examined how
strategy use differs across the beginning and ending of the scripts and whether these differences
occur at both time points. We present the multivariate effects first, and then the univariate
comparison. The MANOVA yielded a significant main effect for the comparison of the
beginning and the end of scripts, $F(9, 46) = 37.77, p < .001, \eta^2 = .88$. The comparison between
Time 1 and Time 2 was non-significant, as was the interaction between time and the
beginning/end of scripts. For the significant main effect of beginning/end, significant univariate
effects were found for the following conflict strategies: Low Physical Power, Verbal Command,
Opposition, Self-Oriented Reasoning, Comply, Simple Request, and Other-Oriented Reasoning.
In contrast, High Physical Power, Ignore, and Third-Party Appeal remained consistent from the
beginning to the end of the scripts. There were decreases from the beginning to the end of scripts
in Low Physical Power, $F(1, 54) = 5.23, p < .05, \eta^2 = .09$, Verbal Command, $F(1, 54) = 8.55, p$
< .005, $\eta^2 = .14$, Opposition, $F(1, 54) = 40.13, p < .001, \eta^2 = .43$, Self-Oriented Reasoning, $F(1,$
$54) = 119.08, p < .001, \eta^2 = .69$, and Simple Request, $F(1, 54) = 26.37, p < .001, \eta^2 = .33$. There
were increases from the beginning to the end of scripts in Comply, $F(1, 54) = 9.70, p < .005, \eta^2$
= .15, and Other-Oriented Reasoning, $F(1, 54) = 82.71, p < .001, \eta^2 = .61$. 3
Patterns in script constructiveness: To compare constructiveness ratings across the beginning and ending of scripts within and between both time points, we ran a 2 (Beginning vs. Ending) X 2 (Time 1 vs. Time 2) Repeated Measures ANOVA. There was a significant main effect for the comparison of the beginning and ending, $F(1, 54) = 81.76, p < .001$, $\eta^2 = .60$, with higher constructiveness ratings in the ending ($M$ averaged across Time 1 and Time 2 $= 3.53, SE = .12$) compared to the beginning ($M$ averaged across Time 1 and Time 2 $= 2.72, SE = .10$). There was a significant interaction between time and the comparison of the beginning and the end, $F(1, 54) = 34.99, p < .000$, $\eta^2 = .39$ (see Figure 1). Although constructiveness ratings increased from the beginning to the end of scripts at both time points, this increase was especially marked at Time 2. Also, there is no difference in constructiveness ratings when comparing the beginning in Time 1 ($M = 2.79, SD = .99$) with the beginning in Time 2 ($M = 2.64, SD = .87$), $t(54) = 1.13, p = .26$. However, when comparing the endings, the constructiveness ratings increased significantly from Time 1 ($M = 3.24, SD = 1.16$) to Time 2 ($M = 3.82, SD = 1.02$), $t(54) = - 3.50, p = .001$.

*If-then* patterns: As described earlier, these analyses used the three-category classification system for conflict strategies to prevent loss of all participants due to data requirements necessary for conducting analyses based on conditional probabilities. These analyses included a sub-sample of our participants based on inclusion requirements determined by the frequency with which they reported specific conflict strategies (at least 3 *ifs* per category, as seen in Perlman & Ross, 2005). At Time 1, 16 children met the inclusion criteria. At Time 2, 25 children met the inclusion criteria. Because the sub-samples of children included in these analyses differed in Time 1 and Time 2, analyses were conducted separately at each time point. A series of one-way Repeated Measures ANOVAs determined whether or not children varied the responses (i.e., the *then* measures) to the different antecedent conflict strategies included in their
scripts (i.e., the *ifs*). The dependent variable was the *then* strategy, and the independent variables were the *if* strategies. In all analyses, child was the unit of analysis (i.e., each response (i.e., *then*) was analyzed separately for each child). Pairwise comparisons using a Bonferroni correction (.05 divided by 3) enabled us to describe precisely how the children varied their use of different conflict strategies (*thens*) based on the strategies that preceded them (*ifs*). As per the Bonferroni correction, we accepted only *p* values smaller than .02 as significant. Significant findings are illustrated in Figures 2 to 4.

**Time 1:** The one-way Repeated Measures ANOVA for Struggle was significant, $F(2, 14) = 20.30, p < .001, \eta^2 = .74$ (see Figure 2). Children reported Struggle significantly less often in response to Problem Solving ($M = .10, SD = .15$) than in response to Struggle ($M = .46, SD = .24$) or Contention ($M = .44, SD = .19$), *p* < .005. The difference between Struggle and Contention was non-significant. The one-way Repeated Measures ANOVA for Contention was marginally significant, $F(2, 14) = 3.66, p = .05, \eta^2 = .34$ (see Figure 3). Children reported use of Contention marginally less often in response to Contention ($M = .18, SD = .22$) than in response to Struggle ($M = .46, SD = .27$) or Problem Solving ($M = .37, SD = .19$), *ps* = .09. The difference between Struggle and Problem Solving was non-significant. The one-way Repeated Measures ANOVA for Problem Solving was not significant. Children reported similar rates of Problem Solving in response to Struggle ($M = .27, SD = .25$), Contention ($M = .33, SD = .23$), and Problem Solving ($M = .41, SD = .24$)

**Time 2:** The one-way Repeated Measures ANOVA for Struggle was significant, $F(2, 23) = 5.74, p < .05, \eta^2 = .33$ (see Figure 4). Children reported Struggle significantly less often following Problem Solving ($M = .19, SD = .24$) than in response to Struggle ($M = .35, SD = .21$) or Contention ($M = .46, SD = .21$), *ps* < .02. The difference between Struggle and Contention was not significant. The one-way Repeated Measures ANOVA for Contention was not
significant. Children reported Contention at similar rates in response to Struggle ($M = .33, SD = .26$), Contention ($M = .29, SD = .20$), and Problem Solving ($M = .38, SD = .28$). The one-way Repeated Measures ANOVA for Problem Solving was also not significant. Children reported Problem Solving at similar rates in response to Struggle ($M = .35, SD = .28$), Contention ($M = .27, SD = .17$), and Problem Solving ($M = .37, SD = .20$).
DISCUSSION

In the current study, we examined children’s scripts for peer conflict. Scripts are viewed as adaptive and functional because they are thought to organize and guide behaviour, allowing individuals to operate more efficiently and focus on novelty within their environment. With respect to children’s conflicts, scripts offer a window for exploring how children conceive of conflict interactions. In our study, children provided scripts for six conflict situations early and late in their first year of kindergarten. In the sections that follow, we review our findings with respect to each of the study’s objectives.

Stability of conflict scripts across situations

Our first goal was to determine if children described consistent sequences of conflict exchanges. Thus, we selected multiple instances of similar events (i.e., six peer conflict situations over possessions and resources) to measure consistency in children’s responses as a means of determining the extent to which children have stable scripts that are generalizable across similar situations. Our findings with respect to consistency varied according to whether scripts were analyzed as a whole or in halves (to examine the sequential nature of scripts) and whether consistency was assessed at the level of individual conflict actions or more globally using ratings of constructiveness. We found that conflict strategy use was consistent across situations as a whole for six of the ten strategies examined in this study. When examined in halves (i.e., beginning and ending), strategy use was largely inconsistent from situation to situation. This may be attributed to the fact that each half script was very short in length (i.e., half scripts consisted of 1 to 2 strategies on average) and there were a total of 17 possible strategy codes. We also measured consistency in the quality of the scripts using the more holistic (or global) measure of constructiveness. Constructiveness was stable across each situation as a
whole and when assessed separately in the beginning and end of children’s scripts. Thus, children are stable in their responses when responses are examined more holistically. This evidence of stability suggests that all situations are tapping into one shared construct with respect to constructiveness.

Conflict script length and strategy use

Scripts were short in length, averaging 3 to 4 actions per situation; however, there was considerable variability across children in the length of their scripts, with scripts ranging in length from 1 to 14 actions. The lengths of preschoolers’ real-life peer conflicts are also highly variable; however, on average, their conflicts are also short in duration, often containing only 2 to 5 actions (Eisenberg & Garvey, 1981; Hartup et al., 1988; Phinney, 1986). The short length of scripts allowed us to examine scripts in only two parts (e.g., beginning and end). Subsequent research involving older children whose scripts may be longer would facilitate examination of additional parts (e.g., beginning, middle, and end).

Our findings with respect to the proportional use of specific conflict strategies are similar to those found in other studies of 4-to 6-year-old children’s responses to hypothetical peer conflict situations (e.g., Iskandar, Laursen, Finkelstein, & Fredrickson, 1995; Mayeux & Cillessen, 2003; Musun-Miller, 1993; Youngstrom, Meltzer Wolpaw, Kogos, Schoff, Ackerman, & Izard, 2000), as well as research that has examined children’s reports of actual peer conflicts (e.g., Shantz, 1993) and direct observations of their peer conflicts (e.g., Chen et al., 2001; Dunn & Herrera, 1997). Over one-quarter of the actions identified within the conflict scripts were classified as Other-Oriented Reasoning, consisting largely of direct references to sharing, turn-taking, and cooperation. Thus, children’s representations of object disputes included a considerable amount of prosocial behaviour in which conflicts of interest were
managed skillfully and with minimal hostility. Approximately 15% of the actions within scripts were forms of Low Physical Power, which consisted primarily of taking or grabbing objects from the opponent without permission. Self-Oriented Reasoning occurred with similar frequency (14% of the time) and was characterized by insistence on one’s own agenda (e.g., “It’s mine”; “I had it first”). All other strategies (Comply, Oppose, Verbal Commands, Ignore, Third-Party Appeals, and more aggressive forms of Physical Power) were displayed less than 10% of the time. The convergence of our findings with those from prior work offers support for the validity of our interview procedure and conflict strategy coding system.

Sequential patterns in conflict scripts

As scripts unfolded from beginning to end, aggressive, insistent, unelaborated, and self-centered actions decreased (e.g., Low Physical Power, Verbal Command, Oppose, Self-Oriented Reasoning, and Simple Request). Use of these strategies may escalate conflict as they focus on one’s own needs and perspectives within the conflict, although the intrusiveness and insistence of these strategies vary. High Physical Power, Ignore, and Third-Party Appeal remained unchanged over the course of the scripts. It is surprising that High Physical Power failed to decrease, as hitting, punching and kicking would undermine amicable resolutions. Such actions, however, were reported by a minority of children in the sample (21% of all children at Time 1; 24% of children at Time 2) and its proportional use was highly variable among these children. It may be that some of these children differ from the majority of the sample with respect to emotional reactivity, for instance. In effect, they may not be selective in the timing and placement of this behaviour in the course of a dispute. Future research using a larger sample could compare children whose aggression decreases relative to those children whose aggression remains stable or increases over the course of their scripts. Analysis of individual differences
would offer insight into the role of conflict scripts in potentially identifying children who may be engaging in destructive conflicts.

Ignore occurred infrequently but at similar rates throughout the scripts. Ignore may operate as an avoidance tactic (Mayeux & Cillessen 2003) that occurs early in a conflict, or as a means of ending a conflict (Hartup et al., 1988). Third-Party Appeals also remained unchanged over the course of the scripts. Teacher assistance may be sought at or near the beginning of a conflict (in response to the actions of the opponent) or towards the end as children may depend on teacher assistance in reaching a resolution.

As the scripts progressed, conflicts increased in constructiveness. Yielding and submitting, and sharing and cooperation, have been shown to culminate in conflict resolutions (as seen in Eisenberg & Garvey, 1981). Evidently, children seem to have incorporated these sequential patterns into their knowledge templates (scripts) for conflict. The decrease in self-oriented reasoning and the increase in other-oriented reasoning were most dramatic, suggesting that children viewed conflicts as shifting from an emphasis on self-interest to more cooperative interaction in which multiple perspectives were considered and efforts were made to reach a compromise.

We also analyzed if-then contingencies in a sub-sample of our participants. Given the amount of data required for inclusion in these analyses, these were children whose scripts tended to be longer. We were interested in determining how children’s reported responses varied for different antecedent events. At both time points, we found that strategies characterized by Struggle (consisting primarily of grabbing objects) were more likely to follow either the same strategy (in a tit-for-tat manner) or Contentious strategies such as insistence on one’s own views and agenda. Struggle rarely followed Problem Solving. It appeared that insistence on one’s own agenda (Contention) elicited power assertive reactions (Struggle), and that power assertions were
reciprocated. Conversely, use of Problem Solving appeared to de-escalate the conflict. Problem solving, by mitigating the hostility of the conflict, may decrease the need for power assertion. These findings are consistent with past research examining children’s responses to hypothetical situations (Thornberg, 2006) and direct observation of children’s sequential responses in conflict (Perlman & Ross, 2005; Phinney, 1985).

Young children have been observed to reciprocate contentious actions (such as simple oppositions, commands, and self-oriented reasoning) during their conflicts (Eisenberg & Garvey, 1981; Phinney, 1985) and when responding to a hypothetical situation in which an opponent has displayed a contentious action (Thornberg, 2006). Phinney (1985) referred to reciprocated contentious actions as chains of simple assertions and counter-assertions (“It’s mine”; “No, it’s mine”; “No, mine”). However, these chains were not as prevalent in the current study. Unlike Thornberg (2006), children in the current study reported on a complete cognitive structure rather than two contingent actions in isolation to the remainder of the conflict. When reporting on scripts, children as well as adults have been shown to group certain actions into one unit rather than separating the overall action into separate, individual units (Hudson et al., 1992; Price & Goodman, 1990). The grouping or chunking of actions tends to occur when the actions share something in common or when viewed as representing one activity (see Hudson et al., 1992). The frequency and reciprocal nature of chains of assertions and counter-assertions in children’s real life conflicts may lend themselves to being “chunked” into one action within children’s scripts.

At both time points, children’s problem solving did not vary in response to different preceding moves. Young children are frequently and consistently encouraged, especially by their teachers, to respond in de-escalatory ways (i.e., with problem solving) in many situations
(Denham & Burton, 2003), and it appears that this response style is well represented in their scripts for conflict.

Change in conflict scripts across the school year

Contrary to our hypotheses, when conflicts scripts were examined as a whole, conflict strategy use and constructiveness ratings remained unchanged over the course of the school year. However, a focus on the whole (i.e., averaging across the entire conflict sequence) masked the temporal nature of conflict. When examined sequentially in parts (beginning versus end), it was the end of scripts that showed increased constructiveness over time. Over the course of the school year, our participants may have evaluated the use and the timing of specific conflict behaviours ranging in constructiveness. Through this process, they have come to represent conflict as unfolding in a particular manner, with power assertion and insistence used initially (possibly in reaction to the initiating event and/or in an attempt to satisfy their own desires). Children came to appreciate that opponents do not easily submit to each others’ demands, leading to greater reliance on constructive tactics in resolving the conflict. There is indication that children are generally more successful in acquiring a limited resource when they use prosocial strategies (Green & Rechis, 2006). The sequential patterns identified in the conflict scripts may be capturing children’s emerging appreciation for the benefits of acting in more prosocial ways during conflicts.

A variety of factors may account for the changes that occur in children’s conflict scripts across the school year. Children were followed during a period of considerable growth in their cognitive and verbal abilities (Dunn & Slomkowki, 1992; Pflaum, 1986) and in their capacity to understand their own and others’ thoughts and intentions (Astington, 1993; Dunn, 1987). During the school year, children were exposed to school-based learning and peer group socialization.
The children experienced conflict in the classroom setting and gains may have been achieved in their ability to amicably manage disputes with their classmates. As well, teachers would likely have promoted constructive problem-solving when conflicts arose. In turn, children may have integrated more constructive scripts over time in response to their teachers’ reinforcement of constructive conflict resolution. As such, social desirability may contribute to the greater likelihood of children producing more constructive scripts. However, the overall rate of destructive actions such as grabbing and insistence on one’s own perspective did not decrease over time. Moreover, the overall proportion of constructive actions such as other-oriented reasoning did not increase over time. Had social desirability been the primary process through which children came to produce more constructive scripts, children would likely have reported higher constructiveness throughout their script as a whole and not solely at the end of their scripts. Nonetheless, social desirability may represent one process through which children came to integrate more constructive resolutions (i.e., at the end of their scripts) over time.

Future research incorporating direct measurement of children’s social desirability biases would help clarify the role of social desirability in children’s script reporting.

It could be argued that the changes observed in scripts across the school year are attributed to growth in children’s language abilities. English is not the primary language spoken in the homes of many of the participants, and their first year of school would provide considerable exposure to English (which is also the language used in the interview procedure). The CSI was designed to enable children to express their scripts nonverbally (i.e., through enactments using puppets and small props relevant to each situation). At both time points, a substantial proportion (approximately 40%) of Other-Oriented Reasoning was enacted nonverbally (e.g., the child shows the puppets passing a ball back and forth). Furthermore, the overall constructiveness of scripts (and the beginning of scripts) remained unchanged across the
school year. Changes over time were only seen in the ending of children’s scripts. If results were due entirely to language, then changes over time would be present in both halves of children’s scripts (and in the overall/averaged constructiveness ratings).

Children became less idiosyncratic and more homogeneous over the course of the school year, as indicated by decreased variability in conflict strategy use at Time 2 compared to Time 1. This change in variance across time may have occurred as children gained experience with peer conflict and with interacting with each other over the school year. The variability in strategy use may have been lower later in the school year as the children came to internalize classroom and school norms set by their teachers and classmates. These norms were presumed to be less established earlier in the school year (Time 1). As stated by Nelson (1986), people develop “shared” scripts based on common experiences. The enculturation process with respect to the internalization of classroom norms may result in greater similarity in the scripts of children situated within this school.

Conclusions and limitations

The presence of temporal patterns (beginning versus ending) and if-then contingencies within children’s conflict scripts adds credence to the existence and durability of such scripts. According to script theorists such as Abelson (1981), strong scripts have predictable sequences of actions that usually occur, as well as constraints on the order and on the performance of particular actions. These predictable sequences provide children with organization for their representations of events. According to Nelson (1981), without scripts, “every social act would need to be negotiated afresh”. Scripts for conflict enable children to make sense of conflict situations and allow them to anticipate how conflict with peers usually unfolds. Thus, children appear to have expectations about how conflicts start and how the dynamics change as the
conflict progresses and ends. They also have expectations of how responses vary according to antecedent events, for example that destructive power assertion rarely occurs in response to constructive problem solving. When a conflict interaction differs markedly from their scripted view of conflict, children may “flag” the deviations in memory (Hudson et al., 1992) and change their actions in subsequent conflicts accordingly. For example, a child whose conflict with a particular peer fails to de-escalate in the manner that her conflicts with most peers do (the scripted version of the event) may decide to avoid future interaction with this peer. This is an empirical question that can be examined using direct observations of children’s conflicts and analyzing their responses to occurrences that are not predicted by their generic conflict script.

The present study focused on actions within conflict for making inferences about the structure and content of conflict scripts. Other factors not examined in this study may play a role in determining how children represent information about conflict. For example, emotional expressiveness during conflict interactions, such as the intensity of a child’s anger and the emotional tone of their commands, requests, and justifications, may determine the course and outcome of conflict (Miller & Olson, 2000). Children may view conflicts as escalating or de-escalating depending on the emotions exhibited in conflict. As well, whether or not scripts contain amicable resolutions may depend on whether the interviewed child viewed their hypothetical opponent as a friend or a non-friend (Hartup et al., 1988). These factors represent important directions for future research on children’s conflict scripts.

Children’s conflict scripts were obtained through pretend play involving puppets and props. It is possible that the pretend play context influenced the sophistication of children’s responses. Children’s pretend play might represent a “zone of proximal development” (Lillard, 1993). Vygotsky (1978) suggested that in pretense mode, children can operate at a higher cognitive level: “In play a child is always above his average age, above his daily behavior; in
play it is as though he were a head taller than himself” (p. 102). Typically, a more advanced partner provides a scaffold to support the child at the higher level. However, the zone of proximal development can be applied to contexts in which the more advanced partner is not present, for instance, when the child engages in pretense or pretend play independently (Lillard, 1993). Children’s responses using puppets and props in the current study may be more advanced than their real-life behaviour in actual conflict situations. Although children can mentally represent advanced conflict management behaviour in pretense, they may be less likely to apply these same behaviours when faced with the emotional provocation that conflicts tend to carry. In fact, young children’s responses to hypothetical situations are more advanced (having more negotiation and less coercion) than their behaviour in actual conflicts (see Laursen et al., 2001). Moreover, the actions within scripts may not directly correspond to one’s real-life actions because “scripts are knowledge templates that guide actions… not the actions themselves” (Mize & Ladd, 1988, p. 783). Thus, we view conflict scripts as generalized representations of past conflicts that influence how children process and manage subsequent conflict interactions.

The roles of gender, cultural background and classroom culture were not examined in the present study. Gender has been examined elsewhere yielding findings that girls’ scripts are more sensitive to context than boys’ scripts; for example girls report aggression only when responding to an opponents’ aggression, whereas boys report aggression similarly across situations (see Mangalindan, Perlman, & Garfinkel, under review). Information about cultural background was not directly obtained in the present study. There are cultural variations in beliefs about conflict and how conflicts are addressed that may reflect the values of the culture (Leung & Wu, 1990). Within European-American cultural groups, conflict is often viewed as inevitable. Resolutions consisting of compromise and negotiation are emphasized over indirect resolutions such as disengagement. Conversely, in Eastern cultures, conflicts may be minimized and avoided, and
when they do arise, disengagement is the preferred strategy (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000). It is not known to what extent young children’s conflict scripts reflect these cultural variations. The conflict scripts of children raised in an Eastern cultural context may be shorter (to avoid conflict) and compliance may be more prevalent than children raised in a European-American cultural context.

Children were drawn from 13 different classrooms, but these classrooms were not independent as teachers often co-taught groups of children from two or more classrooms, and children from different classrooms often interacted. Consequently, it was not possible to study the role of classroom-level differences in children’s conflict scripts. However, classroom culture, determined in part by the teacher’s background, beliefs, values, and style of managing conflict may impact how conflict is addressed in the classroom (Sims, Hutchins, & Taylor, 1997), and in turn, the conflict scripts that children develop. Future research on conflict scripts should examine the contributions of children’s cultural background and classroom culture.

Our if-then analyses were limited to a small sub-sample of our participants who had longer conflict scripts than those children in the larger sample. The conflict patterns of these children may differ from those of the larger sample. One option was to collapse data across children; however doing so would over-represent those children who have longer scripts because they contribute relatively more instances to the data (Bakeman & Gottman, 1997). Research using larger samples is needed to better understand sequential processes in conflict scripts. Because of the small sample size of the present study, especially for the if-then analyses, and the resulting low frequency of some of the strategies, we must interpret these results with caution.

Despite these limitations, the current study offers a promising methodology for the study of children’s conflict scripts. The conflict strategies reported using the Conflict Script Interview (CSI) are consistent with findings reported in the literature on children’s conflict behaviour and
their responses to hypothetical conflict situations. The constructiveness of children’s responses was found to be stable across the six situations of the CSI. These findings speak to the reliability of the CSI in assessing children’s conflict scripts using a global, holistic measure of constructiveness. The study of conflict scripts improved our understanding of how children represent their disputes with peers. Specifically, children were sensitive to the sequential nature of conflict (i.e., that conflict progresses towards resolution), as reflected in the changes that occurred from the beginning to the end of their scripts. The way conflict scripts ended revealed growth in constructiveness that occurred over the course of the school year. Examination of if-then patterns suggested that the conflict scripts of young children were organized around predictable sequences of actions. Our findings highlighted the importance of examining sequential patterns within conflict, as simply averaging behaviours within a conflict may have masked important processes that scripts were able to capture. The continued study of conflict scripts would greatly assist researchers and practitioners in better understanding important influences on how children represent and negotiate peer conflict in their day-to-day interactions.
Table 1

Coding of Conflict Strategies with Mean Proportions and Standard Deviations (for Overall, Beginning, and Ending of Scripts) at Time 1 and Time 2.

Note: Bolded values indicate significant differences between Beginning and End means.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Definition</th>
<th>Percent Agreement</th>
<th>Mean Proportions (and Standard Deviations)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Time 1</td>
</tr>
<tr>
<td>High Physical</td>
<td>Pushing, shoving, hitting, punching, and kicking.</td>
<td>100%</td>
<td>Overall Mean</td>
</tr>
<tr>
<td>Power</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beginning</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ending</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.16)</td>
</tr>
<tr>
<td>Low Physical</td>
<td>Taking, grabbing, or pulling away objects.</td>
<td>100%</td>
<td>Overall Mean</td>
</tr>
<tr>
<td>Power</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beginning</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.20)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ending</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.21)</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignoring or not responding to others’ requests or remarks.</td>
<td>97%</td>
<td>Overall Mean</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beginning</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.05)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ending</td>
<td>.04</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.08)</td>
</tr>
<tr>
<td>Oppose</td>
<td>Refusal or resistance not accompanied by reasoning (e.g., “Stop it”; “Don’t”) and is done in response to the actions of others.</td>
<td>97%</td>
<td>Overall Mean</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beginning</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ending</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.06)</td>
</tr>
<tr>
<td>Verbal Command</td>
<td>Verbal commands, telling the other person what to do.</td>
<td>88%</td>
<td>Overall Mean</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beginning</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>Comply</td>
<td>Simple Request</td>
<td>Third-Party Appeal</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Yielding or submitting to the opponent’s position; can be verbal or physical (letting go of a disputed object; giving in)</td>
<td>Requesting an object possessed by the other without stating a reason or explanation to support the request (e.g., Can you give it to me?)</td>
<td>Seeking/requesting assistance from a third-party (e.g. telling the teacher).</td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
<td>92%</td>
<td>95%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Beginning</strong></td>
<td>Overall Mean: .08 (.10)</td>
<td>Overall Mean: .03 (.04)</td>
<td>Overall Mean: .03 (.07)</td>
</tr>
<tr>
<td></td>
<td>Beginning: .04 (.10)</td>
<td>Beginning: .03 (.06)</td>
<td>Beginning: .04 (.09)</td>
</tr>
<tr>
<td></td>
<td>Ending: .11 (.19)</td>
<td>Ending: .01 (.04)</td>
<td>Ending: .03 (.09)</td>
</tr>
<tr>
<td><strong>Ending</strong></td>
<td>Overall Mean: .08 (.07)</td>
<td>Overall Mean: .05 (.06)</td>
<td>Overall Mean: .02 (.07)</td>
</tr>
<tr>
<td></td>
<td>Beginning: .06 (.08)</td>
<td>Beginning: .07 (.09)</td>
<td>Beginning: .02 (.08)</td>
</tr>
<tr>
<td></td>
<td>Ending: .11 (.12)</td>
<td>Ending: .02 (.04)</td>
<td>Ending: .01 (.05)</td>
</tr>
</tbody>
</table>

*Note: The table includes the percentages and means for each description, with standard deviations in parentheses.*
Table 2

Example of a Transcribed Conflict Script

Hypothetical situation: Now let’s pretend that you and another kid are colouring with crayons. There’s only one purple crayon and the other kid is using it. You ask him/her if you can use the purple crayon. But he/she isn’t finished using the purple crayon. And so he/she won’t give you the purple crayon.

<table>
<thead>
<tr>
<th>Interviewer’s Questions</th>
<th>Child’s Responses</th>
<th>Conflict Strategy Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do you say or do? Show me using the puppets.</td>
<td>I grab the crayon</td>
<td>Low Physical Power</td>
</tr>
<tr>
<td>And then what happens?</td>
<td>She says it’s her crayon.</td>
<td>Self-Oriented Reasoning</td>
</tr>
<tr>
<td>And then what happens?</td>
<td>I ask if I can have a turn when she’s done using it.</td>
<td>Other-Oriented Reasoning</td>
</tr>
<tr>
<td>And then what happens?</td>
<td>She says, “OK, we’ll take turns”</td>
<td>Other-Oriented Reasoning</td>
</tr>
</tbody>
</table>
Table 3

Constructiveness Rating System and Examples

Dialogue is in quotation marks. Enacted actions are in brackets. The interviewer’s prompts (e.g., requests for clarification) are in squared brackets.

TC = target child (child being interviewed)
OC = other child (hypothetical opponent)

<table>
<thead>
<tr>
<th>Rating</th>
<th>Code Description</th>
<th>Example Script</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A highly destructive script characterized by an escalation of the issues involved, high costs to participants, and use of power by participants.</td>
<td>TC: “Give it to me”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: “Don’t take my purple crayon”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: (Grabs crayon from TC).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TC: (Hits OC).</td>
</tr>
<tr>
<td>2</td>
<td>A somewhat destructive script having mostly destructive actions with an element or two of constructiveness reported.</td>
<td>TC: (takes the crayon away from OC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: “Give it back”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: She’s hitting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: She’s sad. [prompt]. She’s crying.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>They’re sharing [prompt].</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Both children: (passing crayon back and forth to each other).</td>
</tr>
<tr>
<td>3</td>
<td>A mixture of constructive and destructive actions.</td>
<td>TC: “I want that”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: She gives it to me.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TC: I give it to her.</td>
</tr>
<tr>
<td>4</td>
<td>A somewhat constructive script having mostly constructive actions with an element or two of destructiveness reported.</td>
<td>TC: Then I take it away.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: “Hey give it back – that’s not really nice to do. You have to say please and thank you”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TC: Then I give it back to her and I say please and thank you.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: “Ok, you can use it”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TC: “How about we both use it together”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: “Ok”.</td>
</tr>
<tr>
<td>5</td>
<td>A highly constructive script characterized by cooperative strategies and low costs to participants.</td>
<td>TC: “Can I please have it?”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OC: (gives crayon to TC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TC: Then I use it.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Then we share.[prompt] We give one to each other, and when you’re done, we give it back to each other.</td>
</tr>
</tbody>
</table>
Table 4

Coding of Conflict Strategies using the Three-Category Classification System

<table>
<thead>
<tr>
<th>Category</th>
<th>Conflict Strategies Included</th>
<th>Means Proportions and (Standard Deviations)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time 1</td>
</tr>
<tr>
<td>Struggle</td>
<td>High Physical Power</td>
<td>.24 ( .23)</td>
</tr>
<tr>
<td></td>
<td>Low Physical Power</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ignore</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Threats and strong insults</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crying</td>
<td></td>
</tr>
<tr>
<td>Contention</td>
<td>Verbal Commands</td>
<td>.28 ( .14)</td>
</tr>
<tr>
<td></td>
<td>Oppose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-Oriented Reasoning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Referring to rules</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attempts at distraction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>References to solitary play</td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td>Other-Oriented Reasoning</td>
<td>.46 ( .27)</td>
</tr>
<tr>
<td></td>
<td>Comply</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Third Party Appeal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Simple Request</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Informational questions and statements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saying “please” in the absence of other verbal utterances</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Simple Request was included in the Problem Solving category because it gives status to the wishes and desires of the opponent currently in possession of the desired object (Ram & Ross, 2001). Proportions do not add up to 1.0 because values do not include remarks and actions made by the child that could not be coded.
## Table 5

Example of a Transcribed Conflict Script with Codes for *Ifs* and *Thens*

<table>
<thead>
<tr>
<th>Action #</th>
<th>Child’s Responses (and Coded Conflict Strategy)</th>
<th>Antecedent Event (If’s)</th>
<th>Response (Then’s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I grab the crayon <em>(Struggle)</em></td>
<td>---</td>
<td>Contention</td>
</tr>
<tr>
<td>2</td>
<td>She says it’s her crayon. <em>(Contention)</em></td>
<td>Struggle</td>
<td>Problem Solving</td>
</tr>
<tr>
<td>3</td>
<td>I ask if I can have a turn when she’s done using it. <em>(Problem Solving)</em></td>
<td>Contention</td>
<td>Problem Solving</td>
</tr>
<tr>
<td>4</td>
<td>She says, “OK, we’ll take turns” <em>(Problem Solving)</em></td>
<td>Problem Solving</td>
<td>---</td>
</tr>
</tbody>
</table>

Notes: Responses were coded using the Three Category Classification System for Conflict Strategies (presented in Table 4).

Action #1 does not have an associated *If* code because it was the first action that the child provided as part of her/his script (and therefore no actions preceded it). As well, Action #4 does not have an associated *Then* code because it was the final action that the child provided (and therefore no actions followed it).
Table 6

Means and Standard Deviations for Constructiveness Ratings (Overall, and Beginning and Ending of Scripts) at Time 1 and Time 2

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>2.96 (1.17)</td>
<td>3.07 (1.06)</td>
</tr>
<tr>
<td>Beginning</td>
<td>2.79 (.99)</td>
<td>2.64 (.87)</td>
</tr>
<tr>
<td>Ending</td>
<td>3.24 (1.16)</td>
<td>3.82 (1.02)</td>
</tr>
</tbody>
</table>

Notes: Standard Deviations are in parentheses. See Figure 1 for associated figure.
### Table 7

Cronbach’s Alpha for Constructiveness Ratings and Conflict Strategies at Time 1 and Time 2 (for Overall, Beginning and End Means across Situations)

<table>
<thead>
<tr>
<th>Measure/Strategy</th>
<th>Time 1</th>
<th></th>
<th></th>
<th>Time 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Begin</td>
<td>End</td>
<td>Overall</td>
<td>Begin</td>
<td>End</td>
</tr>
<tr>
<td>Constructiveness Ratings</td>
<td>.85</td>
<td>.83</td>
<td>.84</td>
<td>.78</td>
<td>.78</td>
<td>.86</td>
</tr>
<tr>
<td>High Physical Power</td>
<td>.92</td>
<td>.89</td>
<td>.91</td>
<td>.86</td>
<td>.85</td>
<td>.78</td>
</tr>
<tr>
<td>Low Physical Power</td>
<td>.83</td>
<td>.62</td>
<td>.67</td>
<td>.73</td>
<td>.74</td>
<td>.68</td>
</tr>
<tr>
<td>Ignore</td>
<td>.60</td>
<td>-.14</td>
<td>.38</td>
<td>.65</td>
<td>.51</td>
<td>.74</td>
</tr>
<tr>
<td>Oppose</td>
<td>.67</td>
<td>.62</td>
<td>.44</td>
<td>.50</td>
<td>.45</td>
<td>.25</td>
</tr>
<tr>
<td>Verbal Command</td>
<td>.79</td>
<td>.72</td>
<td>.75</td>
<td>.80</td>
<td>.77</td>
<td>.34</td>
</tr>
<tr>
<td>Comply</td>
<td>.58</td>
<td>-.10</td>
<td>.42</td>
<td>.57</td>
<td>.38</td>
<td>.49</td>
</tr>
<tr>
<td>Simple Request</td>
<td>.43</td>
<td>.49</td>
<td>.59</td>
<td>.59</td>
<td>.53</td>
<td>.22</td>
</tr>
<tr>
<td>Third Party Appeal</td>
<td>.70</td>
<td>.62</td>
<td>.57</td>
<td>.88</td>
<td>.84</td>
<td>.64</td>
</tr>
<tr>
<td>Self-Oriented Reasoning</td>
<td>.75</td>
<td>.69</td>
<td>.91</td>
<td>.72</td>
<td>.52</td>
<td>.30</td>
</tr>
<tr>
<td>Other-Oriented Reasoning</td>
<td>.74</td>
<td>.66</td>
<td>.73</td>
<td>.77</td>
<td>.70</td>
<td>.82</td>
</tr>
</tbody>
</table>
Figure 1

Constructiveness ratings at the beginning and ending of scripts for Time 1 and Time 2
Figure 2

*If-then* contingencies for Struggle at Time 1

![Bar chart showing if-then contingencies for Struggle at Time 1](image-url)
Figure 3

*If-then* contingencies for Contention at Time 1
Figure 4

*If-then* contingencies for Struggle at Time 2
Endnotes

1 Only for the purpose of assessing the internal consistency of conflict strategies across the six situations, proportions for each conflict strategy were calculated separately in each situation. The conflict strategy proportions used in all other analyses were not derived from means averaged across the six situations. Rather, all actions within all six situations were combined (i.e., pooled together) to form composites for each conflict strategy.

2 Because many of our analyses focused on patterns within scripts, we excluded scripts that had only one action. At Time 1, 33 scripts had only one action. All children had at least three scripts (out of a total six) containing more than one action. At Time 2, 14 scripts had only one action. All children had at least four scripts (out of a total six) containing more than one action. We also excluded two scripts at Time 1 that were unusually long (i.e., the number of actions was greater than three standard deviations above the mean).

3 To ensure that the calculation/weighting of the halves did not skew the beginning/end patterns (i.e., for scripts with an odd number of actions, the middle action was assigned to the beginning half), proportions for each conflict strategy in each half script were re-calculated by assigning the middle action to the second half of the script. Paired samples t-tests compared the original proportions (i.e., assigning the middle action to the first half of the script) with the re-calculated proportions. Significant differences were found for two conflict strategies in the second-half (end) proportions at Time 1 only: Self-Oriented Reasoning and Other-Oriented Reasoning. However, analysis of the beginning/end patterns using the recalculated proportions yielded the same results that were found for the original calculation of proportions. Specifically, Self-Oriented Reasoning decreased from the beginning to the end of the scripts, and Other-Oriented Reasoning increased from the beginning to the end of the scripts.
Analyses compared the sub-sample with the remainder of participants excluded from the *if-then* analyses. At both time points, the sub-sample reported longer scripts (Mean number of actions across situations = 4.04 at T1, and 4.92 at T2) than children who did not meet the inclusion criteria (*M* = 3.10 at T1, and 3.81 at T2), *t*(60) = 2.31, *p* = .03 for T1, and, *t*(60) = 3.55, *p* = .001 for T2. On all other variables (conflict strategy use, constructiveness ratings), the groups did not differ significantly.
STUDY #2

The role of conflict scripts in children’s transition to school
ABSTRACT

Fifty-five children between 4- and 5- years of age provided scripts for hypothetical peer conflict situations involving disputes over possessions and limited resources. Puppets and props were used to elicit children’s conflict scripts. Scripts were assessed twice (early and late) during the children’s first year of school. Scripts were coded for the constructiveness of the actions reported in their conflicts. Sequential patterns in constructiveness were identified, and children were grouped according to how their conflict scripts unfolded from beginning to end. The majority of children had scripts that began destructively and ended constructively. The grouping changed across the school year, with fewer children reporting scripts that ended destructively later in the year. We examined relationships between the types of scripts children reported and their receptive language abilities, theory of mind, and social adjustment to school. There was some support for the hypothesis that children whose scripts were constructive had better receptive language skills and were more prosocial than other children. Theory of mind was unrelated to children’s ability to represent perspective-taking in their scripts. We discuss possible directions for future research using intervening variables to better understand the relationships between children’s conflict scripts and their adjustment to school.
The role of conflict scripts in children’s transition to school

The ease or difficulty with which children transition to school can place them on developmental trajectories that range from academic and social success at one extreme and academic failure and social isolation at the other (Pianta & Cox, 2002). However, specific processes that contribute to the quality of children’s school adjustment are not well understood (Rimm-Kaufman & Pianta, 2000). Kindergarten classrooms place significant social demands on children, such as resolving conflict through sharing and perspective taking. In the present study, we examine the role of peer conflict in children’s social adjustment to school. Determining if and how peer conflict is linked to school adjustment requires an understanding of the processes that underlie children’s actions during conflicts with their classmates. We draw on script theory (Abelson, 1981; Nelson, 1981) to capture how children might construct representational models of peer conflict. Scripts are mental representations of the actions and events that occur in commonly experienced situations. Examination of children’s scripts for conflict elucidates how they conceive of the ways in which conflicts might escalate to a standoff or de-escalate to an amicable resolution. Our first study of children’s conflict scripts identified the abstracted “average” script that most children adopt. Specifically, we found that scripts, on average, began rather destructively with opponents fighting to secure their own interests. As their script ended, the conflicts became more constructive in that sharing and cooperation prevailed. In the present paper, we adopt a person-centered approach (see Hart, Atkins, & Fegley, 2003) for describing children’s conflict scripts. A person-centered approach differs from variable-centered research in which means and standard deviations describe the average child. In adopting a person-centered approach, the individual is the focal unit of the analysis and the objective is to identify groups of children on the basis of how their scripts evolve from beginning to end. Specifically, we
determine if there are subtypes of scripts that children adopt, and we explore how these subtypes change across the first year of school. We also explore how different types of scripts are related to children’s social adjustment to school. Specifically, we assess whether or not children who enter school with scripts that are problematic but who subsequently modify their script over time fare better than children who maintain their original script. In order to track changes in children’s conflict scripts in conjunction with their adjustment to school, we examine scripts and school adjustment twice (early and late) during the children’s first year of school. Finally, we begin to explore factors that may be related to children’s conflict scripts by examining the role of receptive language ability and theory of mind. Research on children’s conflict scripts is in its infancy. As a starting point for advancing the field, we focus on describing scripts and determining if these scripts are related to key variables indicative of children’s development and functioning during this period.

Conflict management and social functioning

Aspects of children’s conflict management behaviour have been linked to their peer acceptance in the preschool and early school years. In particular, children who resolve conflicts through negotiation and compromise are more likely to be accepted by their peers (Putallaz & Sheppard, 1992). Socially rejected children rely on less skillful and more controlling strategies during conflict (Rabiner, Lenhart, & Lochman, 1990), and compared to their non-rejected peers, they are also more likely to escalate conflicts (Dodge, Coie, Petit, & Price, 1990). Children who engage in higher rates of conflict and who exhibit greater avoidance and aggression during disputes are more likely to be rejected and perceived as disruptive by teachers and peers (McElwain, Olson, & Volling, 2002). Similar patterns have been found in studies that have examined children’s responses to hypothetical vignettes involving social problems such as
competing for a desired activity and gaining entry into a peer group (e.g., Eisenberg, Fabes, Minore, Mathy, Hanish, & Brown, 1994; Mayeux & Cillessen, 2003; Mize & Cox, 1990; Musun-Miller, 1993). For example, in Mayeux and Cillessen’s (2003) study of 5- to 6-year-old boys, popular boys were more likely to suggest prosocial solutions and less likely to suggest avoidance and manipulation compared to their less popular peers. However, other studies have not found associations between young children’s responses and their peer acceptance (Mize & Ladd, 1988), social competence (Rinaldi, 2002), or behaviour problems (Vitaro & Pelletier, 1991).

Most studies of children’s conflict behaviours have examined the frequency of specific conflict actions by averaging behaviours across observed interaction sequences or by having children select or list specific strategies for dealing with hypothetical conflicts (e.g., Abrahami, Selman, & Stone, 1981; Eisenberg et al., 1994; Killen & Turiel, 1991; Mayeux & Cillessen, 2003; McElwain, Olson, & Voling, 2002; Miller, Danaher, & Forbes, 1986; Miller & Olson, 2000; Mize & Cox, 1990; Mize & Ladd, 1988; Murphy & Eisenberg, 2002; Musun-Miller, 1993; Rinaldi, 2002; Rudolph & Heller, 1997; Thornberg, 2006). Relying on aggregates of behaviours or isolated responses overlooks the fact that conflict is a sequential process consisting of a series of behaviours that extend over time (Shantz, 1987). This sequential process can progress toward an amicable resolution, or escalate to a win-loss outcome. Children’s conflicts tend to begin with high rates of opposition and insistence whereas compromises and conciliations are more likely to be observed as the conflict reaches termination (Eisenberg & Garvey, 1981). As well, sequential analysis of actions within conflicts has demonstrated that conflict opponents do not randomly or independently select their responses. Rather, they respond to the actions of their opponent or third parties who enter their disputes (Eisenberg & Garvey, 1981; Patterson, 1982; Perlman & Ross, 2005; Phinney, 1986; Vuchinich, 1984). Conflict research that relies solely on aggregates
of behaviour may mask not only the temporal nature of conflict, but also the potential role that sequential processes play in children’s social functioning. Therefore, in the present study, participants provide a full sequential report of how hypothetical conflicts unfold.

Representations about conflict in the form of scripts

Internal representations are conceptualized as “cognitive-affective mental structures that contain information about others, oneself, and expected patterns of social interaction” (Shields, Ryan & Cicchetti, 2001, pp. 321). Representations are thought to organize people’s experiences and guide their actions. The process through which representations influence behaviour is analogous to Piaget’s assimilation process (Burks, Dodge, Price, & Laird, 1999). When exposed to social situations containing environmental cues that are missing, ambiguous, unfamiliar, or overly complex, individuals draw on their internal representations. The features missing or ambiguous in that cue are “filled in” by the information stored in the internal representation (Burks et al., 1999). Young children’s internal representations of the self and about relationships with peers and family members may reflect and also impact their social and emotional functioning (Burks et al., 1999; Zahn-Waxler, Park, Usher, Belouad, Cole, & Gruber, 2008).

We focus on children’s representations of conflict and do so within the rubric of script theory. Scripts are generalized internal representations of specific and familiar events (Abelson, 1981; Nelson, 1981). Scripts specify the series of actions that one expects to occur within the event. Scripts are functional and adaptive because they organize and guide behaviour, allowing individuals to operate more efficiently and focus on novelty within their environment (Abelson, 1981; Fivush, 1984; Nelson, 1981). Scripts are believed to develop early in life and may constitute one origin for the development of more abstract and complex representations (Main, Kaplan, & Cassidy, 1985). Young children form generalized event representations of familiar
events such as going to preschool or attending a birthday party (Fivush, 1984; Pelletier, 1999). The evidence that consistent sequential patterns exist within conflict (Eisenberg & Garvey, 1981; Patterson, 1982; Perlman & Ross, 2005; Phinney, 1986; Vuchinich, 1984) suggests that an individual’s mental representation of conflict may be organized in the form of a script.

Language and theory of mind

The present study follows children during a period of considerable growth in their verbal abilities (Dunn & Slomkowki, 1992; Pflaum, 1986) and in their emerging capacity to understand their own and others’ thoughts and intentions (Astington, 1993; Dunn, 1987). These social and cognitive developments enable young children to more effectively express their own needs and desires and to negotiate social situations. Moreover, language competence is important for children’s functioning and their readiness to learn within their school environment (Duck, 1989; Fiorentino & Howe, 2004; Sturner, Funk, & Green, 1996). Language ability is also important for children’s theory of mind understanding (Astington & Jenkins, 1999). Conflict between young children, even preschoolers, is a language-laden interaction (Garvey & Shantz, 1992). Nonetheless, studies examining the relationships between children’s conflict management and social competence generally do not consider the role of language in this association (e.g., Dodge, Coie, Petit, & Price, 1990; McElwain, Olson, & Volling, 2002; Mize & Ladd, 1988; Putallaz & Sheppard, 1992; Rabiner, Lenhart, & Lochman, 1990). We focus on receptive language ability as a measure of how well children understand what their peers and teachers are communicating to them. Although our conflict script interviews were designed to elicit either verbal or nonverbal responding, children’s language functioning may play a role in how they manage their real-life conflicts, how they represent experiences with conflict, and how they convey their script. Specifically, receptive language ability may enhance children’s awareness of their opponents’
needs and goals. Children with stronger language skills may be better able to express multiple perspectives. Moreover, compared to children whose language skills are less advanced, language competence offers an additional avenue for conveying constructive conflict actions; for instance, sharing can be shown and verbally expressed. Importantly, language comprehension may also enable children to become better aware of the need to adjust their script if it is maladaptive within the classroom context.

Children’s false-belief understanding is also examined as constructive conflict management may depend on having an awareness of others’ needs and goals. Children who are better able to consider another’s perspective or feelings may be more likely to compromise and reach amicable resolutions to conflict (Dunn & Herrera, 1997). Four-year-old children who successfully pass false-belief tests are less likely to have conflicts and more likely to engage in cooperative play with their peers (Dunn & Cutting, 1999). False-belief understanding is also associated with increased rates of perspective-taking in young children’s sibling conflicts (Foote & Holmes-Lonergan, 2003). Certainly, children who understand others may adopt a more conciliatory conflict script in which opposing perspectives are considered. Taking into account the sequential aspect of scripts, a theory of mind may enable children to shift from an emphasis on self-interest (“It’s my toy”) earlier in their script to coordination of each others’ needs and goals (“Let’s take turns”) later in their script. A theory of mind may be necessary in order for a child to represent conflict in this way. On the other hand, children may use their understanding of others’ mental states, needs, and intentions for the purpose of achieving their own interests and to maximize personal gain (Dunn, 1988; Repacholi, Slaughter, Pritchard, & Gibbs, 2003). Thus, among children who use their mind-reading abilities for manipulation, their scripts may contain references to perspective-taking (“Can I have a turn then I’ll give it back to you?”) that is followed by a win-loss outcome in which self-interest prevails (“Now I’m keeping it!”).
Transition to kindergarten

The importance of young children’s behavioural and relational adjustment to school has been emphasized by both researchers and educators (e.g., Buhs & Ladd, 2001; Ladd, Kochenderfer, & Coleman, 1996; Love, Aber, & Brooks-Gunn, 1994; National Centre for Education Statistics, 1993). Learning in the early school years requires children to engage in tasks that are shared with peers (Fantuzzo, Sekino, & Cohen, 2004). Relationships within the classroom play a crucial role in facilitating children’s classroom cooperation, participation, and achievement (Ladd, Birch, & Buhs, 1999; Pianta & Cox, 2002). Specifically, positive peer relationships in the classroom are associated with higher levels of school performance, satisfaction with school, school involvement, and attendance (Ladd, 1990). Failure to develop socially competent behaviour within the early school years is a precursor to subsequent peer rejection, poor academic performance, low self-esteem, negative perceptions of school, school avoidance, and school dropout (e.g., Buhs & Ladd, 2001). Given the central role of peer relationships in children’s early school adjustment (Ladd, Birch, & Buhs, 1999), and the importance of conflict management in interpersonal relationships (Shantz & Hartup, 1992), we examine how children’s representations of conflict (i.e., their conflict scripts) are associated with their social and behavioural adjustment during their transition to school.

In describing what constitutes socially competent behaviour in children, Putallaz and Sheppard (1992) emphasized the principle of social perceptiveness. That is, “children must be able to accurately appraise their social world by determining relevant social norms” (Green & Rechis, 2006). Similarly, when children begin school, they are expected to modify their social behaviour patterns in accordance with the norms of their classroom environment (Supplee, Shaw, Hailstones, & Hartman, 2004). Observations of children’s interactions in the early school years reveal that most peer conflicts involve violations of turn-taking and sharing, as well as claims to
the rights of space and disagreements about classroom rules (Chen, Fein, Killen, & Tam, 2001). Thus, children’s peer conflicts appear to be closely connected to the social norms of the classroom. Failure to adapt to these norms may have detrimental social consequences for children. As children internalize their classroom culture based on repeated experiences, they may modify their scripts, or develop new scripts that are more adaptive (or normative) in the school setting. Children may become “enculturated” through their acquisition of scripts as they internalize behavioural norms and routines from their environments (Nelson, 1986). In our first study of conflict scripts, we found that scripts on average became more constructive as the conflict reached termination, a pattern that was even more apparent later in the school year. This script pattern may represent the normative conflict script that most children in our sample adopted. In the present study, we identified children whose conflict scripts deviated from the norm. Children who maintain idiosyncratic scripts for conflict that are maladaptive within the school context (i.e., reliance on power assertion) may experience persisting adjustment difficulties at school. In particular, given the normative pattern of conflict scripts ending with constructive resolutions (such as sharing and turn-taking), and the importance of amicable conflict resolution in children’s social adjustment (e.g., Laursen et al., 2001), it may be that the ending of conflict scripts is most closely associated with the quality of children’s social transition to school.

Study overview and objectives

We presented children with six hypothetical peer conflict situations involving disputes over possessions and limited resources. Using puppets and props, children provided a full sequential report of what happens following each hypothetical situation. Scripts were assessed twice during their first year of kindergarten (near the start and near the end of the school year).
We applied Deutsch’s (1973) conceptualization of constructive versus destructive conflict in order to describe the nature and quality of conflict scripts. Constructive conflict behaviours are characterized by de-escalation in which there is consideration of others’ perspectives and progress towards achieving an amicable resolution. Destructive conflict behaviours are characterized by escalation in which power assertion and insistence on one’s own goals prevail. We focus on how constructiveness changes from the beginning to the end of conflict scripts. Studying scripts in this way captures how children perceive the sequential unfolding of conflict.

This study had the following objectives:

1) Children were grouped according to how their scripts evolved from beginning to end. We compared the number of children in each group in order to identify a normative conflict script that is shared by the majority of the sample. We compared the groupings early and late in the first year of school. We expected that a normative conflict script would become apparent later in the school year as children adopted more similar scripts.

2) Individual differences in children’s receptive language ability and theory of mind were examined in relation to children’s conflict scripts. We expected that children who had more advanced language skills and who had acquired false-belief understanding would have scripts that were more likely to end constructively. As the school year progressed, these children would be better equipped for modifying their script, if needed, in order to adopt the normative script.

3) We explored associations between the constructiveness of children’s scripts and measures of children’s social adjustment to school. Given the importance of positive peer relations in children’s school transition, we hypothesized that children whose scripts ended constructively would be rated by their teachers as more prosocial and cooperative. They
would also experience fewer peer relationship problems and they would be more likely to enjoy school compared to children whose scripts did not end constructively.

4) We determined whether or not children modified their script as needed (i.e., in accordance with the “norm”) over the course of the school year. We hypothesized that children who failed to adopt a new, normative script would experience social adjustment difficulties.
METHOD

Sample

The sample consisted of children who were interviewed between October and early November (Time 1) and in May (Time 2) of their Junior Kindergarten school year. Participant recruitment was initiated shortly after the start of the school year. Information about the study was sent to parents of all Junior Kindergarten students in 13 classrooms. Classrooms consisted of both Junior and Senior Kindergarten students, but only the former were included in the study. All 13 classrooms were situated in a large public school in an urban community having a culturally and linguistically diverse population. Of the 71 children whose parents agreed for them to participate (60% of all eligible students), seven children declined to be interviewed, and two children did not participate because they spoke very little or no English. Thus, 62 children (32 males, 30 females) were interviewed at Time 1. To be included in the present sample, at least three of the six conflict script narratives provided by the child had to include more than one action. One child did not meet this criterion and was therefore not included in the sample. Interviews were conducted again six months later at Time 2. Of the 61 children included in the sample at Time 1, six children were no longer attending the same school when the Time 2 interviews occurred. Consequently, 55 children (29 boys, 26 girls) were included in the present study. At Time 1, participants were between the ages of 3 years, 10 months and 4 years, 10 months (Mean age in months = 52.02, SD = 3.45 months). At Time 2, they were between the ages of 4 years, 4 months and 5 years, 4 months (Mean age in months = 58.35, SD = 3.39 months). Approximately 90% of all interviewed children were born in Canada. English was the primary language spoken in the homes of 31% of the sample. For 39% of the sample, English and another language were spoken in the home equally. Eleven languages (e.g., Urdu, Punjabi,
Mandarin, Cantonese, etc.) were identified as the primary language spoken in the homes of the remaining 30% of children.1

Procedure

Individually administered interviews with each child were conducted outside of the classrooms. Interviews were approximately 25 minutes in length and included assessments of false-belief understanding, receptive language ability, and children’s conflict scripts. Information on children’s social and behavioural functioning at school was collected from teachers. All measures were administered at both time points.

Measures

False belief understanding: Three false belief tests were given in the same order for all participants. First, in an unexpected contents task (Perner, Leekam, & Wimmer, 1987), children were shown a box of Band-Aids and asked what was inside it. After they said it had bandaids in it, they were shown that it actually contained pencils. The pencils were put back inside the box and the children were asked what another child, who had not seen the box, would think was inside it before opening it. Second, in a change-in-location task (Wimmer & Perner, 1983), the interviewer enacted a story for the children using small toys and props. A boy doll put a ball in a box and went outside. While he was gone, his sister took it out, played with it, and put it away in a basket. Then the boy returned and wanted to play with the ball. The children were asked where he would look for it. Two control questions were provided to check that the children remembered both the original location and the new, actual location of the ball. Finally, children were given a second unexpected contents task that was similar to the first, but the object was a potato chip bag containing paper clips. At Time 2, different objects, materials, and locations were used for the
tasks (e.g., a CD case containing stickers; a crayon box containing toy cars). It was not possible to use the same materials at both time points because the children may no longer have entertained an initial false belief about the materials, which is an essential feature of such tasks (Astington & Jenkins, 1999). For each task, the child was given a score of 0 (fail) or 1 (pass). Control questions had to be answered correctly for credit to be given. A total score was calculated based on the sum of the child’s scores on the three tasks. Scores were calculated separately at Time 1 and Time 2.

Receptive language ability: The Peabody Picture Vocabulary Test – Third Edition (PPVT-III; Dunn & Dunn, 1997) was administered. The children’s raw scores were used in all analyses to reflect their language abilities relative to their classmates. Strong internal consistency, test-retest reliability, and alternate form reliability have been established. The PPVT-III is highly correlated with measures of expressive vocabulary and verbal intelligence.

Conflict scripts: The Conflict Script Interview (CSI) was developed for the present study (see Appendix). The CSI is administered in 10 to 15 minutes. The development of the CSI was informed by prior interview methods intended to obtain scripts of young children in the school context (e.g., Hudson et al., 1992) as well as existing measures of children’s interpersonal problem solving skills (Asher & Renshaw, 1981; Getz, Goldman, & Corsini, 1984; Musun-Miller, 1993; Rudolph & Heller, 1997). The CSI underwent extensive pilot testing with 31 children between the ages of 3- and 5-years-old. The piloting helped inform the content of the measure as well as the phrasing of instructions and prompts. As part of the CSI, children are presented with vignettes about hypothetical conflict situations (e.g., a dispute over a toy) that they enact or “play out” with a pair of hand puppets (depicting young children) and small props relevant to the situation.
The hypothetical situations were presented in the same order for all participants. In each situation, one puppet represented the child being interviewed and the second puppet represented a hypothetical classmate (“Another kid in your class”) of the same sex as the interviewed child. There were three pairs of hypothetical situations. The first pair described a situation in which one child took an object that the other child was using. In the second pair, one child asked the other child for a limited resource (i.e., there was only one of these items in the classroom). The final pair described a similar situation involving limited resources in which one child informs another child that she/he has been using a particular toy for too long. For each pair, the first situation always depicted the child being interviewed as the one who responded to the conflict (e.g., the one from whom the toy was taken in the first set), whereas in the second situation, the interviewed child was the initiator of the conflict. After presenting each situation, the interviewer directed the child to perform the next action by asking: “Now what do you say or do?”, or “Now what does the other kid say or do?”, depending on the interviewed child’s role within the conflict (i.e., initiator vs. responder). Children were then asked: “And then what happens?” until the child made it clear that the conflict had ended (“Nothing else happens”)

*Social functioning:* Teachers completed the Strengths and Difficulties Scale (SDQ; Goodman, 1997) for each child at both Time 1 and Time 2. The SDQ is a 25-item behavioural screening questionnaire containing five scales. Scores are summed across specified items (rather than averaged) to create composite scores that reflect particular constructs. Only the Prosocial Behaviour scale ($\alpha = .86$ at Time 1; $\alpha = .83$ at Time 2) and the Peer Relationship Problems scale ($\alpha = .63$ at Time 1; $\alpha = .67$ at Time 2) were used in this study. The remaining scales were not analysed because they had limited variability in our sample. The relatively lower alphas for the Peer Relationship Problems scale may indicate that this scale was capturing more than one group of children who experience problematic peer relations (e.g., children who prefer to play alone
versus children who are actively disliked by their peers). As such, this scale represents a composite of children who struggle in some way with respect to peer relationships. The SDQ has been shown to have acceptable test-retest and criterion validity.

Teachers also completed the Teacher Rating Scale of School Adjustment (TRSSA; Ladd, Birch, & Buhs, 1999). The TRSSA is a 52-item measure of several constructs that are reflective of young children’s behavioural and relational adjustment to school or classroom settings. Only the Cooperative Participation scale (α = .92 at Time 1; α = .89 at Time 2) and the School Liking scale (α = .83 at Time 1; α = .54 at Time 2) were used in this study. The low alpha for the School Liking scale at Time 2 may reflect its limited variability as teachers rated nearly all students as liking school later in the school year with some exceptions on specific items. The remaining scales were not included because they had limited variability (e.g., School Avoidance) or they were less relevant to children’s social adjustment to school (e.g., Independent Participation, Comfort with Teacher). The TRSSA was developed in collaboration with teachers, and it has been shown by the authors to be reliable and valid in assessing young children’s kindergarten and early school adjustment.

Coding and analysis of the Conflict Script Interview (CSI)

Each conflict script was coded as a whole based on Deutsch’s (1973) conceptualization of constructive and destructive conflicts. The constructiveness ratings reflect the degree to which the child’s script contains consideration and coordination of both opponents’ goals and promotion of their relationship. The coding system was developed by Murphy and Eisenberg (2002) and takes into account all of the actions reported throughout the conflict script using a continuum of 1 (Very Destructive) to 5 (Very Constructive). The coding system is outlined in Table 1 along with examples that reflect the different values on the continuum.
Each script was also divided into two halves (beginning and end) based on the number of coded conflict actions within the script. For scripts with an odd number of actions, the beginning of the script always included the additional (i.e., middle) action. Each half was also scored separately using Murphy and Eisenberg’s (2002) constructiveness scale. Comparing the beginning and end of children’s scripts captured how children viewed the unfolding of conflicts from start to completion.

Two coders were trained. The primary coder rated all of the scripts, and a secondary coder rated the interviews of 15 participants containing 90 scripts. Cohen’s kappa for agreement between raters was .77.

The internal consistency of the constructiveness ratings across the six situations was assessed. There was an acceptable level of consistency in overall constructiveness at Time 1 ($\alpha = .85$) and at Time 2 ($\alpha = .78$), and for the beginning and ending ratings at both time points (Time 1 Beginning: $\alpha = .83$; Time 1 Ending: $\alpha = .84$; Time 2 Beginning: $\alpha = .78$; Time 2 Ending: $\alpha = .86$). Given these alpha levels, constructiveness ratings were averaged across the six situations. Ratings were also averaged separately for the beginning and ending of each script. Thus, each child had an averaged beginning rating and an averaged ending rating. The constructiveness ratings for the beginning and ending were rounded to the nearest whole number. These values were then recoded using a three-point scale in order to simplify the classification of children into groups and to facilitate the description of sequential patterns. Ratings of 1 and 2 were recoded as 1 to reflect destructive conflict actions. Ratings of 3 were recoded as 2 to reflect moderately destructive conflict actions. Ratings of 4 and 5 were recoded as 3 to reflect constructive conflict actions. These ratings were used in analyses that compared the beginning and ending of children’s scripts.
Review of children’s transcripts that corresponded to these ratings offered support for the face validity of the rating system. Physical and verbal aggression were prominent in beginnings and endings coded as destructive; self-oriented reasoning (“It’s mine”) and simple opposition (“Stop it”) were prominent in beginnings and endings coded as moderately destructive; finally, other-oriented reasoning (“Let’s take turns”), compliance (“You can have it”), and simple requests (“Can I have it?”) were prominent in beginnings and endings coded as constructive.

The ratings were also used to group children into categories based on how their scripts evolved from the beginning to the ending of the conflicts. The categories are presented in Table 2 along with sample scripts that are representative of each script grouping.
RESULTS

Descriptive Statistics

At Time 1, 289 scripts were examined ($M = 3.37$ actions, $SD = 1.93$, Range = 2 to 11 actions). At Time 2, 309 scripts were examined ($M = 4.25$ actions, $SD = 2.29$, Range = 2 to 12 actions). Scripts were significantly longer at Time 2, $t (54) = -4.13, p < .001$. At Time 1, the beginning of scripts ranged in length from 1 action to 6 actions ($M = 2.02$, $SD = .69$) and the endings ranged in length from 1 action to 5 actions ($M = 1.59$, $SD = .60$). At Time 2, the beginnings of scripts ranged in length from 1 action to 6 actions ($M = 2.46$, $SD = .71$) and the endings also ranged in length from 1 action to 6 actions ($M = 1.97$, $SD = .69$).

Prior to grouping children according to how their scripts evolved from beginning to end, preliminary analyses were conducted to identify the number and percentage of children whose scripts began as destructive, moderately destructive, or constructive. The same analysis was performed for the ending of the scripts, and also at both time points.

How did children’s conflict scripts begin?

The number of children having scripts that began as destructive, moderately destructive, or constructive at Time 1 and Time 2 is depicted in Figure 1. At Time 1, the scripts of 22 children (40% of the sample) began destructively; the scripts of 17 children (31%) began in a moderately destructive way; and the scripts of 16 children (29%) began constructively. At Time 2, the scripts of 24 children (44%) began destructively; the scripts of 20 children (36%) began in a moderately destructive way; and the scripts of 11 children (20%) began constructively.
How did children’s conflict scripts end?

The number of children having scripts that ended as destructive, moderately destructive, or constructive at Time 1 and Time 2 is also depicted in Figure 1. At Time 1, the scripts of 12 children (22%) ended destructively; the scripts of 20 children (36%) ended in a moderately destructive way; and the scripts of 23 children (42%) ended constructively. At Time 2, the scripts of 6 children (11%) ended destructively; the scripts of 9 children (16%) ended in a moderately destructive way; and the scripts of 40 children (73%) ended constructively.

How did children’s conflict scripts change from the beginning to the end?

At Time 1, 5 children (9%) had scripts that became less constructive; 20 children (36%) had scripts that became more constructive, and 30 children (55%) had scripts that had the same level of constructiveness at the beginning and at the end. At Time 2, there were no children whose scripts became less constructive, 37 children (67%) had scripts that became more constructive, and 18 children (33%) had scripts that had the same level of constructiveness at the beginning and end.

How did children’s conflict script groupings change across the school year, and did a normative conflict script emerge later in the school year?

The grouping of children according to how their scripts evolved from beginning to end is presented in Figure 2. As seen in Figure 2, the script groupings at Time 2 were less evenly distributed (compared to Time 1), with over half of the sample contained in the Full Improvers group at Time 2. This group consisted of 29 children whose scripts began either destructively (n = 10; 34% of the group) or with moderately destructive actions (n = 19; 66% of the group). At Time 2, 73% of the sample reported scripts that ended constructively (the Full Improvers and
Stable Constructive groups combined). Thus, it appeared that the normative script was one in which conflicts ended constructively. The beginnings of scripts were more variable, but for those children whose scripts had constructive endings, 72.5% of them had scripts that began less constructively (i.e., the Full Improvers group).

Was the overall constructiveness of children’s scripts related to the child-level variables?

Preliminary analyses examined correlations between the overall constructiveness of conflict scripts (i.e., not divided in halves) and the child-level variables (PPVT, Theory of Mind, Peer Relationship Problems, Prosocial Behaviour, Cooperative Participation, and School Liking). Correlations were run separately within each time point (e.g., Time 1 constructiveness and Time 1 PPVT). The correlations are presented in Table 3. At Time 1, constructiveness was significantly and positively correlated with the PPVT. At both Time 1 and Time 2, constructiveness was marginally and positively correlated with Prosocial Behaviour.

Did the script groupings relate to the child-level variables?

Means and standard deviations for each group on the child-level variables are presented in Table 4. Using a series of One-Way Between Groups ANOVA’s, the five groups were compared on the child-level variables (PPVT, Theory of Mind, Peer Problems; Prosocial Behaviour; Cooperative Participation, and School Liking). Separate analyses were performed at Time 1 and Time 2. Results did not suggest any significant differences between the groups on the child-level variables at either time point. Given the high prevalence of children whose scripts ended constructively, we ran another analysis to compare children whose scripts ended constructively to those children whose scripts did not end constructively. To conduct this
comparison, the Stable Destructive, Decliners, and Partial Improvers groups were collapsed into one group referred to as the “Destructive group”. This group consisted of all children whose scripts did not end constructively. When grouped in this way, there was one marginally significant finding at Time 1: Children in the Stable Constructive group had marginally higher PPVT scores ($M = 57.00$, $SD = 15.76$) than children in the Destructive group ($M = 43.16$, $SD = 18.87$), $F(2, 52) = 2.89$, $p = .06$. Neither group differed from children in the Full Improvers group ($M = 51.22$, $SD = 21.10$). Visual comparison of the group means for the prosocial behaviour and peer problems scales suggested that the relative differences between the groups were generally consistent with our hypotheses, albeit these “trends” were not statistically significant. For example, at Time 2, the Stable Constructive group had the highest mean ratings of Prosocial Behaviour and lowest mean ratings of Peer Relationship Problems. As well, the Decliners group had the lowest mean score on the Theory of Mind tasks. Estimates of effect size were in the moderate range ($r$ values for these analyses range from 0.20 to 0.37) indicating that there was not sufficient power to detect statistically significant differences (due to the small sample size) even though the effect may have been present.

Did children who failed to modify their scripts experience difficulty adjusting to school?

The cross-tabulation in Table 5 illustrates how children’s group membership changed from Time 1 to Time 2. Here we were interested in whether or not children’s scripts ended constructively. As we had done in the previous analysis, we collapsed the Stable Destructive, Decliners, and Partial Improvers groups (i.e., scripts that did not end constructively) and compared them to the Full Improvers and Stable Constructive groups (i.e., scripts that ended constructively). One-way ANOVA’s were conducted only with the children who were in the
Stable Destructive, Decliners, and Partial Improvers Groups at Time 1 \((n = 32;\) see the shaded cells in Table 5). These were children who entered school with scripts that did not end constructively. As such, we viewed their scripts as potentially maladaptive, especially if they failed to modify their scripts over time. We classified these children according to whether or not they adopted the more normative (and constructive) script pattern at Time 2. The normative script pattern was for scripts to end constructively, and it was the Full Improvers and Stable Constructive groups that shared this pattern. We predicted that those children who did not adopt the normative script at Time 2 (i.e., those children who remained in the Stable Destructive and Partial Improvers groups at Time 2, \(n = 13\)) would experience greater difficulties at school and their receptive language ability and theory of mind would be less developed at Time 2, compared to those children who adopted the normative script (i.e., those children who switch to either the Full Improvers or Stable Constructive groups, \(n = 19\)). Only significant findings are presented. The groups differed only on the Peer Relationship Problems measure at Time 2. For this analysis, Welch’s \(F\) statistic was used as the variances for the two groups were unequal. Contrary to our expectations, those children who adopted the normative script \((n = 19)\) were rated as having more peer problems \((M = 2.74, SD = 2.31)\) than those children who did not adopt the normative script \((n = 13)\) \((M = 1.46, SD = 1.13)\), \(F(1, 27.70) = 4.31, p < .05\). A follow-up analysis was conducted to more closely identify those children who were rated as having more peer problems. Thus, we divided the children who modified their scripts \((n = 19)\) into their respective Full Improvers \((n = 13)\) and Stable Constructive \((n = 6)\) groups at Time 2. When compared in this way, it is only the children in the Full Improvers group who displayed significantly more peer problems \((M = 3.08, SD = 2.18)\) relative to the children who did not modify their scripts \((M = 1.46, SD = 1.13)\), \(F(1, 24) = 5.64, p < .05\). Children in the Stable
Constructive ($M = 2.00, SD = 2.61$) did not differ from the children who failed to modify their scripts or the children who adopted the Full Improver script.
DISCUSSION

We examined the role that children’s conflict scripts played in their first year of school. We looked beyond conflict behaviour and focused our attention on how children represent the sequential unfolding of conflict in the form of scripts. While our first study focused on the abstracted “average” script, the present study identified subtypes of scripts and grouped children according to the type of script that they reported. We then assessed relationships between children’s conflict scripts and variables indicative of their development and social functioning. We tracked the emergence of a normative conflict script over the school year and determined if failure to adopt the normative script was related to the quality of children’s transition to school.

What did the scripts look like and was there a normative conflict script?

For many children, conflict scripts began with relatively destructive actions and ended more constructively. Later in the school year, the vast majority of children (nearly three-fourths of the sample) had scripts that ended with constructive resolutions. As such, it appears that the normative conflict script was one in which conflicts ended constructively. How they started varied, but more often than not, scripts began less constructively than how they ended. The processes through which children in our sample came to acquire more constructive conflict scripts over the school year may be related to a variety of factors including their repeated exposure to peer conflict situations during this time, developmental growth in problem solving capabilities, school-based learning and peer group socialization. According to Piaget (1932), the experience of interpersonal conflict yields intrapersonal cognitive conflict that advances the child’s cognitive development. When faced with an opponent who may question, challenge, or blocks one’s goals, children are forced to reflect on their own perspective and consider others’ perspectives. Consequently, the child’s egocentricity is reduced (Shantz, 1987). The growth in
constructiveness across the school year may reflect this process as children come to appreciate the importance of reaching amicable solutions to their conflicts. Although children’s social cognitive abilities are improving (as reflected in their scripts), it is unlikely that their actual conflict behaviour undergoes such dramatic growth during this short period. In fact, children’s responses to hypothetical situations are more advanced (having more negotiation and less coercion) than their behaviour in real-life conflict, especially among young children (see Laursen et al., 2001).

Across the first year of school, there was a very large increase in the number of children categorized as Full Improvers (from 16% of children at Time 1 to 53% of children at Time 2). In this script type, opponents initially held their ground by insisting on their own goals; but when their claims were met with resistance and alternative perspectives were shared, they adopted more prosocial means of resolving the issue of contention (for example, by suggesting turn-taking). The Full Improvers adopted a strategy that was at first aggressive (i.e., to maximize personal gain) but this quickly became more constructive, presumably so as not to damage the quality of their peer relations. As well, children have been shown to be more successful in acquiring a limited resource when they use prosocial strategies (Green & Rechis, 2006). Children’s conflict scripts, particularly the Full Improver pattern, may capture their emerging appreciation of the benefits of acting in more prosocial ways during conflicts.

Was language ability and theory of mind related to scripts?

At Time 1 only, receptive language ability was correlated with the overall constructiveness of children’s conflict scripts. In addition, children in the Stable Constructive group had marginally higher language scores than children who had Destructive scripts (i.e., this group included all children whose scripts failed to end constructively – the Stable Destructive
and Partial Improvers groups). These findings are consistent with observations of preschoolers’ interactions with their friends. For example, in Dunn and Cutting (1999), both receptive and expressive language competence were positively associated with four-year-old children’s cooperative pretend play (e.g., following each others’ suggestions in play, joining together in a shared play narrative). Expressive language was negatively associated with actions that largely resembled destructive conflict tactics, such as prohibiting another’s action, protests, threats, insults, and refusals of a request. Although our study only examined receptive language ability, language competence in general may nonetheless enable children to engage in more positive interactions and, when conflicts occur, to resolve them in constructive ways. In turn, their representations of conflict were more constructive, and when asked to report on their conflict scripts, their language abilities may have provided additional avenues for conveying constructiveness (e.g., they can both enact and describe turn-taking).

It is not known whether the language shortcomings of the children who had less constructive scripts reflects how they process and interpret the vignettes, how they enact or articulate their conflict scripts, or how they experience and manage real-life conflict. Preliminary analyses revealed that the constructiveness of scripts is unrelated to the primary language spoken in the child’s home. As such, it is unlikely that the weaker language competence of children having destructive scripts solely reflects a lack of exposure to English. There is a need for further research that can determine if weaker language ability impacts children’s experiences with conflict, and in turn, how they represent conflict in the form of scripts. Language was unrelated to children’s scripts later in the school year. At this point, most children may have reached a language threshold (i.e., all children have “good enough” language) in which the relationship between language and scripts was no longer present or more difficult to detect.
Theory of mind was not related to any of the script patterns. We found that false-belief understanding neither enabled nor prevented children from representing perspective-taking in their scripts. Children took multiple perspectives (their own and that of a hypothetical opponent) and they progressed from a state of destructive conflict to one of amicable resolution. As stated by Astington (2003), children who have not yet acquired false-belief understanding can identify others’ desires and emotions even when they differ from their own. However, children in the Decliners group (e.g., their scripts began constructively and ended destructively) had the lowest mean score on the theory of mind tasks despite having language abilities that were more comparable to the other groups. A larger sample size is needed to detect statistical significance (i.e., there were only 5 Decliners), but it is possible that Decliners may not appreciate how conflicts reach constructive resolutions, as suggested by their poorly developed theory of mind. Future research could examine the role of children’s emotion understanding and affective perspective-taking abilities (see Denham, 1986; Dunn & Cutting, 1999) in their script development. Children’s conflicts are often emotionally charged events in which opponents may express differing emotions (O’Brien, Roy, Jacobs, Macaluso, & Peyton, 1999). In particular, children who understand others’ emotions may be better able to internally represent a conflict in which two opponents (who have conflicting goals and intense emotions) reach a resolution.

Were scripts related to children’s social functioning at school?

Children who function well socially are thought to have interpersonal skills that balance their own needs with the needs of others (Rose-Krasnor, 1997). The overall constructiveness of scripts was marginally related to prosocial behaviour: children whose scripts were more constructive were rated by their teachers as more prosocial compared to children whose scripts were less constructive. Although the direction of effects is not clear, it would not be surprising if
children whose scripts emphasized perspective-taking and conciliation were also perceived by their teachers as more helpful and apt to share with others. Contrary to our hypotheses, the script groupings were not related to any of the social functioning variables. Possible interpretations for the lack of significant results are outlined in the limitations and future directions section.

What are the characteristics of children who modified their scripts over time?

Contrary to our expectations, we found that children who entered school with destructive scripts (i.e., the Stable Destructive, Decliners, and Partial Improvers groups at Time 1) and who subsequently modified their scripts in accordance with the normative “Full Improver” script experienced more peer problems than children who did not modify their scripts. It may be that the real-life behaviour of these children has yet to “catch up” to their scripts. They may have merely learned a norm that they do not yet follow. As well, some of the “Full Improver” scripts contained hitting in one move and sharing in the next, a pattern that may not easily play out in real-life conflicts. The initial response of these children when “provoked” (by the vignette) was to react destructively (or to represent their hypothetical opponent as responding in this manner). These initial, destructive responses may reflect their customary perceptions and responses and consequently the strongest predictor of their in-vivo behaviour (Mize & Cox, 1990). There may also be two subgroups of children who adopted the Full Improver pattern: those who maximized gains and then minimized losses (so as not to damage the relationship); and those children whose scripts were disorganized and fragmented. Children in this latter group would have described scripts containing a sequence of actions that may not be linked together in an organized, coherent way (“I hit, and then she shares”). Narrative coherence has implications for children’s adaptation at this age: school readiness is associated with one’s ability to generate narratives that show evidence of chronology and organization (Fiorentino & Howe, 2004) and five-year-old children
who struggle with providing coherent narratives may also be prone to behaviour problems (von Klitzing, Kelsay, Emde, Robinson, & Schmitz, 2000). Future research using a larger sample and direct coding of narrative coherence could explore the heterogeneity of the Full Improver group.

Modifying one’s script was hypothesized to have an adaptive function, as it meant children were adopting the normative conflict patterns observed in their classrooms. Children who are in the process of modifying their scripts during the school year may be contending with what Piaget terms “disequilibrium” (Piaget, 1932). According to Piaget, disequilibrium between children’s beliefs and their environment engenders a state of cognitive (inner) conflict. Children then rely on assimilation (modifying the new information) and accommodation (modifying the cognitive schema) to resolve the inner conflict. With respect to modifying their scripts, children may begin to appreciate that emotionally charged conflict should end peacefully, but their script is not yet consistent with this pattern. Consequently, they develop a new script that is focused initially (and even primarily) on destructive actions which then suddenly “jumps” to a constructive ending (e.g., “He calls me a bad name. I call him a bad name. Then we share the cars”). They have attempted to modify their script in a way that incorporates this new information that scripts end constructively (i.e., accommodation) but they have changed their internal structure only slightly or superficially. As they grapple with their shifting mental representation of conflict, their conflict behaviour may seem inconsistent or erratic, and this may result in problematic peer relations.

Limitations and future directions

The script groupings were largely unrelated to measures of children’s social behaviours. Where mean differences appeared to exist, there was insufficient power to detect significant differences due to the small sample size. Furthermore, factors not examined in the present study
may be important when exploring the relationship between conflict scripts and children’s functioning. Children’s social information processing (i.e., how they encode, represent and interpret social cues, and their response selection processes) is one mechanism that may connect thinking and acting to social adjustment (Crick & Dodge, 1994). In establishing linkages between conflict scripts and actual social functioning, the role of emotional regulation also deserves consideration. Emotion cues in situations activate cognitive schemata related to aggression, for example (Lemerise & Aresenio, 2000). Conflicts tend to be emotionally-laden events that can challenge young children’s capacity for emotional regulation (Laursen & Hartup, 1989; O’Brien et al., 1999). Children who struggle in the face of emotional provocation may experience marked adjustment difficulties irrespective of the constructiveness of their script.

Many studies examining associations between conflict management and social competence have focused on children with behavioural or emotional problems (e.g., Rabiner, Lenhart, & Lochman, 1990; Zahn-Waxler et al., 2008) or have compared typically developing children to those who are otherwise at risk (e.g., Lochman & Lampron, 1986; Rudolph & Heller, 1997; Hay, Zahn-Waxler, Cummings, & Iannotti, 1992). The present study was based on normative sample of 4- and 5-year old children in a community school. The base rate of behavioural and emotional problems in our sample was very low resulting in the exclusion of the SDQ scales that measured these problems. Future research using the CSI that compares typically developing children with atypical children may find that the script groupings discriminate these children. Our sample may simply have included too few “at risk” children to capture the relationship between destructive scripts and impaired social functioning.

The links between children’s conflict scripts and their social adjustment to school may also have been weakened because children’s scripts do not directly correspond to their actual behaviours. Scripts are generalized accounts of what children believe usually happens in a given
situation (Nelson, 1981). As well, children were reporting not only on their own actions in conflict situations, but also their scripts for their opponent’s behaviours and their responses to their opponent. Internal representations of both the self and others, and of social interactions, are relevant to children’s social and emotional functioning (e.g., Burks et al., 1999). Thus, we were interested in the links between children’s social functioning and their representations of how conflict interaction unfolds (not simply how they conceive of their own behaviour). In addition, scripts were elicited using a pretend play context that may have enabled children to provide more advanced responses (e.g., more reasoning) than they would normally exhibit in their real-life conflicts. For example, when engaged in pretense, children appear to operate at a higher cognitive level (Lillard, 1993). Conversely, the pretend play context may have allowed children to assert their position and “fight back” against an opponent when they would normally respond in a more conciliatory manner.

Information on children’s adjustment to school was provided by teachers only. In order to provide a more comprehensive picture of children’s school adjustment, teacher ratings can be complemented by observations of children’s social behaviour, sociometric ratings of children’s popularity, aggression, and empathy, and children’s self-report of their experiences at school. As well, features of children’s scripts not measured in the study may be associated with the child-level variables. For example the coherence and organization of children’s narratives have been linked to their language skills (e.g., Fiorentino & Howe, 2004).

Conclusions

We identified subgroups of children based on how their scripts unfolded from beginning to end. We examined associations between conflict scripts and children’s social adjustment to school. We also identified normative conflict script patterns and examined whether or not failure
to adopt normative sequential patterns may be linked to adjustment difficulties. As prior research has focused largely on isolated conflict behaviours or has averaged conflict behaviours across interaction sequences, this is a research question that warrants further attention. Some support was found for the hypothesis that children whose scripts were more constructive had better language skills and were more prosocial than children whose scripts were destructive. Future research using a larger sample and other variables may be better able to detect significant group differences. As well, subsequent research could investigate the role of intervening variables (such as social information processing and emotional regulation) in the relationship between script groupings and children’s school adjustment. Given the central role that conflict plays in children’s social worlds, the continued study of individual differences in children’s conflict scripts is warranted.
Table 1

Constructiveness Rating System and Examples

Dialogue is in quotation marks. Enacted actions are in brackets. The interviewer’s prompts (e.g. requests for clarification) are in squared brackets.

TC = target child (child being interviewed)
OC = other child (hypothetical opponent)

<table>
<thead>
<tr>
<th>Rating</th>
<th>Code Description</th>
<th>Example Script</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A highly destructive script characterized by an escalation of the issues involved, high costs to participants, use of power by participants, and a clear winner/loser at the end.</td>
<td>TC: “Give it to me”. OC: “Don’t take my purple crayon”. OC: (Grabs crayon from TC). TC: (Hits OC).</td>
</tr>
<tr>
<td>2</td>
<td>A somewhat destructive script having mostly destructive actions with an element or two of constructiveness reported.</td>
<td>TC: (takes the crayon away from OC) OC: “Give it back”. OC: She’s hitting. OC: She’s sad. [prompt]. She’s crying. They’re sharing [prompt]. Both children: (passing crayon back and forth to each other).</td>
</tr>
<tr>
<td>3</td>
<td>A mixture of constructive and destructive actions.</td>
<td>TC: “I want that”. OC: She gives it to me. TC: I give it to her.</td>
</tr>
<tr>
<td>4</td>
<td>A somewhat constructive script having mostly constructive actions with an element or two of destructiveness reported.</td>
<td>TC: Then I take it away. OC: “Hey give it back – that’s not really nice to do. You have to say please and thank you”. TC: Then I give it back to her and I say please and thank you. OC: “Ok, you can use it”. TC: “How about we both use it together”. OC: “Ok”.</td>
</tr>
<tr>
<td>5</td>
<td>A highly constructive script characterized by cooperative strategies, low costs to participants, and no clear winner/loser at the end.</td>
<td>TC: “Can I please have it?” OC: (gives crayon to TC) TC: Then I use it. Then we share.[prompt] We give one to each other, and when you’re done, we give it back to each other.</td>
</tr>
</tbody>
</table>
Table 2

Criteria for Children’s Script Groupings and Example Scripts

Dialogue is in quotation marks. Enacted actions are in brackets.

**TC** = target child (child being interviewed)
**OC** = other child (hypothetical opponent)

<table>
<thead>
<tr>
<th>Group</th>
<th>Criteria 1st Half</th>
<th>Criteria 2nd Half</th>
<th>Example Script</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>Destructive</td>
<td>Destructive</td>
<td>TC: “Gimme that”. I say a bad word to him.</td>
</tr>
<tr>
<td>Destructive</td>
<td>OR</td>
<td>OR</td>
<td>OC: And he gives me the crayon.</td>
</tr>
<tr>
<td></td>
<td>Moderately</td>
<td>Moderately</td>
<td>OC: “Gimme that”. He says a bad word to me.</td>
</tr>
<tr>
<td></td>
<td>Destructive</td>
<td>Destructive</td>
<td>TC: “No”. I don’t give it to him.</td>
</tr>
<tr>
<td>Decliners</td>
<td>Moderately</td>
<td>Destructive</td>
<td>TC: “Can we share?”</td>
</tr>
<tr>
<td>Destructive</td>
<td>OR</td>
<td>OR</td>
<td>OC: “Sure”.</td>
</tr>
<tr>
<td></td>
<td>Moderately</td>
<td>Moderately</td>
<td>TC: “These are mine, not yours”.</td>
</tr>
<tr>
<td></td>
<td>Constructive</td>
<td>Destructive</td>
<td>OC: “They’re mine, not yours”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TC: “No I won’t give them back”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OC: (Hits target child).</td>
</tr>
<tr>
<td>Partial</td>
<td>Destructive</td>
<td>Moderately</td>
<td>OC: He hits me.</td>
</tr>
<tr>
<td>Improvers</td>
<td></td>
<td>Destructive</td>
<td>TC: Then I take the dinosaur (by forcibly grabbing).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OC: “It’s my dinosaur”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TC: “I had it first”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OC: He plays somewhere else.</td>
</tr>
<tr>
<td>Full</td>
<td>Destructive</td>
<td>Constructive</td>
<td>OC: “Stop it” (then grabs target child’s ball).</td>
</tr>
<tr>
<td>Improvers</td>
<td>OR</td>
<td></td>
<td>TC: I said, “Let go it now”.</td>
</tr>
<tr>
<td></td>
<td>Moderately</td>
<td></td>
<td>OC: “No”.</td>
</tr>
<tr>
<td></td>
<td>Destructive</td>
<td></td>
<td>Both children: Then we say, “Sorry, sorry”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TC: (rolls ball to other child).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OC: (rolls ball to target child).</td>
</tr>
<tr>
<td>Stable</td>
<td>Constructive</td>
<td>Constructive</td>
<td>OC: “Can I wait till you’re done with the marker”</td>
</tr>
<tr>
<td>Constructive</td>
<td></td>
<td></td>
<td>TC: I shake my head to say yes cause that’s how you share.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OC: I give him the marker cause I’m done.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TC: He uses it then he lets me have another turn.</td>
</tr>
</tbody>
</table>
Table 3

Correlations between Overall Constructiveness and Child-level Variables at Time 1 and Time 2

<table>
<thead>
<tr>
<th>Child-Level Variable</th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPVT</td>
<td>.37**</td>
<td>.18</td>
</tr>
<tr>
<td>Theory of Mind</td>
<td>-.01</td>
<td>.10</td>
</tr>
<tr>
<td>Peer Relationship Problems</td>
<td>-.15</td>
<td>-.02</td>
</tr>
<tr>
<td>Prosocial Behaviour</td>
<td>.24*</td>
<td>.23*</td>
</tr>
<tr>
<td>Cooperative Participation</td>
<td>.14</td>
<td>.02</td>
</tr>
<tr>
<td>School Liking</td>
<td>-.04</td>
<td>.14</td>
</tr>
</tbody>
</table>

Note: Correlations were analyzed separately within each time point
N = 55
* $p < .09.$
** $p < .001.$
Table 4

Means and Standard Deviations for Script Groupings on Child-Level Variables at Time 1 (T1) and Time 2 (T2)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>PPVT</th>
<th>ToM</th>
<th>Peer Problems</th>
<th>Prosocial Behavior</th>
<th>Cooper. Particip.</th>
<th>School Liking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable Destructive</td>
<td>T1</td>
<td>16</td>
<td>40.69</td>
<td>1.06</td>
<td>2.75</td>
<td>4.81</td>
<td>10.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(19.77)</td>
<td>(1.06)</td>
<td>(2.64)</td>
<td>(2.66)</td>
<td>(3.80)</td>
</tr>
<tr>
<td></td>
<td>T2</td>
<td>7</td>
<td>54.43</td>
<td>2.28</td>
<td>1.71</td>
<td>5.57</td>
<td>11.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(10.42)</td>
<td>(0.95)</td>
<td>(0.76)</td>
<td>(1.40)</td>
<td>(2.79)</td>
</tr>
<tr>
<td>Decliners</td>
<td>T1</td>
<td>5</td>
<td>54.40</td>
<td>0.40</td>
<td>2.40</td>
<td>3.80</td>
<td>10.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(7.89)</td>
<td>(0.89)</td>
<td>(1.95)</td>
<td>(2.17)</td>
<td>(2.77)</td>
</tr>
<tr>
<td></td>
<td>T2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial Improvers</td>
<td>T1</td>
<td>11</td>
<td>41.63</td>
<td>1.36</td>
<td>2.36</td>
<td>5.09</td>
<td>11.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(20.42)</td>
<td>(1.21)</td>
<td>(1.57)</td>
<td>(2.88)</td>
<td>(2.36)</td>
</tr>
<tr>
<td></td>
<td>T2</td>
<td>8</td>
<td>60.00</td>
<td>1.50</td>
<td>1.75</td>
<td>4.38</td>
<td>11.63</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(16.37)</td>
<td>(1.31)</td>
<td>(1.83)</td>
<td>(1.77)</td>
<td>(3.02)</td>
</tr>
<tr>
<td>Full Improvers</td>
<td>T1</td>
<td>9</td>
<td>51.22</td>
<td>1.22</td>
<td>2.33</td>
<td>6.00</td>
<td>11.89</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(21.09)</td>
<td>(1.20)</td>
<td>(1.58)</td>
<td>(2.64)</td>
<td>(2.71)</td>
</tr>
<tr>
<td></td>
<td>T2</td>
<td>29</td>
<td>64.59</td>
<td>1.86</td>
<td>2.38</td>
<td>5.10</td>
<td>11.41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(18.65)</td>
<td>(1.12)</td>
<td>(2.06)</td>
<td>(2.87)</td>
<td>(3.23)</td>
</tr>
<tr>
<td>Stable Constructive</td>
<td>T1</td>
<td>14</td>
<td>57.00</td>
<td>1.00</td>
<td>1.43</td>
<td>5.71</td>
<td>11.29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(15.76)</td>
<td>(0.96)</td>
<td>(1.60)</td>
<td>(2.64)</td>
<td>(2.52)</td>
</tr>
<tr>
<td></td>
<td>T2</td>
<td>11</td>
<td>64.00</td>
<td>2.09</td>
<td>1.18</td>
<td>6.55</td>
<td>12.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(19.39)</td>
<td>(1.30)</td>
<td>(2.08)</td>
<td>(2.38)</td>
<td>(2.44)</td>
</tr>
</tbody>
</table>

Note: Standard Deviations are in parentheses.
Note: There were no Decliners at Time 2.
### Table 5

Cross-tabulation for Change in Children’s Script Groupings (with Stable Destructive, Decliners, and Partial Improvers collapsed into the Destructive group)

<table>
<thead>
<tr>
<th>Time 1 Grouping</th>
<th>Time 2 Grouping</th>
<th>Destructive (Stable Destructive, Decliners, and Partial Improvers groups)</th>
<th>Full Improvers</th>
<th>Stable Constructive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destructive</td>
<td></td>
<td>13</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Improve Fully</td>
<td></td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Stable Constructive</td>
<td></td>
<td>2</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

N = 55
Figure 1

Beginning and end of scripts at Time 1 and Time 2
Figure 2

Children’s script groupings at Time 1 and Time 2

![Bar chart showing script groupings at Time 1 and Time 2.](chart.png)
Endnotes

1 Preliminary analyses determined that children’s ages and the primary language spoken in their homes were unrelated to measures of conflict scripts.

2 Because our analyses focused on patterns within scripts, we excluded scripts that had only one action. At Time 1, 33 scripts had only one action. At Time 2, 14 scripts had only one action. We also excluded two scripts at Time 1 that were very long (i.e., the number of actions was greater than three standard deviations above the mean).

3 Additional analyses were conducted separating the Full Improvers group into two subgroups: those whose scripts began destructively and those whose scripts began in moderately destructive ways. Analysis using these separate groupings did not yield any significant group differences.

4 Additional analyses were conducted to determine if language ability or theory of mind interacted with the script groupings in their associations with the adjustment to school variables (e.g., Peer Problems, Prosocial Behaviour, Classroom Participation, and School Liking). Children were classified according to their PPVT scores (high versus low scores) and this was calculated in a few different ways (by splitting the sample above and below the 25th percentile; above and below the 50th percentile; above and below the 75th percentile). For theory of mind, children were classified according to whether they passed all tasks or not. Support for the interactive role of language ability or theory of mind was not found.
Concluding Statement

The study of children’s conflict scripts offers a new approach for examining how children conceive of the ways in which conflicts unfold. The first study revealed that conflict scripts contain sequential patterns. Specifically, scripts became more constructive as the conflicts progressed towards termination, a pattern that was especially apparent later in the school year. The second study described individual differences in children’s scripts by classifying participants in groups based on how their script evolved, and then tracking how these groupings changed across the first year of school. Subtypes of scripts were examined in relation to children’s receptive language abilities, theory of mind, and social functioning. A larger sample is needed to better understand the role of individual differences in children’s scripts, and to identify intervening variables in the relationship between children’s scripts and their social functioning. In particular, aspects of children’s social information processing and emotion regulatory capacities may operate as mediating variables. As well, the link between children’s scripts and their functioning may differ according to factors such as cultural background or prior conflict experiences in the family context.

Examining children’s conflict scripts at two different levels (the abstracted average script in the first manuscript; subgroups in the second manuscript) yielded information that would not have been detected had only one level been studied. The first manuscript contributed information about general script patterns within the sample; specifically it was found that scripts, on average, began less constructively and then became more constructive as the conflict ended. The second manuscript identified the prevalence of the “abstracted average” script, and described the scripts of children who did not follow the average pattern. Had we relied exclusively on the information gathered in the first manuscript, we may not have described any one child accurately. As such,
the manuscript paper was less focused on averages and standard deviations and instead adopted a person-centered approach in which the individual was the focal unit of analysis. It described precisely what individual children’s scripts looked like, identified the proportion of children who had different types of scripts, and examined how these proportions changed across the school year.

The Conflict Script Interview (CSI) offers a promising methodology for measuring conflict scripts with kindergarten-age children. However, there are many unanswered questions about conflict scripts: for instance, regarding the role of cultural background, classroom and school culture; how scripts may differ across the lifespan; and the predictors and consequences of individual differences in conflict scripts. Thus, this dissertation represent a starting point for the continued study of children’s conflict scripts across development and in different settings, contexts, and relationships.
References


Appendix

Conflict Script Interview (CSI)

*Interviewer*: I’m going to tell you some stories about fights that sometimes happen when children are playing. I am gonna use the puppets to tell the story, and we’re gonna pretend that the stories are about you. One of the puppets will be you and the other puppet will be another kid in your class. You can choose which puppet will be you. What puppet do you want to be?

Now listen carefully to the first story. *The interviewer will point to the appropriate puppet to aid in telling the stories and directing the child’s attention.*

Situation 1:
Let’s pretend that you and another kid in your class are playing with blocks. You have your pile of blocks and the other kid has [his/her] own pile of blocks. Then the other kid takes one of your blocks.

<table>
<thead>
<tr>
<th>What do you say or do? Show me using the puppets.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>And then what happens?</td>
<td></td>
</tr>
<tr>
<td>And then what happens?</td>
<td></td>
</tr>
<tr>
<td>And then what happens?</td>
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<td>And then what happens?</td>
<td></td>
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<tr>
<td>And then what happens?</td>
<td></td>
</tr>
</tbody>
</table>

Situation 2:
Now let’s pretend that you and another kid in your class are playing with balls. You have your own ball and the other kid has [his/her] own ball. Then, you take the other kid’s ball.

<table>
<thead>
<tr>
<th>What does the other kid say or do?</th>
<th></th>
</tr>
</thead>
</table>
Situation 3:
Now let’s pretend that you and another kid are colouring with crayons. There’s only one purple crayon and the other kid is using it. You ask him/her if you can use the purple crayon. But he/she isn’t finished using the purple crayon. And so he/she won’t give you the purple crayon.

<table>
<thead>
<tr>
<th>What do you say or do?</th>
<th>Show me using the puppets.</th>
<th>And then what happens?</th>
<th>And then what happens?</th>
<th>And then what happens?</th>
<th>And then what happens?</th>
<th>And then what happens?</th>
<th>And then what happens?</th>
</tr>
</thead>
</table>

1. Show me using the puppets.
2. And then what happens?
3. And then what happens?
4. And then what happens?
5. And then what happens?
6. And then what happens?
Situation 4:
Now let’s pretend that you and another kid are colouring with markers. There’s only one green marker and you are using it. The other kid asks you if he/she can use the green marker. But you’re not finished using the green marker. And so you won’t give him/her the green marker.

<table>
<thead>
<tr>
<th>What does the other kid say or do?</th>
<th>Show me using the puppets.</th>
</tr>
</thead>
<tbody>
<tr>
<td>And then what happens?</td>
<td></td>
</tr>
<tr>
<td>And then what happens?</td>
<td></td>
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<tr>
<td>And then what happens?</td>
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<td>And then what happens?</td>
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<td>And then what happens?</td>
<td></td>
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<tr>
<td>And then what happens?</td>
<td></td>
</tr>
</tbody>
</table>

Scenario 5:
Now let’s pretend that you are playing with a toy car. You’ve been playing with the car for a
long time. Then, the other kid comes over to you and says, “You’ve had the car for too long. I wanna play with the car.”

<table>
<thead>
<tr>
<th>What do you say or do? Show me using the puppets.</th>
<th>And then what happens?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>And then what happens?</td>
</tr>
<tr>
<td></td>
<td>And then what happens?</td>
</tr>
<tr>
<td></td>
<td>And then what happens?</td>
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<tr>
<td></td>
<td>And then what happens?</td>
</tr>
<tr>
<td></td>
<td>And then what happens?</td>
</tr>
<tr>
<td>Situtation 6:</td>
<td>And then what happens?</td>
</tr>
<tr>
<td>Now let’s pretend that the other kid in your class is playing with a toy dinosaur. He/she has been playing with the dinosaur for a long time. Then, you walk over to him/her and say, “You’ve had that dinosaur for too long. I wanna play with the dinosaur.”</td>
<td></td>
</tr>
</tbody>
</table>
And then what happens?

And then what happens?

And then what happens?

And then what happens?

And then what happens?

Following the completion of the CSI, the interviewer will provide the following debriefing: All kids fight sometimes and that’s okay. You’ve helped me learn about what kids do when they play together and fight about something.