CHILDREN'S CONFLICT SCRIPTS: AN IDIOGRAPHIC, NOMOTHETIC
AND IDIOSYNCRATIC ANALYSIS

by

Michal Perlman

A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Doctor of Philosophy
in
Psychology

Waterloo, Ontario, Canada, 1997

Your file Votre référence

Our file Notre référence

0-612-22227-6

Canadä

The University of Waterloo requires the signatures of all persons using or photocopying this thesis. Please sign below, and give address and date.

Name	Address	Date

Abstract

Based on in-home observations of sibling conflict, *If-Then* scripts in the interactions of two-
and four-year-old children were identified and described. These two-step contingency units
were examined within the theoretical framework of the script construct. Children's crying,
compliance, ignoring, power and reasoning strategies were examined to determine how they
were used immediately following opposition, power and reasoning from their siblings and
power and reasoning from their mothers. Analyses were conducted using the idiographic
(i.e., individual), nomothetic (i.e., group) and idiosyncratic (i.e., the unique behavior of the
individual in relation to a comparison group) approaches. Only by looking at all three levels
is it possible to gain a comprehensive understanding of any phenomenon. Strong idiographic
and nomothetic sequential patterns were found for both age groups. Idiosyncratic patterns
were observed for the younger children only. Variances in the responses of the older group
were much narrower than they were for the younger group. This suggests that as children
mature, their sequential conflict patterns become more homogeneous. The nomothetic
sequential conflict patterns indicate that children exhibit reciprocity to both reasoning and
power. In addition, children are sensitive to the status of their opponent (e.g., children
complied after their mothers used power strategies but less so after their siblings used such
strategies; also, younger children ignored sibling opposition while older children responded
to it with power). These findings illustrate the advantages of adopting a three-pronged
approach to the study of behavioral interaction.

Acknowledgements

I would like to thank a number of people who have made contributions both to this project and to my life more broadly. I think it makes most sense to start at the beginning which means my parents, Max and Nitza Perlman. Your integrity, intelligence, humor, warmth and work ethic are all qualities that I have tried to emulate. I hope that I can be the kind of parent that you have been to me. Next on my list comes my husband Jamie Waese, love of my life and my partner in crime. For all the editing you did, overheads you made, poster presentations you put together and support you provided -- thank you. I feel like everything we do we do together, and that includes this dissertation. Then comes my advisor, Dr. Hildy Ross. Your insight, knowledge base, availability and support made you not only my advisor but my mentor. I especially want to thank you for facilitating my completion of this dissertation by correspondence from Los Angeles. With your help I was able to pursue both my professional and personal goals. The next person on my list, is my good friend and part time roommate Kerri Hogg. Your generosity, warmth and humor are truly admirable. You provided me with a home away from home and for that I will always be grateful. I will really miss the time we've spent together. Finally, I'd like to thank Trudy James. For all the talks you heard me rehearse, papers you read and long distance calls you made. You are a terrific friend. Other family member and friends have contributed to my completing this project in different ways. You know who you are and I hope you know that you are appreciated.

Table of Contents

Introduction

Children first experience conflict in the family, and it is in that context that they face it most frequently (Dunn & Munn, 1987). The family provides children with an important training ground for learning about conflict management and resolution. Early experience with violent conflict has long term developmental implications. Steinmetz and Straus (1974) found that violence between siblings is associated with violence with peers and later on with spouses and offspring. Similarly, Patterson (1982) found that families with highly aggressive children exhibited sequential patterns whereby the negative behavior of one family member was reinforced and also responded to with behaviors from other family members that further escalated the conflict. These coercive behavioral cycles were found to repeat themselves over time and were associated with pathological child outcomes. Since conflict management has important long-term implications, serious research attention to the development of conflict management skills is warranted.

Research on people's behavioral patterns typically focuses on responses that are averaged across entire interaction sequences (Shantz & Hartup, 1992). Recent empirical work suggests that people may exhibit consistent sequential behavioral patterns during conflict (Patterson, 1982; Vuchinich, 1984; Eisenberg & Garvey, 1981; Gottman, 1979, 1993). This handful of studies show that interactive patterns contain a sequential element in that certain behaviors tend to follow one another. Thus, averaging the use of different conflict behaviors across interaction sequences may mask important characteristics of conflict. To better understand the dynamics of conflict resolution, researchers and theorists

1

should consider the sequential nature of conflict strategies, not simply the presence or absence of individual conflict behaviors.

In this study, I examined sequential patterns in the naturally occurring conflicts of young siblings. Parents often became involved in these conflicts. In order to gain a comprehensive understanding of this phenomenon, patterns were examined from the perspective of the individual, the group and the idiosyncratic differences between individuals. In the sections below, I will briefly define each of these perspectives. I will then review the relevant literature on sequential conflict patterns while noting the distinctions between the individual, group and idiosyncratic approaches.

Approaches to the Study of Behavioral Patterns

Behavioral patterns may be examined using different approaches. Researchers using an Idiographic approach focus on individuals (e.g. by using case studies) and argue that behavior is law-like, but that these "laws" may be different for different people or different subgroups of individuals (Howard & Myers, 1990). Researchers using the Nomothetic approach rely on the averaged responses of large numbers of subjects in an attempt to reveal laws that can be generalized across populations (Hermans, 1988). Thus, research is idiographic when individual subjects are the focus of study and nomothetic when researchers examine trends within groups of subjects.

This important distinction has a long history in Western thought. According to Silverstein (1988), Aristotle argued that the definition of a living thing is characterized in terms of the functioning of the species of which the individual is an instance (i.e., a nomothetic description). However, Aristotle also insisted that the form of a "thing" exists

2

only if that "thing" is made up of the appropriate type of matter. This latter focus is on the individual characteristics of the "thing", making this an idiographic approach. Aristotle reconciled these approaches by arguing that individual differences are a part of the organization of a species. Thus, even nomothetically there are idiographic differences. In that sense, the nomothetic and idiographic approaches represent two sides of the same coin (the coin, in this case, being our understanding of the functioning of whatever we are studying). Goethe also made this distinction in writing: "The particular eternally underlies the general; the general eternally has to comply with the particular" (Hermans, 1988). These distinctions are especially relevant in psychology because an understanding of human behavior using only one of these approaches may be impoverished and potentially misleading.

But idiographic and nomothetic analyses are not the only ways of understanding a thing. In fact, the "coin" in the nomothetic/idiographic debate actually has three sides. Kluckhohn and Murray's well-known quote: "Every man is in certain respects like all other men, like some other men, and like no other men" (Kluckhohn & Murray, 1953, p. 53) reveals that the nomothetic and idiographic approaches do not provide a comprehensive description of a person's behavior. Absent is the fact that human behavior may also be governed by laws that are unique to individuals, making individuals unlike any other members of their comparison group. Examination of these behavioral laws can be achieved by using what I have termed the Idiosyncratic approach which addresses the question: How is this individual different from the rest of his or her group?

Observations based on the idiographic approach (i.e., focusing on an individual) may be the result of nomothetic (i.e., focusing on the group) and/or idiosyncratic (i.e., focusing on

3

differences between individuals) effects. For example, an idiographic examination of a four-year-old child's conflict behavior may reveal a tendency to reciprocate the conflict behaviors of his opponents. A nomothetic analyses may reveal that four-year-old children tend to reciprocate the conflict behaviors of their opponents. An idiosyncratic examination could reveal the extent to which the conflict behavior of this four-year-old child is similar to or different from that of the group he is a member of. In this case, the child under examination may actually reciprocate less often than the comparison group of four-year-olds. Thus, this child would exhibit both idiographic and idiosyncratic patterns of behavior while his cohort would exhibit a nomothetic pattern.

Researchers interested in sequential patterns of conflict behavior have focused on the nomothetic approach, somewhat neglecting the idiographic, while completely ignoring the idiosyncratic approach. A more restricted group of researchers who study conflict have focused on the idiosyncratic differences among individuals, however they did not examine sequential behavioral patterns. It is only by examining phenomena using each of these three approaches that we may gain a fuller understanding of complex behavioral processes. The central goal of this study is to undertake an analysis of sequential patterns of children's conflict using all three analytic approaches. '

Previous Research on Sequential Conflict Patterns

Research on the sequential nature of behavioral patterns during conflict is limited. The work that does exist can be categorized as either idiographic or nomothetic depending on whether the goals of the researchers are to identify individual or group processes in human

4

behavior. I have organized the following literature review according to these theoretical and methodological approaches.

Ambiguities can occur in the classification of studies as idiographic, nomothetic, or idiosyncratic. One common approach in the literature is to group individuals into categories and to discuss patterns that are found within these categories. Ambiguity sometimes arises because it is unclear whether this is nomothetic or idiographic research. My resolution of this issue is to pay close attention to the process used to identify interactive patterns.

To illustrate, one approach is to examine individual subjects (i.e., an idiographic analysis) and then to place subjects into categories on the basis of their individual patterns. For example, Gottman (1993) identified couples as _Engaged_ or _Avoident_ on the basis of sequential patterns exhibited in their conflict interactions. I consider this approach to be idiographic since patterns were identified for individual couples, and couples were grouped together on the basis of idiographic information. In contrast, a second approach has been to place subjects into categories on the basis of some characteristic, and then to identify patterns within those categories. For example, Patterson (1982) identified families with and without an antisocial son. He then examined family interaction patterns very closely and found that families with an antisocial child differed in their interactions from those without an antisocial child. I regard this research as nomothetic since it clearly focuses on revealing commonalties in the interaction patterns displayed within each group. Both Gottman and Patterson do nomothetic research when they examine outcomes associated with their categorization of subjects (e.g., Gottman discusses stability of marriages over time in relation to conflict resolution styles). However, while Gottman follows idiographic procedures in describing

behavioral conflict patterns, Patterson follows nomothetic procedures in describing such patterns.

Idiographic patterns. Duncan and Gottman are two researchers who illustrate the use of idiographic approaches to family conflict patterns. Duncan (1991) presents several case examples of conflicts from different families where he has identified what he calls Convention-Based interactions. According to Duncan (1991), interactions are coordinated by these conventions. Conventions develop after repeated experiences and lead to expectations regarding one's own behavior and the behavior of others. Convention-Based interactions are invoked through mutual and reciprocal expectations.

Hardway and Duncan (unpublished manuscript) studied a single 14 minute conflict of one family consisting of a mother, father, a 14-month-old child and her older sister aged 5.5 years. Hardway and Duncan categorized behaviors very broadly, as either Attacks or Responses and then looked for structure or rules that governed the interaction. They used THEME, a computer program designed to identify patterns when observed events occur together at a rate that is higher than that expected by chance. Using this methodology, Hardway and Duncan revealed a number of sequential patterns. For example, when the younger child attacked the older child, subsequent interaction followed this set of patterns: The father and older sister have the option of responding or not responding to any single attack. If the younger child makes two consecutive attacks without an intervening response, then a response is obligatory after the second attack. If there is a response, then a subsequent attack by the child is obligatory. If there is no response to an attack, the child has the option of making a second attack. This pattern applies to the first attack and all subsequent attacks in a series. This intense idiographic approach revealed the underlying structure for the

6

interaction. Although interesting, this research is limited in that the sample may not be representative. Indeed, this is one of the drawbacks of idiographic research. Additionally lacking in this approach is information about whether this family interacts similarly at other times, whether the interactions of other families are similarly structured, and whether the patterns displayed by this family are similar or different from patterns displayed by other families.

Gottman (1979, 1993) generated a typology of marriage styles by examining the behaviors of husbands and wives during discussion of marital problems. Gottman incorporated a sequential element in his work both by dividing conflicts into temporal segments (i.e., Persuasion, Arguing and Discussion sections) and by studying two-step contingencies in the couples' behaviors (e.g., Startup Sequences describe transitioning from one partner's neutral affect to the other partner's negative affect). Gottman found distinct sequential patterns in conflict behavior. For example, some couples were more likely to reciprocate both positive and negative affect. Gottman labeled these as Engagers. Couples who were less likely to reciprocate affect were classified as Avoiders. Although Gottman grouped couples into categories and later examined common characteristics displayed by each category, his approach is distinctly idiographic because the patterns of engagement or avoidance were discovered for each individual couple. However, unlike Duncan, Gottman also addresses the extent to which different couples share common patterns of interaction, and in that aspect of his research Gottman's work is nomothetic.

Nomothetic patterns. More frequently, researchers have adopted a nomothetic approach to the study of interactive patterns in conflict. Vuchinich (1984) used a Markov

analysis to study sequences in naturally occurring family conflict. He recorded family dinner conversations and identified instances of conflict in those interactions. Because Vuchinich averaged across families and then looked for overall patterns in the data on all the families he observed, his approach is clearly nomothetic. He categorized the conflict behaviors subjects exhibited into Simple Negation (e.g., "no"); Disagreements, which are negations accompanied by an explanation of the basis for the opposition (e.g., "we won't be there on the 26th because we don't arrive until later"); and Indirect Negation (e.g., after a husband asked his wife why she wants to move to the country her reply was: "you're just wantin' to pick an argument"). Vuchinich then looked for patterns in subjects' use of different forms of opposition across his entire sample.

Vuchinich found that overall, conflict behavior was structured, showing two-step sequential patterns which were influenced by gender and family role (e.g., mother vs. older child, etc.). Generally, the patterns were based on reciprocity in responses during conflict. The type of strategy a person used had a strong influence on the strategy the opponent responded with. Specifically, Vuchinich found that simple negation tended to elicit a simple negation from the opponent, disagreements tended to be reciprocated, and indirect negation tended to be followed by indirect negation.

Status also influenced the sequential nature of conflict behavior. Specifically, children were less likely than parents to oppose parents. Children tended to respond to other children with more unmitigated opposition and less indirect opposition than did parents. And, children displayed more overt hostility and parents used more mitigated hostility with vague boundary information (i.e., oppositions negate some type of boundary which must usually be inferred from what is said). Effects that involved the influence of status on the

8

types of strategies used were complex in that the gender of both the actors and targets of behaviors played a role. For example, participants were less likely to use an unmitigated simple negation following fathers' use of such a move rather than mothers'. Also, once fathers specified the boundary at hand (using disagreements), participants were less likely to try to defocus the conflict with an indirect move than they were when mothers specified the boundary.

Eisenberg and Garvey (1981) observed conflicts between preschool-aged friends and non-friends. Like Vuchinich, Eisenberg and Garvey did not study the interactions of specific children with specific partners, but grouped the data of all the children to examine global, or nomothetic, patterns of interaction. They generated a typology of moves in children's conflicts and then conducted sequential analyses to determine if certain types of moves tended to follow one another. In addition, they examined the relative effectiveness of particular moves in resolving conflicts. They found that there was a greater than chance likelihood that specific responses would follow specific behaviors by opponents. In these young children, reasoning moves were more likely to be responded to with concession and less likely to be met with rigid demands. Ignoring opponents was likely to result in paraphrasing of the initial utterance and insistence was very likely to be responded to with insistence.

Phinney (1986) also examined sequential patterns in the spontaneous conflict interactions of 5-year-old children with siblings and with peers. Each move was coded as either a Simple Move (e.g., rejection, denial, contradiction) or an Elaborated Move (e.g., reason, explanation, justification). Phinney then sought overall patterns in the interactions of the pool of subjects she observed. She found that children generally reciprocated their

9

opponents' behaviors during conflict (i.e., simple openings were followed by simple moves, elaborated openings by elaborated moves). Children displayed these patterns with both their siblings and their peers.

As mentioned earlier, Patterson (1982) compared the sequential interaction patterns of families with and without antisocial sons, and attempted to identify patterns in each of these groups. In families with antisocial sons, he identified sequential patterns in which parents and siblings acquiesced to and thereby reinforced aggressive acts on the part of the child, resulting in increased child aggression. This led to aggressive parent discipline techniques, which in turn led to further increases in child aggression. For example, if Uri grabs a toy from his younger brother Danny's hand and Danny submits, Uri's aggressive behavior may be reinforced. If their mother intervenes and attempts to force Uri to return the toy, and Uri does not comply, their mother may eventually stop her insistence. This may reinforce both her acquiescence in the face of her children's aggression (because her intervention was not effective) and Uri's aggression (because he kept what he took). Patterson labeled such interactions as "coercive" patterns.

The studies cited above exemplify the methods that can be used to describe idiographic and nomothetic patterns. Findings from these studies suggest that sequential patterns in conflict behavior do in fact exist. However the idiographic and nomothetic approaches have inherent limitations. The main limitation of the nomothetic approach is that results based on averages across individuals are actually an abstraction and may not represent the behavior of any one subject. The main limitation of the idiographic approach is that generalizabililty beyond the individual or family examined is constrained. In addition, idiographic and nomothetic studies do not describe the extent to which the patterns that

10

individuals (or families/couples, etc.) display are unique. A discussion of the potential

existence of idiosyncratic patterns is needed to complete our thinking about sequential

patterns in conflict behavior.

      Idiosyncratic patterns. A thorough review of the literature revealed no research that

described idiosyncratic sequential patterns in the conflict behavior of individuals. However,

from a personality psychology perspective, Shoda, Mischel and Wright (1993; 1994) describe

idiosyncratic sequential behavioral patterns in broader interactions. Although they do not

apply the term "idiosyncratic" to their methods, their focus is clearly on the uniqueness of the

patterns that individuals display in their interactions. Their approach emerged from the

personality vs. situation debate in personality psychology and provides a resolution to long-

standing issues therein. The focus of this debate is on the extent to which behavior is driven

by an individual's personality or by the characteristics of the environment. In order to

determine if people's behaviors are driven by situations or by enduring personality traits,

researchers have typically examined the correlations of selected behaviors observed in

different situations (e.g., children's behavior during canoeing vs. during meal time).

Generally, these correlations have been found to be fairly low. As a result of these findings,

Mischel (1968) argued against the utility of the concept of personality.

      Since then, Mischel and his group seem to have reconsidered their stance. They now

contend that "stable individual differences may also be seen in the unique patterns by which

each individual's behaviors vary predictably across situations" (Shoda et al. 1994 p. 1023).

While individuals' behaviors do vary from situation to situation, they do so consistently, and

this consistency is taken as evidence for personality. Thus, both personality consistency and

11

situational constraints on behavior play important roles in their re-formulated analyses.

Shoda, Mischel and Wright (1994) argue that personality results in behavioral contingencies

that take the form of *If-Then* rules. For example, one person may always follow a sequential

pattern of this nature: *If* I am with my colleagues *Then* I am friendly but, *If* I am with my

students *Then* I am aloof. Another person may follow the reverse pattern whereby they are

aloof with their colleagues and friendly with their students. These kinds of consistent

individual variations in reactions to different situations is seen as evidence for personality as

it interacts with the environment.

Mischel and Shoda's work is based on extensive observations of a large sample of

children in summer camp (Mischel & Shoda, 1995; Shoda, Mischel & Wright, 1993; 1994).

Personality researchers attempted to find behavioral consistency across children's activities

that were nominal in nature. For example, they examined children's behaviors while

canoeing, wood-working or during meals (Hartshorne & May, 1928). These analyses did not

reveal strong behavioral consistencies across contexts. Mischel and Shoda point out that

such contexts are very complex and the extent to which they contain different psychological

elements is unclear. In fact, psychologically, these contexts may be very similar (e.g., you

can be criticized by a peer, or praised by an adult in woodworking and at meal time).

Looking for behavioral consistency across contexts that are poorly understood from a

psychological perspective is clearly problematic. Finally, nominal situations such as

woodworking tend to limit generalizability to other real life settings (Shoda, Mischel &

Wright, 1994). These findings led Mischel and Shoda to search for more meaningful

contexts. They found that the behaviors of others during social exchanges provide contexts

that are psychologically meaningful. Such contexts are more generalizable because they

transcend nominal contexts. Following Shoda and Mischel's methodology, I use the behavior of other family members in conflicts as the basis for selecting psychologically meaningful contexts.

Using extensive naturalistic observations, Shoda et al. (1994) examined consistencies in children's responses to behaviors by peers and authority figures. They examined withdrawal, aggression or friendly overtures that children made after being teased or approached by a peer, or being warned, punished or praised by a camp counselor. They found that subjects exhibited consistent response styles that were organized sequentially (e.g., *If* a peer approaches *Then* subject A withdraws or, *If* a peer approaches *Then* subject B displays aggression, etc.). In order to focus their analysis on unique or idiosyncratic responses, they standardized their data. Standardizing removes the main effects of situations. The degree to which an individual varies from the mean response reflects the unique way that person's behavior varies across situations (Mischel & Shoda, 1995). Mischel and Shoda (1995) identified strong idiosyncratic patterns in the behaviors of children in their study. Standardizing the data allowed these researchers to deal with the issue of whether or not such patterns exist. However, it also distorts the subject's idiographic patterns by removing the average score from the scores of individual subjects. In order to derive the idiosyncratic patterns, Mischel and Shoda first had to identify the idiographic and nomothetic patterns that existed in their data. However, they focused on what I refer to as idiosyncratic patterns and ignored both the nomothetic and idiographic information about interactive patterns. Indeed, attention to such patterns might not be central to an investigation of consistencies in personality, but it is crucial if one's goal is to understand the origins of consistent patterns in family conflicts.

13

Based on their findings, Mischel and Shoda (1995) discuss the interaction between persons and situations and conclude that there are "enduring individual differences in the features of a situation that individuals select and the cognitive-affective mediating units (such as encodings and affects) that become activated and that interact with and activate other mediating units (e.g., expectancies, goals, behavioral scripts and plans) in the personality system" (p. 246). These combine to both explain and predict idiosyncratic behavior. Conceptually, Mischel and his group de-emphasize the importance of patterns that may exist idiographically and nomothetically. While Mischel and Shoda do not address the issue of idiosyncratic sequential patterns in conflict behavior directly, their work does suggest that such patterns should exist. The main limitation of the idiosyncratic approach is that the behaviors of an individual are understood only in comparative terms relative to the behaviors of the "norm". Thus, a person's actual behaviors cannot be predicted on the basis of idiosyncratic analyses alone.

In summary, past researchers have focused almost exclusively on the nomothetic approach. Examination of interaction using all three approaches highlights the similarities and differences between individuals that may have been masked by previous methodologies. A three-pronged approach permits researchers to determine whether individuals show sequential patterns, to determine if there are general patterns for a specific group of subjects, and to determine if individuals show patterns that are different from one another's. Examining patterns using all three approaches allows researchers to describe interaction patterns and the degree to which individuals or families deviate from the average patterns displayed by a comparison group. In the current study, interaction patterns were examined

using all three approaches in an attempt to increase our understanding of sequential patterns of conflict behavior within the family.

<u>The Script Metaphor</u>

Together, the studies cited above provide evidence that during conflict, people exhibit behavioral patterns that contain a sequential component. The idea that behavior may be guided by sequential patterns has also been discussed within the rubric of Script Theory. However, past work on patterns of conflict behavior has not generally been interpreted in light of theorizing on scripts.

An examination of sequential behavioral patterns is illuminated by the script literature in a number of ways. Scripts add to evidence of interactive patterns a sense of the adaptiveness of such exchanges, an integration of behavioral and cognitive aspects of patterned interactions, and an emphasis on the developmental origins of such patterns. Furthermore, the conceptual literature on scripts illuminates issues surrounding the different approaches (i.e., idiographic, nomothetic and idiosyncratic) to the study of sequential patterns.

The concept of scripts has been examined from different perspectives including those of cognitive, social, clinical, and developmental psychology. By integrating information from the different sources that contribute to our conceptualization of scripts, I hope to begin to bring greater coherence to this diverse literature. In the sections that follow, I will define scripts and highlight several recurrent issues in the conceptualization of scripts that are drawn from different areas of psychology. Discussion of the relevant approach (i.e., idiographic, nomothetic and idiosyncratic) will be included where possible because these distinctions

clarify issues in the discussion of scripts (e.g., individual vs. shared/cultural scripts, the processes of acquisition of scripts and others).

The definition of scripts. Scripts are thought of as cognitive structures that organize people's understanding of the world around them and guide their behaviors in accordance with this understanding (Abelson 1981; Schank & Abelson, 1977; Baldwin, 1992). Scripts entail a sequential component. That is, the order of appearance of behaviors is significant, not simply their absence or presence (Schank & Abelson, 1977). Scripts are functional in that they "simplify" information by reducing unmanageable environmental complexity to manageable units (Nelson, 1981; Ginsburg, 1988) and by permitting individuals to "fill-in" gaps in the information available to them (Bower, Black & Turner, 1979). Thus, scripts allow individuals to focus on learning from variations in routine events rather than having to repeatedly negotiate patterns of interchange with their social environments. As mentioned earlier, conflicts are common within the family. Therefore, there is some appeal to the idea that scripts guide people's conflict behavior and allow them to focus on what is novel in their conflict interactions.

The development of scripts. Scripts are internalized through repeated exposure to routine events and are activated in the presence of appropriate environmental or internal stimuli (Abelson, 1981; Byng-Hall, 1985). According to Byng-Hall (1988), scripts are usually learned through repetition over time. Mental representations build up and these predict sequences of interaction in particular situations. As a result of repetitive enactments of events, people may form memory structures that can be thought of as scripts. While

16

initially scripts are internalized from experience, they later serve to drive interaction. Scripts we recall may differ from those that we enact. Scripts can either "replicate" observed/enacted patterns, or "correct" patterns an individual chooses to reject. According to Byng-Hall, children learn how to parent from their own parents. However, they can implement replicative or corrective scripts in becoming parents themselves. Family conflict scripts stem from each parent's family of origin. In forming scripts for their own families, parents blend their two scripts and together develop new ones.

From a personality psychology perspective, Tomkins (1987) argues that people develop nuclear scenes. These scenes represent interpersonal experiences that often stem from a significant event that occurred early in life. According to Tomkins, for nuclear scenes to influence behavior, a strong emotional reaction needs to have been experienced during repeated situations that are similar but not identical. When these conditions are met, the emotional element becomes "amplified" and over time connects between these similar experiences. Tomkins argues that the development of nuclear scripts forms the basis for personality. Abelson (1981) draws from Tomkins' work when he suggests that neuroses originate in the "repeated construction of present situations in terms of a preemptive metaphor, that is, an inappropriate similarity to a kernel situation from the past" (p. 724). Thus, dysfunctional script formation and application may provide an explanation for the development of dysfunctional family patterns or abnormal personality traits.

One reason for individual differences in *If-Then* scripts is that experiences differ. In theory, to the extent that people share environments, their scripts should be similar. But individual differences in the perception of these environments, processing skills, etc., are potential sources of variability in the scripts developed even by people who experience

17

similar environments. This is reminiscent of Mischel and Shoda's (1995) claim that there are individual differences in the features of the environment that individuals attend to and in the cognitive-affective mediating units that become activated and interact with other mediating units (e.g., expectancies, goals, behavioral scripts and plans). Mischel and Shoda add that behavioral consistency develops as a result of genetic influences in addition to early social learning experiences. Thus, in thinking about the development of scripts we must consider both the role of the environment and the contribution of the individual's characteristics.

Are scripts overarching structures or a collection of smaller units? Scripts have been viewed both as overarching structures that organize fairly extended sequences of actions (e.g., eating at a restaurant) and as simple two-part contingency units that build on one another to create more extended sequences. Abelson (1981) defined scripts as conceptual representations of stereotyped event sequences that have a common core of events. These representations are internalized through experience and later provide an automatic guide for behavior when appropriate environmental or internal circumstances activate the script. Essentially, Schank and Abelson (1977) described scripts as overarching structures that drive understanding and behavior. By looking for à core of events that are "common" among individuals, Schank and Abelson conceptualize scripts as nomothetic patterns. Fivush (1984), also conceives of a script as an organized whole and claims that "the instantiation of any one part or variable of the script will constrain the possible instantiations of all other parts" (p. 1697). She describes scripts as flexible, dynamic organizers of information.

Nelson and Nelson (1990) take an overarching view of scripts, but one that allows for extensive flexibility in the instantiation of a particular script. For example, in a restaurant

script, one can eat with chopsticks rather than a knife and fork without disrupting the script. They argue that scripts organize behavior sequentially in a goal-oriented way using Slots. These slots can be filled by different actors or objects and therefore permit flexibility in that different instantiations of the same script can manifest themselves differently.

In contrast, others apply the construct of scripts to narrower two-step contingencies. Baldwin (1992) argues that people develop "working models" of their relationships called Relational Schemas and use these schemas in negotiation with their social environments. He defines interpersonal scripts as cognitive structures that are abstracted from repeated experiences and that represent sequences of actions and events that define stereotyped relational patterns. According to Baldwin, the cognitive structure of a script includes: 1) knowledge about patterns of interaction in the form of summary statements about what behaviors tend to be followed by what responses; and 2) sets of *If-Then* rules that are extracted from repeated experiences and that can be used to predict the behavior of others and guide one's own responses. Thus, Baldwin's focus is on a more constrained, immediate conceptualization of scripts.

Trzebinski (1985) goes beyond this, claiming that "social knowledge is represented in chains of events and actions, having actors with typical goals, occurring under certain typical conditions, and meeting typical obstacles that can be overcome in certain typical ways" (p. 1266). In this model, the procedures for achieving social goals are thought to be represented in *If-Then* rules along the lines of: *If* she hits me, *Then* I hit her, or *If* she hits me, *Then* I withdraw, etc. This approach to scripts focuses on small *If-Then* units. The complexity of the script increases if the interaction is carried out to multiple iterations of *If-Then* sequences (Baldwin, 1992). That is, layering successive *If-Then* contingencies on top of one another

19

results in the formation of complex interaction sequences. While these researchers do not address issues of family conflict directly, they do suggest that such patterns should be found within that domain of inter-personal interactions.

Drawing from his clinical work on family interactions, Byng-Hall (1985) defines scripts as redundant, circular sequences of family interaction, or family scenarios that have a common pattern. He thereby combines the *If-Then* and the "overarching" perspectives. On the one hand, every action in a script is "cued in by the previous one and acts as a cue to the next in repeating cycles of interaction" (Byng-Hall, 1988, p. 168). Hence, each action is contingent on the one that immediately preceded it. On the other hand, Byng-Hall argues that a script is like a theatrical play, with the whole script available to all family members (or actors). In fact, family members can be cast and recast into different roles. Thus Byng-Hall also characterizes scripts as longer, play-like sequences that have an overarching structure.

Tomkins (1987) also bridges between scripts as narrower rules vs. overarching wholes. He argues that the basic unit of analysis is the <u>Scene</u>. A scene is an event, an organized whole that includes persons, place, time, actions, and feelings. A script consists of the individual's rules for predicting, interpreting, responding to, and controlling experiences governed by a family of related scenes. Over'time, affect laden scenes are co-assembled and become inter-connected so that they give structure and meaning to experience. Initially, scenes determine scripts, but over time, script formation consolidates experience to the point that scripts determine scenes.

There is both theoretical and empirical evidence that two step units provide the optimal unit of analysis in the study of conflict sequences. According to Vuchinich (1984), oppositional moves are almost instinctive reactions to boundary claims and hostility displays

in the move just prior to any given move. Thus, an oppositional move is influenced only by the move that immediately preceded it. "Reference to earlier turns may be used to maintain topical cohesion, but the move type performed depends on the position established in the prior turn only" (p. 223). Using a Markov process approach to the study of episodes of family conflict, Vuchinich found that first order effects provided the models with the best fit. Phinney (1986) observed sibling and peer conflicts of young children and also found that each move was strongly influenced by the move that immediately preceded it. Information regarding earlier moves did not improve the predictability of the patterns.

Further support for a focus on two-step contingencies comes from the work of Adams and Worden (1986). They point out that as children get older, their scripts become more complex in terms of the number of aspects of a script stated in their protocols (Nelson 1978; Fivush, 1984). An increase in verbal ability may account for this; however, exposure to more situations and repeated interactions with real-world situations have been preferred as the explanation (Schank & Abelson, 1977). Thus, in studying the scripts of young children, it appears preferable to focus on "simpler" behavioral contingencies.

I have chosen to study these "simpler" two-step scripts in young children. The smaller (*If-Then*) contingency units may actually be mini-scripts that combine to form the overarching structures described earlier. Given the dearth of literature in this area, and given that these smaller contingencies may actually be the building blocks of larger scripts, it seems logical to choose the narrower *If-Then* units as a starting point. My goal, therefore, is to examine these smaller *If-Then* scripts using the idiographic, nomothetic and idiosyncratic approaches.

Scripts as idiographic, nomothetic and idiosyncratic structures. In studying the script construct, we must consider whether scripts are individualistic, culturally based, or both. Researchers have focused on the social/conventional "shared" aspect of scripts (Baldwin, 1992). According to Nelson, "without shared scripts, every social act would need to be negotiated afresh" (1981, p. 109). Clearly this function of scripts is culturally based, and in Nelson's words, "the acquisition of scripts is central to the acquisition of culture" (p. 110). There is a growing body of research that suggests that people do in fact possess nomothetic, cultural, conventional, shared scripts (Katz, 1991; Boston & Levy, 1991). At the same time, Nelson (1986) herself argues that "the proposal that children derive their initial categories from schemas representing their experientially based knowledge implies that children with different experiences in the real world will form different category structures" (p. 433).

Others have also recognized the importance of integrating general and individual scripts. Trzebinski (1985) argues that people's representations of the social world are action-oriented. These can take the form of *If-Then* rules that stipulate methods for the attainment of goals. Action-oriented representations may include psychological knowledge. According to Trzebinski "this knowledge may be more or less general depending on the universality vs. specificity of the represented actors and represented goals" (p. 1267). This suggests that *If-Then* scripts can be found using the idiographic, nomothetic and idiosyncratic approaches.

According to Trzebinski's approach, script development is based on knowledge of prototypic situations (i.e., semantic knowledge), personal experience (i.e., episodic knowledge) and interpersonal skills (procedural knowledge). Given a standard stimulus, there are individual differences in the procedural knowledge brought to bear on the situation (Kihlstron & Cantor, 1983) and these translate into different behavioral responses to the same

22

stimulus. The idea that script development is the product of the interaction of these different factors is important because it allows for the possibility that even individuals with identical environments (if such a thing were possible) could develop different scripts for social interaction. Because this approach emphasizes characteristics that are unique to the individual, it lends itself to thinking that is idiographic and potentially idiosyncratic.

Generally researchers agree that individuals internalize scripts from routine events. Individuals experience unique environments and should therefore develop individualistic scripts. This seems especially important for interpersonal behavior. Yet, the study of this aspect of scripts has been neglected for the most part. This may be partially due to the difficulty of trying to identify coherence within an individual's behavior in the face of such great diversity across people's behavior. Nevertheless, one goal of the present study is to identify and describe idiosyncratic behavioral scripts.

Family conflict scripts are idiographic to the extent that individual families show a consistent pattern. They are nomothetic to the extent that the family is like many others in this patterning. Finally, these scripts may be idiosyncratic to the extent that the pattern in a given family is distinct from that generally displayed.

.

Scripts as memory structures that guide behavior. Researchers typically focus on either the memory or the behavioral aspects of scripts. Script research that relies on subjects' recall of sequential events directly or indirectly places its focus on memory aspects of the construct (Demorest & Alexander, 1992; Hue & Erickson, 1991; Fivush, 1984). Alternatively, Baldwin (1992) writes that "scripts consist of a sequence of observable behaviors" (p. 468). These two aspects are clearly related as the natural implication of a

23

memory structure is that it should have behavioral manifestations (i.e., that the construct should guide behavior in some way). Nonetheless, the area of individuals' representations of scripts in memory has received more research attention than the behavioral aspects of scripts.

Kihlstrom and Cantor (Kihlstrom & Cantor, 1983; Cantor & Kihlstrom, 1985) argue that social knowledge is represented as Declarative and Procedural knowledge. Declarative knowledge is made up of Semantic knowledge, which refers to a prototype of situations in which social interaction occurs, and Episodic knowledge which refers to autobiographic memories of events from one's past. Procedural knowledge is made up of rules for processing the following: social information, social exchange (including interaction skills), self-presentation skills, and scripts for interaction. These rules and skills involve knowledge about how to achieve goals and are represented as *If-Then* contingencies. Thus, while focusing on the memory aspect of the script construct, these researchers bridge the cognitive construct with its behavioral implications. According to Kihlstrom (Kihlstrom, 1987; Cantor & Kihlstrom, 1985), people draw from their repertoire of rules and skills in order to process information. Scripts of social situations have both a procedural and declarative aspect that help individuals make sense of social behavior.

There is good evidence that people draw on scripts from memory to organize and utilize new information about their environments. For example, to determine if people have information biases that are guided by scripts, Bower, Black and Turner (1979) asked subjects to read six script based stories (e.g., making coffee, going to a movie, etc.), exposed them to a short intervening task, and then asked them to recall the stories. Subjects were better at remembering information that was script relevant but unexpected (e.g., the restaurant menu was in French), followed by information that was congruent with the script, followed by

24

irrelevant information (e.g., the type of font used in the menu). Graesser, Gordon & Sawyer (1979) report similar findings.

Children have also been found to fill in information gaps with script appropriate material. Nelson and her colleagues have been studying the structure and content of children's real-world knowledge. Their approach has centered on looking for commonalties in children's reports of familiar events such as attending preschool (Fivush, 1984) or going to a restaurant (Nelson, 1981). Their work suggests that children as young as three years of age develop schematically organized, generalized event representations (i.e., scripts) of familiar events (Nelson, Fivush, Hudson & Lucariello, 1983; Nelson & Gruendel, 1981). Hudson and Nelson (1983) and McCartney and Nelson (1981) found that scripts guided story recall in young children as well. Specifically, "when presented with stories about familiar events, children recall the main events of the scripts, sequence the acts veridically, and repair sequences that conflict with the canonical script order" (Slackman & Nelson, 1984, p. 330).

In contrast, good evidence that integrates the behavioral manifestation of interactive scripts into the script construct is lacking. There is very little quantitative, methodologically sound behavioral research on scripts. A thorough literature review reveals that the systematic study of scripts has generally been applied to relatively constrained phenomena such as visiting a doctor (Turner et al., 1979). When the construct is applied to more complex interpersonal phenomena, methods tend to be unsystematic. Case studies (Byng-Hall, 1985; Carlson, 1981), retrospective data (Demorest, 1995) and hermeneutic analysis (Byng-Hall, 1988) are more common than systematic observational procedures. For example, in his 1988 paper, Byng-Hall used his own introspection about myths within his family as data from which to draw his conclusions. The relevant empirical literature presented earlier was not

25

conducted within the rubric of script theory, but rather examines adaptive and maladaptive

patterns in conflict interchanges.

One major challenge is to find a methodology that reveals the patterns in overarching

scripts within interaction (rather than in memory), but that still retains the flexibility of the

script notion -- i.e., allowing for some variation in non-essential elements and for varied "slot

fillers". One way to avoid this problem is to begin the examination of behavioral scripts

based on the concept of *If-Then* contingencies or two unit sequences. I have chosen to apply

this approach to the study of family conflict.

Why Does Family Conflict Lend Itself to the Study of *If-Then* Scripts?

Conflict within families is very common. Dunn and Munn (1986) and Perlman and

Ross (1997) found that sibling conflict occurs an average of seven times per hour in families

with two preschool aged children. Family conflict is a salient event marked by high display

of affect and aggression (Perlman & Ross, 1997). In fact, sibling violence is the most

common form of family violence (Reid & Donovan, 1990). Tomkins (1987) argues that

people develop scripts from significant events that were experienced repeatedly during

childhood. Influence on later behavior is more likely when these events are associated with a

strong emotional reaction such as that experienced during conflict. Thus, family conflict is

the kind of routine event that should lend itself to script development. In addition, as

discussed earlier, there is preliminary evidence that people's behavior during conflict is at

least loosely scripted.

An interest in family conflict and in the role played by *If-Then* scripts in conflict

behavior guided the development and implementation of the current study. My focus is on

26

the study of naturally occurring sibling conflict in families with young children. My goals are to determine whether or not conflict behavior can be characterized in terms of *If-Then* scripts and, if they exist, to describe what these patterns are like. To do so, I develop and model a methodology that allows researchers to examine idiographic, nomothetic, and idiosyncratic patterns in family conflict interactions. This methodology centers on the examination of consistency in people's responses to their opponents' behaviors during family conflict. Finally, I examine developmental differences in the presence and nature of *If-Then* scripts that occur during family conflicts.

Method

Participants

Subjects in this study were selected from a sample of 40 English speaking, middle class, Caucasian families, each consisting of two parents and two children. The older children ranged in age from 3.6 to 4.9 years (M=4.4); the younger children were between the ages of 1.9 and 2.6 (M=2.4). Gender and birth order were each counter balanced so that there were equal numbers of all possible brother/sister combinations. Thirteen percent of mothers and 18% of fathers had not completed high school, 48% of mothers and 38% of fathers completed high school, 18% of mothers and 13% of fathers completed college degrees and 23% of mothers and 33% of fathers completed university degrees. Seventeen mothers worked outside of the home on a full time basis, eight worked outside the home on a part time basis while the remaining fifteen did not work outside the home. Mothers' and fathers' occupations varied widely (e.g., for mothers: three were teachers, three were nurses, seven worked in clerical/secretarial positions, one was a hairdresser, etc.; for fathers: six were accountants, six worked in sales, two were teachers, one was a minister, etc.) Parents' ages ranged between 23 and 48 years.

Because of stringent data requirements of the analyses described below, only 19 children out of 40 were retained from each of the groups of two- and four-year-old children. A comparison of the subjects that were retained and excluded from the current study is presented below. Insufficient data were available to include the fathers and mothers (although it was possible to study mothers' behavior indirectly, as providers of antecedent events for the children's behaviors). Within each cohort, fourteen of the children were

28

sibling pairs while five subjects within each cohort were not siblings. The older children

ranged in age from 3.6 to 4.9 years (M=4.4); the younger children were between the ages of

2.0 and 2.6 (M=2.4). The gender breakdown of the children in this subsample was ten males

and nine females for the older group and thirteen males and six females for the younger

group. Thirteen percent of mothers and 25% of fathers had not completed high school, 50%

of mothers and 33% of fathers completed high school and 21% of mothers and 29% of

fathers completed university degrees. Eleven mothers worked outside of the home on a full

time basis, six worked outside the home on a part time basis while the remaining seven did

not work outside the home. Mothers' and fathers' occupations still varied widely (e.g., for

mothers two were nurses, two were in sales, two were secretaries, etc.; for fathers: three were

accountants, three were salesmen, etc.). Parents were between the ages of 23 and 48 years.

Subjects for the study were selected on the basis of the frequency with which their

mothers or siblings directed a number of specified antecedent behaviors towards them during

conflict. As such, the subsample used in this study consisted of families that exhibited higher

rates of conflict and higher rates of parent intervention than the families that did not meet the

inclusion criteria (see the results section for specific numbers).

Procedure

The data were collected during six 90-minute sessions in the homes of the

participants. In three sessions all family members were present, while in the remaining three,

only the mother and children were observed. Two observers collected data in each family,

and during each session one of the two observers assigned to each family was present.

Observers recorded the children's interactions on one track of a two-track audiotape while

narrating the children's behavior onto the second track. Observers did not participate in

family interactions and responded only very briefly to comments made by family members.

For data collection to proceed, both children had to be in the same room and parents had to

be in the same or an adjacent room with allowances made for brief absences of up to two

minutes. Television, video games, visitors, and other major distractions were not permitted.

Transcription of conflicts. All audiotapes were transcribed using a coding scheme

that identified the actions individuals displayed and these actions were grouped into

interaction sequences. Participants' verbal exchanges and a description of their actions

accompanied the coding of the interaction. For example, in the conflict in Table 1, the

children argued about a doll of a witch that the older child was playing with.

In the context of this study, the term "move" refers to an action or set of consecutive

or simultaneous actions by one individual aimed at the same family member or members. A

given move may contain more than one action, and different actions were transcribed on

separate lines. For example, actions 2 and 3 in the example transcript constitute a move by

the same child. The number of moves is equivalent to the number of turns that each

individual displayed in the conflict. Within each move, separate actions were coded in order

to examine the quality of the behavior of all participants in the conflict.

Conflict sequences were identified by the presence of overt opposition between the

siblings. To be identified as a conflict, the actions of at least one child had to be met with

protest, resistance, or retaliation by the other child (Hay & Ross, 1982). Moves that

precipitated opposition were included in what was identified as conflict sequences. For

example, in the transcript presented in Table 1, the younger child grabbed a toy from the

30

older sibling. The older child opposed this grabbing physically and verbally. The younger child's grabbing was included even though it preceded the initial oppositional move. Once conflict sequences were identified, all behaviors within that interaction sequence were considered, whether they were oppositional, conciliatory, etc. Conflicts ended when opposition between the children ceased without resumption for at least one minute.

To estimate the reliability of the observations for the overall sample, both observers assigned to the family recorded behaviors in the homes of 17 families just prior to the actual data collection. These reliability sessions lasted 20 minutes. Percent agreement for both the presence of each coded action within conflicts and identification of the conflict sequences averaged 91%.

Identification of *If-Then* contingencies. In order to examine whether individuals exhibit consistent behavioral patterns of a sequential nature, I focused on the *If-Then* component of interactions. In *If-Then* sequences, the *If* component refers to a specific antecedent event and the *Then* component to the family member's response to that event. For example, *If* my mother reasons with me during conflict, *Then* I comply. After selecting the specific conflict strategies that fit into the *If* category, I examined the degree of behavioral consistency subjects exhibited in their responses -- i.e., the *Then* category. In this way I could determine whether or not individuals displayed consistent patterns of response to their opponents' behavior during conflict.

Coding of conflict actions. All actions by all participants in all conflicts were coded to identify the types of strategies family members used during conflict. The conflict

31

strategies coded were generated through a review of the conflict literature and were especially influenced by the work of Eisenberg and Garvey (1981) and Vuchinich, Emery and Cassidy (1988). I selected antecedent events (i.e., the *If*'s) from among the conflict behavior categories that were displayed by children and mothers.

In accord with Eisenberg and Garvey's approach, the categories that were coded are listed in Table 2 in order of increasing adaptiveness based on the amount of new information a move contributes to the fight and the extent to which it takes account of the opponents' perspective. Ignore Issue, Oppose, Comply, and Reasoning[1] together make up the Negotiation Dimension. Ignoring the issue is least adaptive as no new information is provided and no attempt is made to consider the opponent's needs; Reasoning is most adaptive as it provides information regarding one's positions, concerns, and rights, and may also take the opponent's perspective into account. Reasoning provides new material which children could use to resolve conflicts through compromise.

Some complex actions within the Negotiation Dimension had two or more components. For example, in action 3 of the example transcript (Table 1) the older child says, "Don't, that's mine" to the younger child. This statement is made up of an Oppose component (i.e., "don't") and a Reasoning component (i.e., "that's mine"). As I was interested in the new information contributed by each move, only the most complex act within each action was coded. Thus, in the example transcript, action 3 was coded as Reasoning.

---

[1] The Reasoning category is made up of the following subcategories: self-oriented reasoning, externally-oriented reasoning, other-oriented reasoning and compromise. These subcategories were collapsed in order to meet the stringent data requirements of the analytic approach used.

Crying, and Power[2] strategies were also coded in order to make the coding scheme more comprehensive. Note that my Power category is broad, including both physical and verbal forms of aggression. As these strategies contributed little information to the fight and did not provide the opponent with the kind of new material that could facilitate compromise, they were considered to be relatively unadaptive. These are coded even if they coincide with strategies from the Negotiation Dimension. In the transcript in Table 1, action 1 was coded as Power, action 2 was coded as Power, action 3 as Reasoning, action 4 as Power, action 5 as Reasoning, action 6 as Power, action 7 as Power, and action 8 as Ignore.

Reliability estimates for the general sample were calculated based on data from 10 sessions, which contained a total of over 2000 judgment points. Kappa for the overall coding scheme was .86; percent agreement for the specific categories is presented in Table 2.

Determining meaningful antecedent events. While the actions of family members may not provide the sole meaningful antecedent to the conflict behavior that individuals display, they are likely to be important. In accord with the approach developed by Shoda et al. (1993), I attempted to select antecedent events (i.e., the *If*'s) that are "psychologically" meaningful for individuals during conflict. For this purpose I turned to the behaviors other family members used during conflict. It seemed important to identify the particular family member whose behavior constituted the antecedent event. For example, the antecedent event of being hit seems quite different if a 4-year-old child is hit by her sibling vs. her mother. An additional reason for incorporating the actor information in the *If* category is that there are

---

[2] The Power category was made up of the following subcategories: low verbal power, high verbal power, low physical power, high physical power. These subcategories were collapsed in order to meet the stringent data requirements of the analytic approach used.

developmental differences between the fighting behaviors of the three age groups in the sample -- i.e., 2-year-old children, 4-year-old children and mothers (Perlman & Ross, 1997).

Additionally, the antecedent events were restricted to those actions that were directed to the target child because I expected that antecedent events would be quite different depending on who was the target of the action. For example, observing your mother hit your sibling seems very different from having your mother hit you. Thus, I not only noted that a given strategy had occurred, but I included information about who had carried out that action and to whom.

The final constraint on the selection of antecedent events was imposed by the data required for the chosen analytic approach. Essentially, in the analyses, the data for each antecedent event are divided into two half data sets for each subject. The proportional response for each context is then calculated for each half of the data. The details of the analyses will be described below. What is important here is to recognize that sufficient data were required for each subject with respect to each antecedent event in each of the two half data sets to calculate a proportion that might provide evidence of stability.

Shoda et al. (1993) observed children's responses to pre-defined social behaviors (i.e., the *If* conditions) that were exhibited by their interaction partners. They then randomly divided all of the subjects' responses into two data sets. Shoda et al. (1993) treated each half of the data as separate sets of observations and correlated the two sets to determine if subjects exhibited consistent contingencies in their behavioral responses. As Shoda points out, children faced the different types of psychological situations to varying degrees. In order "to obtain reliable estimates of the conditional probability of responses to each of the interpersonal situations we included only subjects with sufficient frequency of exposure to

34

each situation" (p. 406). While applying stringent frequency requirements increases the reliability of the observations, it may lead to subject loss and to selection bias. In order to avoid excessive subject loss, while balancing the need for reliable observations, Shoda et al. (1993) required that subjects each have a minimum of six exposures to each type of antecedent event sampled (i.e., three within each of Data Sets 1 and 2).

After applying this criterion to my data, I was left with the following strategies in the *If* category: Mother Power, Mother Reasoning, Sibling Power, Sibling Reasoning and Sibling Oppose. These were further differentiated on the basis of whether the action was directed towards the older or the younger child. For example, for an older child with any given outcome, the *If* or antecedent events were: Mother Power to Older, Mother Reasoning to Older, Sibling Power to Older, Sibling Reasoning to Older, and Sibling Oppose to Older. Table 3 provides the *If* codes associated with the example transcript that was provided earlier. For example, action 1 was coded as Sibling Power (specifically, Younger Power to Older), action 2 was also coded as a Sibling Power (specifically, Older Power to Younger), action 3 was coded as a Sibling Reason (specifically, Older Reasons to Younger), etc.

Nineteen older children and 19 younger children met the inclusion criterion for all of the antecedent events. In six of the 190 cases (i.e., 19 older children X 5 antecedent events, plus 19 younger children X 5 antecedent events) I accepted a frequency of five rather than six events as my cut off point for no more than one of the antecedent events per subject. I did this in order to avoid losing six more subjects from the subject pool. The average frequency of each antecedent event ranged between 9 and 79 times ($\underline{M}$=26 times; see Table 4). Thus, even though my minimal inclusion criterion was five, on average subjects exhibited the antecedent events a minimum of nine times.

Selecting responses/outcomes. The response behaviors, or "dependent variables" were selected on the basis of their salience during conflict and their role in either escalating or de-escalating conflict. Ignoring, Complying and Reasoning are thought to de-escalate conflicts. For younger children, Ignoring and Complying have been observed to be strategies used at the end of fights (Perlman & Ross, 1997). Crying and Power were also selected as outcomes or *Then* measures because they occur frequently during conflict and are indicative of the level of intensity of conflict (Perlman & Ross, 1997).

Because of the overlap in the selection of antecedent events and of outcomes it was possible for a specific behavior to act both as an antecedent event for one child and as a response to a preceding antecedent event for the other child. For example, in Table 3, action 3, the older child Reasons in response (i.e., the *Then*) to the Power move directed at him by his younger sibling. At the same time the older child's Reasoning serves as an *If* to the Power move by the younger child that immediately follows it. Finally, conflict moves were not differentiated on the basis of whether they occurred early, in the middle, or late in a conflict.

Information regarding the children's genders was not incorporated in my analyses. Analysis of gender using this data is very complex because the gender of the actor and the target must both be considered. Thus, I would have to distinguish between younger sisters interacting with older sisters, older sisters interacting with younger brothers, younger brothers interacting with older sisters, etc. The data demands of such an approach are too great to be supported by this data set. While the importance of studying gender differences in the development of conflict scripts is clear, it goes beyond the scope of the current study.

36

<u>Analyses</u>

All cases in the data that met my criteria for inclusion in the *If* or antecedent event category were identified. I then identified the move that immediately followed that target behavior. For example, *If* a younger sibling directed a <u>Power</u> strategy towards his older sibling, *Then* what was the reaction of the older sibling? In order to attribute the older sibling's reaction to the defined antecedent event, I restricted my examination to the move that immediately followed it. If that move contained more than one action (e.g., a <u>Reasoning</u> component and a <u>Power</u> component within a single move) both were included in the analyses.

According to Shoda et. al (1993; 1994), randomly dividing the data allows researchers to treat each data set as a separate set of observations providing two sets of data that describe each subject's behavior. It is then possible to correlate the two sets of observations of a subject's responses to the different antecedent events for each outcome or dependent variable (i.e., <u>Comply</u>, <u>Cry</u>, <u>Ignore</u>, <u>Power</u> and <u>Reason</u>). Analyses were conducted separately for each outcome. Each data set provides a score associated with each antecedent event. The five scores representing responses to each antecedent event in Data Set 1 were correlated with the corresponding scores in Data Set 2 (i.e., the antecedent events, rather than subjects provide the link between the two data sets). Thus, the degrees of freedom were 4 (the five antecedents minus one). Table 5 provides an example of how a single correlation is derived. The resulting correlation represents the degree of similarity between the two sets of data and is referred to as the <u>Response Stability Measure</u>. High correlations indicate that the subject, or group of subjects display a differential pattern of responses that varies consistently in relation to the different antecedent events provided by the opponents' behavior. This suggests that behavior is governed by stable *If-Then* contingencies. Figure 2 exemplifies this

37

analytic procedure. The outcome in this example is <u>Cry</u> used by a two-year-old child. The correlation is based on the conditional probability data (e.g., what is the probability that this child <u>Cries</u> after his mother uses <u>Power</u> against him in Data Sets 1 and 2, <u>Reasons</u> with him in Data Sets 1 and 2, etc.). This correlation represents the similarity of this child's use of <u>Cry</u> in response to each of the five antecedent events in Data Set 1 (represented by the dotted red line) and Data Set 2 (represented by the solid green line). The correlation in this example is very high, $r=.941$ and $p<.009$, indicating that this child's <u>Crying</u> is probably governed by *If-Then* scripts. We also see this child's response patterns, specifically: he <u>Cries</u> relatively more only after his mother or older sibling <u>Reasons</u> with him during conflict, or when his sibling uses <u>Power</u>.

In order to randomly divide the data, the different antecedent events for each child within each family were grouped. All even numbered records were then placed in one data set and all odd numbered records in another. These will be referred to as Data Sets 1 and 2. This procedure ensured that for each child, half of the observed antecedent events would be placed in each data set with the maximum difference in the number of observations being one.

The data in this study were proportionalized in order to account for the different frequencies with which the antecedent events (or *If*'s) occurred for different subjects. For example, some children faced sibling power often, others faced it only the minimum six times required for inclusion in this study. The data was proportionalized by dividing the frequency of each outcome for each subject by the total number of occurrences of each antecedent event for that individual. This was done separately for Data Sets 1 and 2. Thus, for a given child, the dependent measures for a single response were the child's proportion of

38

use of that outcome (e.g. Compliance) to each antecedent event (Mother Power, Mother Reasoning, Sibling Power, Sibling Reasoning and Sibling Oppose) for Data Sets 1 and 2. Since I selected five possible responses to each antecedent event, five sets of proportions (i.e., for Comply, Ignore, Reason, Power and Cry) were calculated for Data Sets 1 and 2 for each subject.

Idiographic analyses. The proportionalized data were used to determine whether or not individuals display consistent *If-Then* patterns in their conflict interactions. Because the degrees of freedom associated with these analyses were very low, the magnitude of the correlation needed to be extremely high to reach statistical significance (e.g., a correlation of .779 is only marginally significant at $p<.06$). Therefore the significance of each individual correlation was not a good measure of stability. Rather, the correlations for all subjects were combined to evaluate the degree of stability of individual patterns in the group. This analysis indicated whether or not subjects were generally consistent in their responses. To do this, I converted the Pearson r values to Fisher's r' values so that I could average and analyze the correlations for all older and younger siblings. This conversion is recommended because it "ensures an approximately normal sampling distribution and further ensures homogeneity of variance" (Howell, 1982, p. 244). I then conducted One Sample t-tests using the Fisher's r' as my data to determine if there was overall consistency in response styles among the subjects. Although this procedure combines results across subjects, it is idiographic in that the particular patterns are identified for individual family members and stability is assessed for these individual patterns. This analysis does not assess whether the patterns shown by

individuals are similar to or different from those of other individuals in the same cohort. However, it does indicate whether or not subjects show such patterns.

Nomothetic analyses. In order to determine whether or not subjects, as a group, displayed *If-Then* patterns in their conflict interactions, I used subjects' proportional data to derive an average response following each antecedent behavior within each outcome. I did this separately for the older and younger children and for Data Sets 1 and 2. I was then able to correlate the average scores from Data Sets 1 and 2 for each of the five response measures for older and younger siblings. These analyses allowed me to determine whether or not there were consistent *If-Then* patterns across all subjects.

Idiosyncratic analyses. In order to determine whether or not any individual patterns were the product of unique behavior, I turned to Shoda and Mischel's methodology (Shoda, Mischel & Wright, 1993 and 1994). For each data set, the proportions of a given response following each of the antecedent events was standardized, or converted into z-scores. In order to carry out this conversion, I combined Data Set 1 across all subjects and Data Set 2 across all subjects. Each subject's response probability was then converted to a z-score relative to the scores of other cohort members for each data set. Thus, each score represents the "normalcy" of that person's response to a given antecedent event compared to other subjects. This allowed me to determine the degree to which individuals displayed consistent *If-Then* patterns that differed from the nomothetic patterns found for their cohort. By converting the proportions to z-scores, I, in essence, removed the nomothetic element from the idiographic (i.e., the average from the individual).

By correlating Data Sets 1 and 2 for each subject across all five antecedent events and within each outcome, I was left with a measure of the extent to which individuals show consistent patterns that distinguish them from the average response patterns in their group. Such patterns are unique or idiosyncratic. As in the idiographic analyses, the Pearson r values that resulted from these correlations were converted into Fisher's r' values to enable me to average and analyze the correlations for all subjects. One Sample t-tests were conducted in order to determine if subjects tended to show consistent, idiosyncratic *If-Then* patterns in their behavior.

Description of the patterns. The nomothetic patterns represent the average patterns across subjects and can clearly be described for the group as a whole. To describe these, I used the entire data set (i.e., without the Data Set 1 and 2 breakdown) and examined whether or not participants, as a group, responded differently to the different antecedent events. Since the majority of subjects in this study were sibling pairs, the analyses conducted were 2 X 5 Repeated Measure ANOVA. The two factors were Actor (referring to older vs. younger children) and Antecedent Event (referring to Mother Power, Mother Reason, Sibling Power, Sibling Reason and Sibling Oppose) both of which were within subjects' factors. Clearly, only the 14 families for which data were available for both the older and younger children could be used in these analyses. This meant eliminating the ten subjects (i.e., five from each age group) whose siblings did not meet the inclusion criteria. This more conservative approach was used only when Actor (i.e., older vs. younger child) was a factor in the analyses. When Actor was not a factor (i.e., when comparisons focused on differences across

41

antecedent events within each cohort) all 19 subjects were used in order to increase the reliability of the observations and power of the analyses.

When significant effects of Antecedent Events were found in the ANOVA, Paired Samples t-tests were conducted. In these analyses I compared responses following each antecedent event (i.e., the conditional proportions) for each of the response strategies to the overall proportion of time children responded with a given strategy (i.e., an unconditional proportion). The more reliable, larger sample of nineteen children was used in these analyses. This was done because I was comparing across antecedent events for each sibling rather than between older and younger siblings. Because the comparisons were within each age group the fact that some of the subjects were sibling pairs and others were not was not important.

Developmental analyses. I conducted Paired Samples t-tests on the fourteen families for which there was sufficient data for both older and younger children. This was done separately for each outcome and for the Fisher's r' values that were based on the proportionalized data and on the z-score data. These t-tests enabled me to examine developmental differences in consistency of *If-Then* responses using both the idiographic and the idiosyncratic approaches. I also examined the correlations between older and younger children's scores. When the p value associated with these correlations was greater than .20, suggesting that their behavior was independent, I conducted Independent Samples t-tests on the entire sample. I did this in order to determine if the analyses using the entire data set show a similar pattern of results to that of the smaller data set consisting of sibling pairs only.

42

Developmental differences in the nomothetic patterns were examined using the Actor (older vs. younger) X Antecedent Event (i.e., Mother Power, Mother Reasoning, Sibling Power, Sibling Reasoning and Sibling Oppose) Repeated Measure ANOVA discussed above. These were followed by Paired Samples t-tests. When the correlations between older and younger's scores were not significant at $p > .20$, Independent Samples t-tests were also calculated.

Results

The fourteen families for whom both children met my inclusion criteria had an average of 7.55 conflicts per hour with parents intervening in 60% of conflicts. In these families, older children contributed an average of 4.15 moves, younger children an average of 4.13 moves and mothers an average of 1.88 moves. The sixteen families for whom neither child met the inclusion criteria had an average of 5.09 conflicts per hour and mothers intervened in 49% of these. In these families, older children contributed an average of 3.91 moves, younger children an average of 3.79 moves and mothers an average of 1.32 moves. Finally, the ten families for whom only one child met the inclusion criteria had an average of 6.52 conflicts per hour and parents intervened in 63% of these. In these families older children contributed an average of 4.59 moves, younger children an average of 4.31 moves and mothers an average of 2.08 moves. As expected, given the inclusion criteria, the subsample consisted of families that experienced a greater amount of conflict (i.e., they exhibited a greater frequency of conflicts that tended to be longer and had more frequent parent intervention). Also, generally, older and younger children contributed a similar number of moves.

Are There Stable Idiographic Patterns?

In order to determine whether or not individuals display consistent *If-Then* response patterns during conflict, I correlated each subject's responses in Data Sets 1 and 2 for each outcome. Figure 1 provides an example of a specific older child whose use of Reasoning is governed by *If-Then* scripts; the correlation of the five data points in Data Set 1 (represented

44

by the dotted red line) and Data Set 2 (represented by the solid green line) is r=.849, p<.034. Figure 2 provides an example of a younger child whose use of Crying is highly governed by *If-Then* scripts, r=.941, p<.009. Finally, Figure 3 provides an example of a younger child whose use of Power is unstructured and not governed by *If-Then* rules. The correlation between Data Sets 1 and 2 for this child is r=.146, p<.407.

The stem and leaf charts provided in Tables 6-10 display the distribution of the correlations for each of the subjects with respect to each outcome. The frequency column indicates the number of subjects for whom the correlation for Data Sets 1 and 2 falls within the range depicted by the stem and leaf. The stem represents the sign of the correlation. The actual value of each subjects' correlation (rounded to one decimal point) is represented once in the leaf portion of the table. Thus, these tables individually display the correlations of Data Sets 1 and 2 for each of the subjects for each outcome examined in this study.

Some children never exhibited a given outcome. In some ways these children were very consistent in their behavior (e.g., a child who never cries, regardless of what his or her opponents do). However, since correlation values could not be calculated when subjects never exhibited a certain behavior these children were excluded from the analyses. This is particularly relevant for the outcome of Older Cry. Ten of the older children in this sample never Cried in response to the antecedent events examined in this study. The magnitude of the correlations for those older children who did Cry is quite high (see Table 7). In addition, one older child never Complied and one younger child never used Reasoning.

In order to determine if these subjects, as a group, showed consistency in their individual patterns of responses, I converted each subject's Pearson r to a Fisher's r' to allow averaging across subjects' r values. The Fisher r's are entered as scores in the One Sample t-

45

tests. These analyses address the question of whether or not these correlations, as a group, exceed a correlation of zero. Results of the t-tests are also provided in Tables 6-10, in association with the stem and leaf displays of the data on which each t-test is based. Nine out of these ten analyses were significant at the p<.05 level. As is clear from the stem and leaf displays, the majority of individuals' correlations are positive and the prevalence of positive correlations is far greater than the prevalence of negative correlations of similar magnitude. Thus, both older and younger children display consistent, idiographic *If-Then* patterns for the vast majority of outcomes selected in this study. The only outcome for which there was a non-significant effect was older children's use of Ignore. Thus, this sample of four-year-olds did not display consistency in their use of Ignore. However, overall, both older and younger children in this sample showed strong idiographic patterns. Keep in mind however, that these results do not imply that subjects show similar patterns, but speak only to the question of whether or not subjects show patterns as a group.

Are idiographic patterns stronger for older or younger siblings? I was interested in determining whether or not there were differences in the consistency of responses using the idiographic approach for 2-year-old and 4-year-old children in this study. In order to address this question I conducted Paired Samples t-tests on the Fisher's r' for older and younger children that were based on the proportionalized data. This was done separately for each of the outcome measures and only for the 14 families for which data was available for both children. Significant age differences were found only for children's Crying, t(8)=2.59, p<.032. The mean r values were .99 for the older children and .36 for the younger children. However, it is important to note that a large number of the older children in this sample Cried

46

very rarely. All other t-tests were non-significant. Correlations between older and younger children's scores indicated that their behavior was independent with a p>.20. Therefore, it was possible to conduct Independent Samples t-tests on the data from all participants. Results replicated the more conservative findings from the Paired Samples t-test approach with Cry being the only outcome for which there were developmental differences, t(26)=-2.41, p<.042.

Are There Nomothetic Patterns?

A potential contributor to idiographic patterns is the nomothetic, or group patterns. In order to determine whether or not subjects, as a group, exhibited consistent *If-Then* patterns in their conflict interactions, I averaged the proportional use of each outcome after each antecedent event for the older and younger children. This was done separately for Data Sets 1 and 2. The average of data sets 1 and 2, rather than the total data set, was used in order to keep these analyses consistent with the idiosyncratic analyses (because the Z scores are the standardized deviations from the average). The averaged scores for the two data sets was correlated to determine whether or not subjects displayed consistency in their responses during conflict. Again, high correlations indicate behavioral consistency. Figures 4-13 show the results for each of the outcome measures. So, for example, in Figure 4 the correlation between Data Sets 1 and 2 is very high, r=.978, p<.002. Thus, there was a consistent pattern of antecedent events that led to Compliance across this group of older children. Specifically, Compliance is highest after mothers directed a Power strategy towards the children. Compliance is much lower after Reasoning by either the mother or the sibling and is equally low after Sibling Power moves directed at the older sibling. Compliance increases slightly

after Opposition by the sibling. The actual behavioral patterns depicted in these figures will be addressed more directly using an Analyses of Variance approach later in this section. What is important to note here is that the magnitude of the correlations evaluating the consistency of nomothetic patterns ranges from .450 to .978. Eight of the ten analyses are significant at the $p<.053$ level. This is despite the stringent criterion for significance which results from the very low degrees of freedom in these analyses. Of the remaining two analyses, Younger Reasoning is marginally significant at $r=.779$, $p<.060$ while Older Cry is non significant at $r=.450$, $p<.224$.

What do the nomothetic patterns look like? I conducted 2 X 5 Repeated Measure ANOVAs for each of the outcomes. The factors were Actor (older vs. younger child) by Antecedent Events (i.e., Mother Power, Mother Reason, Sibling Power, Sibling Reason, and Sibling Oppose). Both of these were treated as within subjects' factors. Therefore, only those families for which there was enough data for both older and younger children were included in these analyses. When the analyses for antecedent events were significant, I conducted Paired Sample t-tests comparing each antecedent event with the subjects' average rate of relevant response for the entire sample. In these analyses I compared subjects' responses to each antecedent event to their total use of that same outcome (e.g., how does subjects' Compliance change after each of the antecedent events?). Thus, the conditional probability of outcome X following antecedent event Y was compared to the overall probability of outcome X following any of the antecedent events described in the current study. All subjects were used in these analyses in order to increase the reliability of the observations. Results are presented separately for each outcome.

48

Analyses involving <u>Comply</u> (Figures 4 and 5) revealed a significant effect for

<u>Antecedent Event</u>, $F(1, 13)=22.85$, $p<.001$. The Paired Sample t-tests showed that older and

younger children <u>Complied</u> more often immediately after <u>Mother Power</u> than they did in

total, $t(18)=6.19$, $p<.001$ and $t(18)=4.46$, $p<.001$ respectively. Similarly older and younger

children <u>Complied</u> less often immediately after <u>Sibling Power</u> than they did in total, $t(18)=-$

4.64, $p<.001$, and $t(18)=-2.44$, $p<.025$ respectively.

Analyses involving <u>Cry</u> (Figures 6 and 7) revealed significant effects for <u>Antecedent</u>

<u>Event</u>, $F(1, 13)=3.94$, $p<.007$, and <u>Actor</u>, $F(1, 13)=51.43$, $p<.001$ and a marginally significant

inte

children use more Power after Sibling Oppose and Sibling Power, $t(18)=3.91$, $p<.001$ and $t(18)=2.07$, $p<.053$ respectively. Older children used less Power after Mother Power and Mother Reason, $t(18)=-3.13$, $p<.006$, $t(18)=-4.65$, $p<.001$, respectively. The only one of these effects that was significant for the younger children was that they used Power more often after Sibling Oppose, $t(18)=2.46$, $p<.024$.

Finally, analyses involving Reasoning (Figures 12 and 13) revealed a significant effect for Antecedent Event, $F(1, 13)=5.80$, $p<.001$. The Paired Sample t-tests showed that older and younger children used Reasoning more often after Mother Reasoning, $t(18)=5.00$, $p<.001$ and $t(18)=2.20$, $p<.041$ respectively. Older and younger children also used Reasoning more often after Sibling Reasoning, $t(18)=2.88$, $p<.010$ and $t(18)=2.15$, $p<.046$ respectively. Finally, older children used Reasoning less often after Sibling Power, $t(18)=-4.02$, $p<.001$ while younger children's use of Reasoning also declined after Sibling Power, but only marginally so, $t(18)=-1.75$, $p<.097$.

Are There Idiosyncratic Patterns?

Idiographic patterns (i.e., individual patterns) are composed of two elements. One is the way all children react in a given condition (i.e., nomothetic patterns) and the other is the unique way the individual behaves (i.e., idiosyncratic patterns). To determine whether or not individuals display consistent *If-Then* responses during conflict that are unique or individualistic (i.e., that were not a result of a cohort pattern) I converted the proportionalized data to z-scores within each of the two data sets. Doing so, in essence, removes the nomothetic patterns (i.e. average) from the idiographic patterns (i.e., the individual), leaving what is unique in each subject's response pattern. I correlated each subject's z-scores for

50

Data Sets 1 and 2 for each outcome. For example, Figure 14 shows an older child whose use of Reasoning in Data Sets 1 and 2 is not sufficiently consistent to reach statistical significance, $r=.657$, $p<.114$ even though the correlation itself is fairly strong. In Figure 15, a younger child's use of Crying shows strong, consistent, idiosyncratic patterns, $r=.876$, $p<.026$. Finally, in Figure 16 we see a younger child who does not show idiosyncratic patterns in use of Power, $r=-.006$, $p<.496$. The stem and leaf charts provided in Tables 11-15 display the distribution of the correlations for each of the subjects within each outcome. In order to determine if subjects showed unique and consistent responses, I converted each subject's Pearson r to a Fisher's r' so that I could average across and analyze subjects' r values. Results of the t-tests are also provided in Tables 11-15. These analyses reveal that idiosyncratic *If-Then* patterns exist for this group of four-year-old children only when the outcome behavior is Cry, $t(18)=3.06$, $p<.004$. In contrast, this group of two-year-old children exhibited consistent idiosyncratic patterns (at the $p<.05$ level or less) for all of the outcomes except for Cry. The t-test when Cry was the outcome was marginally significant, $t(18)=1.41$, $p<.088$.

Idiosyncratic behavioral conflict patterns were much stronger and more prevalent among this group of 2-year-old children then they were among the 4-year-old children. In an attempt to understand the apparently greater consistency in idiosyncratic patterns for younger siblings, I examined the variances of the responses of the older and younger children. My hypothesis was that perhaps the older group of children behaved more like one another and therefore did not exhibit idiosyncratic patterns to the same extent as younger siblings. If this were true, the variances of the older children's behavior should be smaller than those of the younger children. When comparing older and younger children's responses I had the five

antecedent events in each of the following outcomes: <u>Comply</u>, <u>Cry</u>, <u>Ignore</u>, <u>Power</u> and <u>Reason</u>. Thus, I compared 25 variances for the responses of the older children with 25 for the younger children. These variances are presented in Table 16 (e.g., the variance for older children's use of <u>Power</u> after <u>Mother Reason to Older</u> was compared with the variance for younger children's use of <u>Power</u> after <u>Mother Reason to Younger</u>). In 24 of these comparisons, the variance for the responses of the younger children was larger than the variance for the responses of the older children. In the one case where the variance was larger for the older child, the difference in variances was small at .017. Using the Sign test, such a pattern of results is significant at $p<.001$. Thus, the variances in responses for this group of 4-year-old children were consistently smaller than for the group of 2-year-old children.

     <u>Developmental differences in idiosyncratic patterns.</u> I was interested in determining whether or not there were differences in the consistency of responses using the idiosyncratic approach for 2-year-old and 4-year-old children in this study. In order to address this question I conducted Paired Samples t-tests on the Fisher's r' for older and younger children that were based on the z-score data. This was done separately for each of the outcome measures and only for the 14 families for which data was available for both children. Marginally significant age differences were found for the children's <u>Crying</u>, $t(13)=1.98$, $p<.070$ only. The mean r values were .61 for the older children and .12 for the younger children. Independent Samples t-tests were also conducted on the entire subject pool. Use of these less conservative tests was justified by the lack of correlation between the r' values of older and younger siblings observed in the data. Results replicated the more conservative

findings from the Paired Samples t-test approach with Cry being marginally significant at

t(36)=-1.89, p<.067. In addition, a significant difference was found for Reasoning,

t(36)=2.30, p<.027, with mean r values of .10 for older children and .42 for younger children.

Discussion

Fights between two- and four-year old siblings occurred frequently in this sample. Parents became involved in approximately half of these conflict interactions, interactions to which the older and younger children contributed similar numbers of moves. The presence of consistent *If-Then* scripts was determined by correlating two sets of observations of each subject's reactions to their opponent's behavior during conflict.

Is Children's Conflict Behavior Characterized by *If-Then* Scripts?

I hypothesized that conflict is the kind of activity that lends itself to the formation of *If-Then* scripts. My thinking was based on the fact that conflict is a salient, emotional event that occurs often within the home (Perlman & Ross, 1997). The strong *If-Then* scripts found in the conflict behavior of the sample observed in this study suggests that conflict does indeed lend itself to the development of such scripts. The extent to which other activities may be guided by *If-Then* scripts remains to be seen.

Idiographic findings. One-Sample t-tests were used to compare subjects' response stability during conflict. Results from these analyses indicate that the conflict behavior observed in this study was strongly guided by idiographic *If-Then* scripts. This was true for all outcomes examined in this study (i.e., Comply, Cry, Ignore, Power and Reasoning) and for both older and younger children. Thus, for most individuals, behavior is clearly and strongly governed by consistent *If-Then* scripts. Idiographic patterns describe people's experiences in the real world. Idiosyncratic and nomothetic patterns are therefore less

54

important to individuals. Thus, for example, an individual child may be unaware of the fact that she is more or less aggressive in the face of another persons' opposition than are her peers. The existence of idiographic scripts means that siblings' conflict behavior follows consistent predictable patterns, and such patterns may provide the basis for predicting and interpreting the conflict behavior of other family members. The nomothetic and idiosyncratic approaches are of greater interest for psychologists who focus on issues such as the origins of patterned behavior, the influence of culture, etc. Several of these issues will be addressed in the sections that follow.

Nomothetic Findings. As a group, two- and four-year-old children showed strong, common *If-Then* scripts during conflict behavior. This was true for all of the outcomes examined with the exception of older children's Crying. The presence of consistent nomothetic patterns suggests that the scripts that children learn in their families can be applied more generally in close (intimate) social relationships. Thus, these *If-Then* scripts may define the structure of conflictual interactions outside of the sibling dyad. These patterns were not limited to a single family or even to a small group of families, but were generally experienced by others in similar situations in their interactions with family members.

Four-year-old children in this sample did not Cry systematically in response to Power or Reasoning moves by their mothers, nor to Opposition, Power or Reasoning by their siblings. It is worth noting that the correlation between the two sets of observation for the crying of older children was still fairly high at .450. However, because of the low degrees of freedom (df=4) associated with the analyses reported here, even this fairly high correlation

55

did not reach statistical significance. In addition, six of the older children did not Cry at all in response to any of the antecedent events. In a sense these children were highly consistent in their use of Crying in that they never Cried. However, since the correlations between Data Sets 1 and 2 could not be computed for these children (because there was no variance in the children's responses in the two data sets) they were excluded from these analyses. Unfortunately, based on fewer subjects, the reliability of this analysis is diminished.

Researchers have argued for the existence of shared, cultural scripts. As Nelson (1981) argues, part of the process of enculturation involves the internalization of scripts that allow people to interact more efficiently. Another explanation for similarity in the patterns individuals display may relate to their serving a biologically adaptive role. For example, for young children, Crying after being hit may be biologically driven.

Idiosyncratic findings. Significant idiosyncratic patterns were prevalent in the group of two-year-old children observed in this study. In contrast, the four-year-old children in this sample did not exhibit such patterns with the exception of their use of Crying. It is paradoxical that the younger children showed more idiosyncratic consistency than the older ones. This was because of greater concordance among the older children to nomothetic patterns. The absence of idiosyncratic consistency in the responses of older siblings does not mean that their interactions were inconsistent or unrelated to the context provided by the conflict actions of others. It does mean that the patterns present in their interactions were generally present among other cohort members as well.

It is interesting that consistent idiosyncratic patterns were found for the younger children for such a large proportion of the outcomes examined in this study. As noted above,

the current study also found consistency in the behavior of four-year-old children; however, such consistency existed for individuals and for groups. I expect that as they mature, younger siblings will become less variant in their responses and become more like their older brothers and sisters.

It is apparent that compared to younger children, older children's behavior is less idiosyncratic. The greater homogeneity of four-year-olds fits with our knowledge of socialization. Perhaps these four-year-old children act more similarly to one another than the two-year-old children do because they have internalized societal rules to a greater extent. Another possible explanation is that genetic factors may play a relatively greater role in determining behavior earlier in life. This may explain the greater variability in responses observed in the sample of two-year-old children. Later in life the role of the environment may increase resulting in greater similarity in the behaviors of children living in fairly similar environments.

Surprisingly, there is very little research that tracks developmental changes in the variability of behavioral responses. One study presented results that are contradictory to my findings in this domain. Bronson (1985) observed two-year-old and three-and-a-half-year-old children during a free play session with peers (although mothers were nearby). She found statistically significant developmental increases in the variances associated with children's: 1) movement away from their mothers and into the play room; 2) any form of social or exploratory activity; and 3) any form of active approach to peers. No comparable changes in variances were found in measures of behavior directed towards the mother. Bronson's findings may differ from mine because the peer social situation may have been novel for the younger children. This novelty may have restricted the range of their behaviors. The older

children in Bronson's study were likely to be more acquainted with such social situations. This difference in familiarity with the situation in which observations took place was likely absent from my study. As mentioned earlier, conflict occurs very frequently within the home and even very young children are likely to have had extensive exposure to such interaction.

It is possible that the idiosyncratic patterns that are acceptable in the behavior of a two-year-old are viewed as "eccentric" reactions in the behavior of a four-year-old. If idiosyncratic patterns are deemed inappropriate, they may have negative consequences at later developmental stages. In their less extreme forms, they may merely differentiate people from one another, and in that sense, idiosyncratic behavior may be what gives people "personality". Recall that the older children in this sample did display high consistency in their responses.

Although the issue of the development of personality is beyond the scope of this study, the methodology and results presented here have implications for research in that field. Personality researchers might consider personality from the idiographic, idiosyncratic and nomothetic perspectives. Mischel and Shoda's work clearly focuses on the idiosyncratic perspectives. However, personality researchers would do well to consider the possibility that a person has an idiographic personality style that is very similar to the nomothetic style exhibited by a comparison group. What are the implications of such a pattern for what we think of that person's personality? Does that person lack personality? Similarly, if I am of average height does that mean that I do not have a height? Further research in which the developmental trajectories of individuals whose behavior displays consistent idiosyncratic and idiographic patterns is needed to attempt to address these issues. And, such research

should be conducted with attention paid to nomothetic trends in the development of personality.

What did the nomothetic patterns look like? The presence of consistent, sequential patterns was revealed by the nomothetic analyses for all outcomes except older children's use of Crying. A highly consistent pattern did emerge for younger children's use of Crying. Generally they Cried more often in response to behaviors carried out by their mothers than by their siblings. However, they Cried more often after their siblings directed Power towards them and less often after their siblings Reasoned with them.

Older and younger children displayed similar patterns of Compliance. Both ages Complied most often (about one third of the time) after their mother used Power strategies against them. Both children also Complied less often after their siblings used Power strategies against them. Thus, the effect of Power depends upon the status of the individual using it. Specifically, use of Power strategies by a powerful opponent (i.e., mother) is effective in achieving Compliance while use of Power strategies by a less powerful opponent is not. Neither Reasoning nor Opposition elicits Compliance at either age.

As well, both older and younger siblings Ignored conflict moves of others in similar contexts. Both children tended to Ignore their mothers' Reasoning with them (27% of the time for older children and 38% for younger children). Both children also Ignored a fair amount of their siblings' Reasoning (approximately 25% of the time), although this is not significantly more than their total Ignoring. Ignoring and Complying are strategies that tend to occur later in conflict and may be the strategies most readily available to preschool aged children for bringing conflicts to an end (Perlman & Ross, 1997). Children appear to let go

of a conflict issue by <u>Ignoring</u> after their opponents have explained the reasons that support

their own positions. Younger children also <u>Ignored</u> more often after their sibling <u>Opposed</u>

them, making the older children's use of <u>Opposition</u> an effective conflict strategy. Older

children <u>Ignored</u> less after their younger siblings used <u>Power</u> against them, which indicates

that for younger siblings, their <u>Power</u> tactics will be responded to by their siblings.

These different responses to <u>Opposition</u> may reflect the power differential between

older and younger siblings. An *If-Then* script whereby one tends to <u>Ignore</u> an opponent's

<u>Opposition</u> may be adaptive for two-year-olds fighting with their older siblings. Responding

with other strategies (e.g., <u>Power</u>) may be ineffective for younger children who are dealing

with a more powerful adversary. Recall that the younger children do respond with <u>Power</u> to

sibling <u>Opposition</u>, however, they do so less often than older children. In contrast, four-year-

old children may benefit from reacting more aggressively to <u>Opposition</u> by their younger

siblings. Being older, they may overpower their younger siblings, making such a response

effective.

It seems that for mothers, using <u>Power</u> strategies tends to result in <u>Compliance</u> while

<u>Reasoning</u> tends to be <u>Ignored</u>. Thus, if the mother's goal is to achieve <u>Compliance</u> (rather

than negotiation), <u>Power</u>, not <u>Reasoning</u>, should be reinforced. The opposite is true for the

children, as their use of <u>Power</u> strategies tends not to occur just before sibling <u>Compliance</u>.

Both two- and four-year-old children use <u>Power</u> strategies more often after their

siblings <u>Oppose</u> them. Thus, simple <u>Oppositions</u> such as "stop" or "don't" seem to escalate

conflict. Older children also use <u>Power</u> more often after their siblings use <u>Power</u> with them.

<u>Power</u> thus appears to be the "answer" that younger siblings receive to their own use of

<u>Power</u>. On the other hand, younger children do not appear to return <u>Power</u> in response to

60

their older sibling's use of such strategies. The norm of reciprocity may break down when a stronger opponent uses force to achieve his or her goals. Moreover, younger siblings may also be intimidated by the likely possibility that their older brothers and sisters will meet their Power with a Power move of their own. Older children also used Power less often when their mothers either Opposed them or directed Power towards them. Thus, older children showed marked sensitivity to the identity of their opponents. Compared to younger children, they seemed to differentiate their use of Power on the basis of the actor who carried out the antecedent event. This might be because older children were dealing with a stronger (mother) and a weaker (sibling) opponent, whereas younger children faced two opponents who were stronger than themselves. Use of Power after Reasoning also tends to be lower than total use of Power for both cohorts of children although this is not at a statistically significant level.

The patterns observed for older and younger children's Reasoning both showed marked reciprocity. Both children Reasoned most often after their mother or sibling Reasoned with them. They Reasoned least often after their sibling used Power strategies with them. Such attacks do not readily provide occasions for explanation and justification. Eisenberg and Garvey (1981) found that compared to other strategies, Reasoning led to higher rates of concession and to fewer rigid demands. In the current study Reasoning did not lead to either. Rather, Reasoning elicited further negotiation and did not seem to be a technique that rapidly brought conflict to an end. In the short term, other strategies (e.g., Power for mothers) may be more efficient at terminating conflicts. This difference may be explained by differences in the study design of Eisenberg and Garvey, who observed children's interactions with same age friends and non-friends.

The similarity between older and younger children's *If-Then* scripts for Reasoning is striking. Also, it is very interesting that both mother and sibling elicit Reasoning and negotiation. It seems that even two-year-old children in this sample naturally behaved in accord with rules of reciprocity. Power and Reasoning are the only outcomes available in this study where reciprocity can be examined because they are the only outcomes for which parallel strategies are described in the antecedent events. Certainly for Reasoning, and to some extent for Power, reciprocity plays a role.

My finding that children reciprocate one another's behaviors is consistent with past findings. Vuchinich (1984) found that reciprocity guided the interactions of families with children that ranged in age from early adolescence to adulthood. Eisenberg and Garvey (1981) found reciprocity to be the guiding principle behind the interactions of children with their friends and with unknown children. They also found that the way a conflict begins has a strong bearing on how it will end. Phinney (1986) found reciprocal patterns in the interactions of young children with both siblings and peers. Phinney writes: "Each move in a dispute strongly influences the following moves. Most simple moves are followed by simple responses and most elaborate moves by elaborate responses. This result, which applies to both peer and sibling quarrels, suggests an inevitable quality about disputes; in general, they continue as they begin" (p. 58). And yet, progress in conflict is not so deterministic. For example, older children in this sample Reasoned 15% of the time after having a Power move directed at them by their sibling, which would then begin a pattern of reciprocal Reasoning. Reciprocity of Reasoning is a good thing in conflict, because positions are explained and children can come to understand issues from the other person's perspective. Reciprocity of Power seems to be maladaptive in that conflicts are prolonged through the use of

unsophisticated, aggressive tactics. One way that these children avoided cycles in which

Power moves are reciprocated between children was for younger children to refrain from

returning Power with Power. In fact, younger children "exited" the Power reciprocity by

Crying when their siblings use Power against them. This is another example of a transition

out of a negative conflict trajectory. Crying is neither sophisticated nor a particularly

positive end to a dispute, but it does interrupt the negative reciprocity when younger children

are being attacked by older ones. These few examples raise interesting questions regarding

the processes by which qualitative changes occur in the course of conflict. However, a fuller

examination of such issues would require a more exhaustive specification of antecedent

conditions than was appropriate in the current study.

These transitional points may determine the nature of family conflict (e.g. if it

escalates in a maladaptive way) and therefore warrant the attention of researchers. Phinney,

like Trzebinski (1985) and Baldwin (1992), views patterns as *If-Then* units. However, she

adds that together, these patterns determine the overall structure of conflict. In that sense her

opinion is reminiscent of that of Byng-Hall (1988) who argues that conflict behavior is

driven by smaller contingency units that combine to form overarching scripts. The current

study clearly shows that *If-Then* scripts exist. The finding that reciprocity may be a force

suggests that the structure of conflicts may go beyond two-step contingencies and that there

may be longer structured sequences within conflicts. Whether or not overarching patterns

exist, the potential relation between *If-Then* scripts and the more extensive structures within

conflict remains to be examined empirically.

Findings in the current study, coupled with the studies cited above, provide support

for the bi-directional nature of conflict interactions between preschool aged children.

Specifically, the behavior exhibited by each person is influenced by what his or her opponent has just done. To the extent that the *Then*'s (i.e., the responses) in this study could also serve as *If*'s (or antecedent events) for the moves that followed them (see Table 3), mutual influences on conflict interaction are documented. Results of this study clearly show that children influence one another and are influenced by their mother. As Hardway and Duncan (unpublished manuscript) argue, "influence flows bidirectionally between interactants through the rules of the common interaction structure within which their actions are constrained." (p. 27).

The status of the opponent seems to play a role in the behaviors exhibited by family members. For example, children directed more <u>Power</u> to their siblings than they did to their mothers. This is consistent with Hardway and Duncan's (unpublished manuscript) finding of systematic differences in a child's interaction structure with each of her parents. Vuchinich (1984) also observed the influence of status. As mentioned earlier, he found that children were less likely than parents to oppose parents. Children responded to siblings with more unmitigated opposition and less indirect opposition than did parents. Finally, children displayed more overt hostility and parents used more mitigated hostility. My results are similar in that children in my sample displayed more <u>Power</u> after their siblings, rather than mothers, used <u>Power</u> against them. They also <u>Complied</u> more after their mothers, and less after their siblings, used <u>Power</u> against them.

Subjects in this study varied their responses depending on their opponents' behavior. And, they differentiated their behavior in a highly consistent manner. Shoda, Mischel and Wright (1993) suggest that researchers must select antecedent events (or contexts) that are psychologically meaningful. I chose opponent's conflict behaviors (e.g., being <u>Reasoned</u> to

64

by mother, being Opposed by a sibling) as the antecedent events because I anticipated that

they would provide psychologically meaningful contexts for behavior. Results of this study

confirm my hypothesis as subjects did respond differently to the different contexts (i.e., they

were sensitive to the "context" or antecedent events in which they found themselves). The

idea that opponents' behaviors provide a context for one's own behaviors during conflict is

not a new one (Cairns, 1979), however it warrants further investigation. The outcomes

selected for this study also turned out to be appropriate for this investigation. It is interesting

to note that some subject's behaviors were guided by *If-Then* scripts for some outcomes but

not for others. Thus, the choice of outcome measures is also critical in looking for *If-Then*

scripts. In summary, it is clear that for the most part, children's behavior, at least for the

outcomes examined in this study, is strongly guided by *If-Then* scripts.

The Advantages of the Idiographic, Nomothetic and Idiosyncratic Approaches

Findings from this study exemplify the benefits of examining phenomena from the

perspective of the individual, the group and what differentiates the individual from the group.

Had I examined sequential patterns using only the idiographic approach, I would not know if

the *If-Then* scripts I observed were similar across my group of subjects. Adding the

nomothetic analyses showed me that there were consistent group patterns, and this allowed

me to discuss actual group patterns. Having the normative information available from these

sorts of analyses can have important implications. For example, a parent may become

concerned over a daughter's aggression in response to sibling opposition. Knowing that the

child's behavior is age appropriate may alleviate concern surrounding this issue. But, a

nomothetic analysis in which scores are averaged across individuals runs the risk of not

representing any actual subjects. Figure 17 exemplifies one subject whose idiographic pattern differs from the average pattern of her cohort. By incorporating an idiographic approach, I realized that the nomothetic pattern does not describe this subject. Further, only by supplementing the idiographic and nomothetic approaches with the idiosyncratic, did I learn that the behaviors of the two-year-olds I observed were highly consistent but also unique, while my group of four-year-olds was highly consistent but tended not to differ from one another.

It is possible to plot idiosyncratic patterns, but interpretation of such plots is difficult because the data displayed represents deviation from the norm. Information regarding the actual degree of deviation from those norms and the norms themselves across antecedent events are lacking. Thus, interpreting an idiosyncratic plot is far more informative if it takes place in the context of the relevant idiographic and nomothetic plots. For example, Figure 18 depicts the idiosyncratic Crying pattern for a two-year-old girl. We see that she Cries less than the norm for her cohort after her older sibling uses Power against her, and more than the norm after her sibling Reasons with her. It is only by turning to the subject's idiographic data (Figure 17, solid line) that we learn that her use of Crying following Power and Reasoning by her sibling is almost identical. Only by also examining the nomothetic data (Figure 17, dotted line) do we learn that on "average", two-year-old children Cry more after their siblings use Power against them than they do after their siblings Reason with them.

Analyses at each of the idiographic, nomothetic and idiosyncratic approaches are valuable and informative. For the goals of some research, any one of these approaches may be appropriate. However, if the goal is to gain a full understanding of a phenomenon, as in this study, all three approaches are necessary.

66

Despite the limitations caused by the large data requirements of Shoda's approach, the application of his methodology to the study of behavioral patterns proved very fruitful in this case. It allowed me to reveal the *If-Then* scripts that are clearly present in children's behaviors. However, I extended Shoda, Mischel and Wright's methodology in that I examined the idiographic and nomothetic elements while they focused exclusively on the idiosyncratic. One implication of this approach is that I was able to differentiate between the absence of consistent patterns and the presence of consistent patterns that were shared by others. I was also able to determine whether idiosyncratic patterns modify more general shared patterns, or whether idiosyncratic differences are the only behavioral patterns that exist.

Using all three approaches revealed interesting information regarding what Shoda, Mischel and Wright (1993; 1994) term "psychologically meaningful contexts". These researchers claim that the success of a context (or antecedent event) in predicting idiosyncratic behavior lies in it being psychologically meaningful to participants during interaction. Analysis of the data using all three approaches revealed that for four-year-old children, there are consistent idiographic and nomothetic patterns, but not idiosyncratic patterns. The absence of idiosyncratic patterns was the result of children behaving in similar ways in response to different antecedent events, not of my having selected antecedent events that failed to meet the criterion of being "psychologically meaningful". The absence of idiosyncratic consistency does not imply that situations are not meaningful. Rather, these contexts may have been so compelling that they elicited similar patterned behavior from most of the subjects who participated in the research. Had I looked only for idiosyncratic patterns in the group of four-year-olds in my sample, I might have concluded that the behavior used

by opponents during conflict does not provide a "psychologically meaningful context" for discovering *If-Then* scripts. Using all three approaches revealed that these antecedent events were indeed meaningful. So meaningful, in fact, that four-year-old children were strongly and similarly influenced by them.

It is important to maintain the distinctions between the conclusions that can be generated on the basis of each of these three approaches. For example, Shoda, Mischel and Wright (1994) state that they "pursued an idiographic strategy. Specifically, we focused on intraindividual organization of behavior in terms of the specific patterns in which that behavior varied across interpersonal situations, examining the stability of this pattern over time within each individual." (p. 676). However, they then describe an individual's *If-Then* pattern based on their "pattern of standardized deviations from the normative pattern in terms of standard scores computed in each situation" (p. 678). Finally, they argue that such "idiographic assessment allows researchers to identify a set of 'activating psychological features' for different behaviors." They provide the following examples: "for Child 17…the activating feature for aggressive behavior is being punished by an adult. For Child 28…peer positive contact constitutes the single most prominent activating psychological feature for this behavior." (p. 685). However, because the data that is referred to is based on standardized scores, the research is actually idiosyncratic, rather than idiographic. Thus, the only conclusion that can be drawn from it refers to the extent to which an individual child differs from the norm, not the extent to which a particular antecedent event activates a given behavior. The examples cited above may be misleading. For example, Child 28 may in fact react more aggressively to peer positive contact than do others in the normative sample, but such a response may actually be very rare for Child 28. This child may in fact act

aggressively far more often in response to other antecedent events. In order to describe the conditions that activate specific responses in their subjects, Shoda et al. (1994) would have to study subjects in a truly idiographic way. In a sense these researchers treat the nomothetic patterns as if they were a nuisance. After removing them, however, they proceed to discuss the patterns they observed as if they still incorporated this nomothetic information. Shoda, Mischel and Wright developed an innovative approach to the examination of individual differences. But their failure to account for the characteristics of their comparison group when interpreting their results highlights potential advantages of studying a phenomenon from the nomothetic, idiographic and idiosyncratic approaches. Consideration of the three approaches is not just a matter of analytic preference; important biases may result from researchers' decisions to focus on one approach and to exclude consideration of another.

Limitations of the Current Study and Directions of Future Research

Even though this study was conducted on the basis of a large data set consisting of nine hours of in-home observations per family, a number of limitations stem from the very large data demands of Shoda, Mischel and Wright's approach. One such issue is that the subjects that met the inclusion criteria for this study tended to come from families that had higher rates of longer conflicts. The conflict patterns of families who experience more conflict may differ from those of families who experience conflict less frequently.

Children's tendencies to escalate conflict from Opposition to the use of Power tactics, or the fact that mothers' use of Power was the most potent elicitor of Compliance could be limited to families having more conflict. A further limitation is that the norms were based on these more conflicted families, and thus the idiosyncratic patterns represent deviations in

69

behavior from the norms of this group, and not from those of a more representative group of families. The entire idiosyncratic procedure depends on the reference group to which the data of individuals is contrasted. It is possible that the "nomothetic patterns" in this subgroup might emerge as idiosyncratic consistencies with the inclusion of less conflicted families. It is noteworthy that the sample used by Shoda et al. (1993; 1994) is made up of children identified as having behavioral problems. The implications of differences in the comparison group used to evaluate an individual are thus unclear. However, researchers clearly should remain aware of the characteristics of the group they are using (e.g., in my case, a group of more conflicted families).

In an attempt to address this issue informally, nomothetic analyses were conducted for the 21 subjects in each cohort who were ineligible for the current study owing to their insufficient conflict involvement. However, since nomothetic analyses combine across subjects it was possible to conduct those analyses for the excluded sample as well. In four of these 10 analyses (when Older Comply, Older Power, Older Reason and Younger Reason were the outcomes), consistent nomothetic effects were found. Recall that these analyses were based on considerably fewer observations because the subjects excluded from this study experienced fewer, shorter conflicts. Thus, the reliability of these observations is diminished. Informal comparisons of the actual patterns exhibited by both groups suggested that their specific patterns were similar. Given the frequency of conflict in the homes of all families observed, and the extensive data requirements of the chosen analytic approach, I speculate that the *If-Then* scripts that guide behavior are also likely to be found in less conflicted families.

Another problem was that insufficient data were available to include parents in this study. Thus, I was unable to address the question of whether such patterns guide the behavior of adults. Also, I was not able to compare the *If-Then* scripts used by children to those that might be used by parents.

In addition, I was unable to distinguish antecedent events that occurred early on in fights from ones that occurred at later stages of a conflict. Hardway and Duncan (unpublished manuscript) argue that "It is not only that the participants are influencing each other through the medium of the structure, but also that the influence of a participant's action may vary, depending on where in the stream of interaction the action occurs...the effect of an action may not be entirely constant, but may vary according to the immediate context of its occurrence." (p. 21). If conflict scripts do change depending on when they occur during conflict, then breaking the conflicts up into time units may reveal even greater consistency within each time unit. Thus, the *If-Then* scripts I found to guide children's behavior may be even stronger than they appear in the current study. The issue of whether different *If-Then* scripts operate differently at different stages of conflict needs to be addressed empirically.

The current study also did not account for the potential influence of the content or topic on the sequential nature of conflict. There is some evidence that topic may play a role in how conflicts unfold. For example, Phinney (1986) found that "the topic of the dispute influenced its structure, with possession and name-calling disputes being less often resolved by discussion than disputes over facts." (p. 47). Zahn-Waxler and Chapman (1982) had mothers report conflicts with their children move by move. This allowed the researchers to conduct sequential analyses that related the type of misbehavior exhibited by the child with the subsequent discipline strategy adopted by the mother. They found that the type of

71

discipline used by mothers varied depending on the type of misbehavior exhibited by their children. These sequences continued as mothers' discipline strategies later influenced the type of non-compliance children continued to exhibit. For example, physical punishment and love withdrawal were found to be high when misbehaviors involved the destruction of property or lapses of self control. Use of these discipline techniques was lower when the misbehavior involved harm toward persons. The topic of a conflict may influence the sequential structure which evolved in the current data set as well. Future research in this area should clearly attempt to account for the role of topic in influencing the sequential nature of behavioral conflict patterns.

An additional limitation of this study pertains to the generalizability of the sample used. Subjects in this study came from two parent, middle class, Caucasian families. The older cohort was made up of first born children while the younger cohort was made up of second born children. All families lived in a conservative, urban community. In addition, the gender distribution for the larger sample of subjects from which subjects in this study were drawn was balanced. However, the gender of the younger children who met the inclusion criteria was not balanced. Thirteen two-year-old children were male while only six were female. The narrow characteristics of this sample clearly limits the generalizability of the results of this study. Future research with a more diverse, larger sample is clearly warranted.

Areas for future research include a comparison of the *If-Then* scripts used by different family members. In this study I standardized using cohort as a comparison group. It is also possible to compare individuals to their own family members. Analyses that include Actor (i.e., older vs. younger siblings) and Actor X Antecedent Events provide some

72

evidence of the generality of scripts between older and younger siblings. Broadly speaking, two- and four-year-old siblings used similar scripts. A comparison of the *If-Then* scripts that guide people's behavior with siblings vs. with parents vs. with peers may also provide interesting insights relating to the generalizability of such scripts. Finally, another intriguing avenue for research has to do with identifying subgroups of individuals who show similar *If-Then* scripts. Such an approach is similar to that taken by Gottman (1979) and facilitates the evaluation of long term outcomes associated with different patterns of behavior.

Given that it appears that children's behaviors are guided by *If-Then* scripts, the question of interest becomes: How do these scripts influence the lives of the people whose behavior they guide? A return to the script metaphor is illuminating in this regard.

The Functions of Scripts: Adaptive vs. Maladaptive

Scripts have been described as serving both adaptive and maladaptive functions in terms of both their cognitive and behavioral manifestations. As discussed earlier, Nelson (1981) argues that scripts function as efficient organizers of information that allow people to attend to novel stimuli and process information more quickly. Byng-Hall (1985) argues that scripts may increase the efficiency and stability with which the family functions. Scripts do this by reducing the negotiation required for cooperative family activities and by allowing family members to attend to novel behaviors by their interaction partners. This promotes stability within the family because members can react to "unscripted" behavior in a way that realigns individuals with the family script.

The early development of strong *If-Then* scripts suggests that they may play an important role in people's interactions with their surroundings. Examination of the

73

nomothetic patterns revealed processes of reciprocity and of escalation of conflicts.

Reciprocity may be an adaptive process depending on the strategies that are reciprocated.

For example, reciprocating Reasoning may be constructive while reciprocating Power

continues the conflict in an intense, aversive manner. Escalation of conflict (e.g., younger

children responding to Sibling Opposition with Power, or not Complying to Reasoning)

clearly does not serve adaptive goals. Regardless of the adaptiveness of the actual patterns

displayed, the mere existence of *If-Then* scripts is likely to be adaptive. It allows people to

evaluate their opponent's responses to their own behaviors before they even act. Thus, even

young children can predict and prepare for their opponent's behavior during conflict

(although this may be done subconsciously). For example, younger siblings in this sample

may know that if they use a Power strategy against their sibling, the sibling will respond with

a Power move; older siblings may know that their younger brothers or sisters are likely to

Cry in the face of their Power. Moreover, the greater specificity of idiographic patterns

provides direct information to the children about the scripts displayed by their own particular

siblings. Thus, the predictability in each child's experience is very often greater than that

supplied by the nomothetic patterns present for each cohort group.

Scripts can be functional or dysfunctional depending on the belief systems that

underlie them. For example, a parenting script based on the notion that children need to be

disciplined using severe physical punishment may be dysfunctional. Byng-Hall (1985)

argues that dysfunctional scripts can be disrupted and interactional patterns can be changed if

they are identified during therapy and linked to their transgenerational origins.

Extrapolation from work done on attachment theory seems relevant to the issue of the

function of scripts. There are strong similarities between the concept of internal working

models and scripts. Both develop as a result of repeated interactions with others; both likely form cognitive structures; both help individuals interpret their environments; and both determine appropriate courses of action. In fact, Bretherton (1985) argues that "event schemas developed in interaction with specific persons are also the raw material from which young children construct internal (affective/cognitive) working models of the self and of significant others including attachment figures" (p. 32).

There is evidence for the transgenerational transmission of conflict behavior (Steinmetz, 1977), and aggression in particular (Huessmann, 1988). However, studies in this area typically focus on individual differences. This may be because the correlational techniques used in these areas often rely on individual differences. The technique used in the current study allows for an examination of similarity in nomothetic patterns for mother's and children's behaviors.

Bowlby (1969) argued that children develop inner working models of themselves and their relationships on the basis of experience with a significant other. Although Bowlby was not describing script development per se, he did believe these models to be useful in appraising and guiding behavior in new situations (Bowlby, 1969). Once in place, internal working models of attachment are thought to operate subconsciously (Bretherton, 1985). Continuity in relationships is expected so long as others behave in ways that allow the individual to apply their internal working model in novel situations (for examples see, Ricks 1982; 1983; George & Main, 1979; Hazan & Shaver, 1987; Simpson, Rholes & Nelligan, 1992)

Bretherton goes on to state that people are likely to recreate the conditions leading to the development of their own internal working models unless they "actively and deliberately"

resist identifying with their parents. This is reminiscent of Byng-Hall's (1985) notion of the disruption of dysfunctional family scripts. From an early age, children's experiences are structured by *If-Then* conflict scripts. It is likely that they develop expectations regarding their opponents' behavior during conflict. To the extent that they later seek to have such expectations met, people may seek (or perhaps train) interaction partners that enable them to maintain their *If-Then* scripts. The analysis of script development and use may help us to conceptualize some of the findings on the transgenerational transmission of interpersonal interaction styles.

Although Patterson does not describe the coercive cycles he identified in families with antisocial sons using script terminology, he does write that: "antisocial child behavior and perhaps most forms of child psychopathology, are the outcomes of social processes. These processes have several important characteristics: (a) they unfold over time, (b) each child moves through a sequence of recognizable steps, and (c) the movement is from relatively trivial to more severe forms of pathology. For children, these processes have their beginnings in the daily social exchanges with family members, and in effect, these social exchanges are the key mechanisms driving many forms of child pathology" (Patterson & Bank, 1989, p. 167). These ideas are clearly reminiscent of scripts.

The social processes Patterson described were observed in the current study. Conflicts unfolded over time and they moved through a sequence of predictable *If-Then* steps. I cannot evaluate the long term effects of the presence of *If-Then* scripts in general, or the longitudinal outcomes associated with the specific scripts described in this study. However, it is clear that these patterns can serve both adaptive and maladaptive functions. For example, conflict escalation and reciprocation of power moves that result in longer, more

76

aggressive conflicts is maladaptive. In contrast, scripts can be adaptive if they facilitate reciprocity, allowing children to predict and prepare for their opponent's responses to their own behavior. Thus, it seems that scripts can play an adaptive role in facilitating the processing of information, learning and behavior.

In conclusion, the results of this study provide strong evidence for consistency in people's responses to their opponents behavior during conflict. In addition, I have illustrated the value of information that is gained by examining behavioral patterns using the idiographic, nomothetic and idiosyncratic approaches. Finally, turning to theorizing on scripts provides an important context for understanding the findings reported here. Specifically, utilizing research and theorizing on the script construct may guide both interventions and future research in the area of the development of conflict management skills.

Tables

Table 1

Example of a Transcribed Conflict

Actions	Actor	Move	Actions, Comments & Dialogue
1	Younger	1	Takes a toy witch from older
2	Older	2	Takes the witch back
3	Older	2	"Don't, that's mine."
4	Younger	3	Touches the witch
5	Older	4	"That's my witch."
6	Younger	5	Reaches over and slaps older
7	Younger	5	Makes a very loud sound
8	Older	6	Older does not respond

-

Table 2

Coding of Conflict Actions with Reliability Estimates

Strategy	Description	% Agreement
Ignore	Response does not address the conflict issue. Includes withdrawing, ignoring and radically changing the subject.	86
Power	Includes both verbal and physical aggression ranging from low (e.g. teasing, grabbing and pushing) to high (e.g., insulting and hitting)	90
Cry	Crying or fussing.	100
Oppose	Refusal or resistance that is not accompanied by reasoning (e.g. "Don't") and is done in response to the actions of others.	80
Comply	Yielding or submitting to the opponent's position. Can be verbal or physical (e.g.-letting go of an object of dispute).	100
Reasoning	Justifications for one's own positions (e.g. "I want it") or arguments that take the opponent's perspective into account (e.g. "you don't like it when he does that to you").	81

Table 3

Example of a Conflict with Codes for Antecedent Events – Behaviors that can Serve as Both

If's and *Then*'s are Noted

Actions	Actor	Move	Actions, Comments & Dialogue	Antecedent Events (*If*'s)	Responses (*Then*'s)
1	Younger	1	Takes a toy witch from older	Sibling Power	n/a
2	Older	2	Takes the witch back	Sibling Power	Sibling Power
3	Older	2	"Don't, that's mine."	Sibling Reason	Sibling Reason
4	Younger	3	Touches the witch	Sibling Power	Sibling Power
5	Older	4	"That's my witch."	Sibling Reason	Sibling Reason
6	Younger	5	Reaches over and slaps older	Sibling Power	Sibling Power
7	Younger	5	Makes a very loud sound	Sibling Power	n/a
8	Older	6	Older does not respond	n/a	n/a

-

Table 4

The Average Occurrence of Each Context

Antecedent Event	Mean	Antecedent Event	Mean
Mother Power to Younger	8.74 (3.56)	Mother Power to Older	10.84 (3.67)
Mother Reasons to Younger	16.37 (9.14)	Mother Reasons to Older	17.58 (8.61)
Older Opposes Younger	19.21 (8.90)	Younger Opposes Older	23.63 (10.66)
Older Power to Younger	79.16 (21.17)	Younger Power to Older	55.11 (22.29)
Older Reasons to younger	15.47 (8.44)	Younger Reasons to Older	13.05 (6.88)

Note: Standard deviations are presented in parentheses.

Table 5

Proportion of the Time Subject #1 *Cries* in Response to Each of the Antecedent Events for

Data Set 1 and Data Set 2

Antecedent Event	Data Set 1	Data Set 2
	Proportions	Proportions
Mother Power to Older	.333	.400
Mother Reason to Older	.083	.000
Younger Oppose Older	.125	.125
Younger Power Older	.115	.000
Younger Reason Older	.067	.000

Note: The correlation between Data Sets 1 and 2 is r=.973, p<.003.

-

<u>Idiographic Stem-and-Leaf Plots of Pearson *r* Values Using Proportionalized Data</u>

Table 6

<u>Idiographic Consistency in Use of *Comply*</u>

Older t(17)=2.32* p<.017			Younger t(18)=2.86* p<.005		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
1	-0	.7	1	-0	.5
6	-0	.023334	4	-0	.0234
2	0	.12	6	0	.001244
9	0	.668888899	8	0	.56777888

* Note: The One Sample t-tests use Fisher's r' values to determine if subjects show consistent response patterns.

Table 7

<u>Idiographic Consistency in Use of *Cry*</u>

Older t(8)=2.71* p<.001			Younger t(18)=2.91* p<.001		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
1	-0	.5	1	-0	.5
2	-0	.04	6	-0	.000024
1	0	.2	4	0	.0144
5	0	.89999	8	0	.55677899

* Note: The One Sample t-tests use Fisher's r' values to determine if subjects show consistent response patterns.

<u>Table 8</u>

<u>Idiographic Consistency in Use of *Ignore*</u>

Older t(18)=.64* p<.533			Younger t(18)=2.94* p<.001		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
3	-0	.669	5	-0	.12244
6	-0	.012334	6	0	.012444
4	0	.0004	8	0	.55666789
6	0	.566799			

* Note: The One Sample t-tests use Fisher's r' values to determine if subjects show consistent response patterns.

Table 9

Idiographic Consistency in Use of *Power*

Older t(18)=1.91[*] p<.024			Younger t(18)=2.47[*] p<.001		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
2	-0	.56	1	-0	.8
4	-0	.0124	4	-0	.1133
7	0	.0012334	7	0	.0004
6	0	.555999	7	0	.566799

* Note: The One Sample t-tests use Fisher's r' values to determine if subjects show consistent response patterns.

Table 10

Idiographic Consistency in Use of *Reasoning*

Older t(18)=2.67[*] p<.008			Younger t(17)=2.59[*] p<.010		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
1	-0	.5	1	-0	.5
4	-0	.0012	6	-0	.012344
7	0	.0002334	3	0	.024
6	0	.555688	8	0	.78888999

* Note: The One Sample t-tests use Fisher's r' values to determine if subjects show consistent response patterns.

Idiosyncratic Stem-and-Leaf Plots of Pearson *r* Values Using Standardized Data

Table 11

Idiosyncratic Consistency in Use of *Comply*

Older t(18)=.25* p<.401			Younger t(18)=2.81* p<.006		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
3	-0	.578	3	-0	.344
8	-0	.11233344	13	0	.00022233334444
4	0	.0134	3	0	.677
4	0	.5699			

* Note: The One Sample t-tests use Fisher's r′ values to determine if subjects show consistent response patterns.

Table 12

Idiosyncratic Consistency in Use of *Cry*

Older t(18)=3.06* p<.004			Younger t(18)=1.41* p<.088		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
2	-0	.59	4	-0	.5666
2	-0	.14	3	-0	.002
3	0	.112	7	0	.2234444
12	0	.677777779999	5	0	.55578

* Note: The One Sample t-tests use Fisher's r′ values to determine if subjects show consistent response patterns.

Table 13

Idiosyncratic Consistency in Use of *Ignore*

Older t(18)=.31* p<.380			Younger t(18)=1.70* p<.053		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
5	-0	.67888	1	-0	.9
5	-0	.01224	5	-0	.00124
2	0	.24	7	0	.1112334
7	0	.5566789	6	0	.556689

* Note: The One Sample t-tests use Fisher's r′ values to determine if subjects show consistent response patterns.

Table 14

Idiosyncratic Consistency in Use of *Power*

Older t(18)=.88* p<.196			Younger t(18)=2.11* p<.025		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
3	-0	.778	2	-0	.78
6	-0	.011234	5	-0	.01123
6	0	.113333	5	0	.12344
4	0	.6799	7	0	.6788889

* Note: The One Sample t-tests use Fisher's r' values to determine if subjects show consistent response patterns.

Table 15

Idiosyncratic Consistency in Use of *Reasoning*

Older t(18)=-.40* p<.347			Younger t(18)=2.66* p<.008		
Frequency	Stem	Leaf	Frequency	Stem	Leaf
4	-0	.5688	1	-0	.9
5	-0	.01133	3	-0	.144
7	0	.111444	5	0	.01123
3	0	.556	10	0	.5666788889

* Note: The One Sample t-tests use Fisher's r' values to determine if subjects show consistent response patterns.

Table 16

Variances for Older and Younger Children's Responses to the Five Antecedent Events

Antecedent Event	Target	Comply	Cry	Ignore	Power	Reason
Sibling Oppose	Older	.0097	.0002	.0180	.0149	.0120
	Younger	.0135	.0506	.0716	.1280	.0407
Sibling Power	Older	.0009	.0018	.0039	.0074	.0030
	Younger	.0025	.0124	.0141	.0227	.0037
Sibling Reason	Older	.0053	.0009	.0274	.0421	.0141
	Younger	.0269	.0098	.0570	.0250	.0916
Mother Power	Older	.0220	.0051	.0367	.0295	.0125
	Younger	.0327	.0714	.0599	.1350	.0304
Mother Reason	Older	.0060	.0030	.0271	.0164	.0279
	Younger	.0135	.0178	.1530	.0447	.5620

Figures

Figure 1

Idiographic Pattern for Subject #12 when *Older Reasoning* is the Outcome
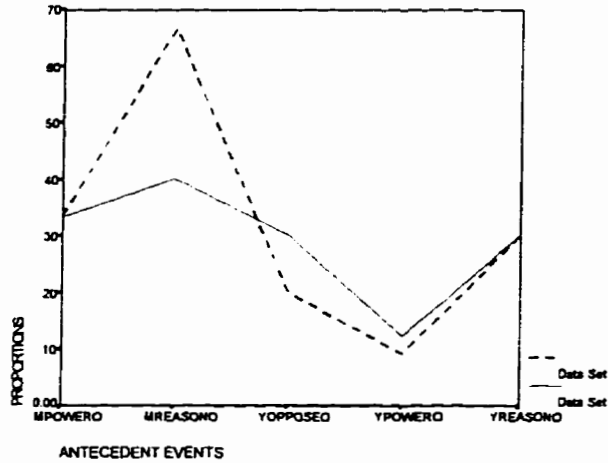
Response stability: r=.849 p<.034

Figure 2

Idiographic Pattern for Subject #4 when *Younger Cry* is the Outcome
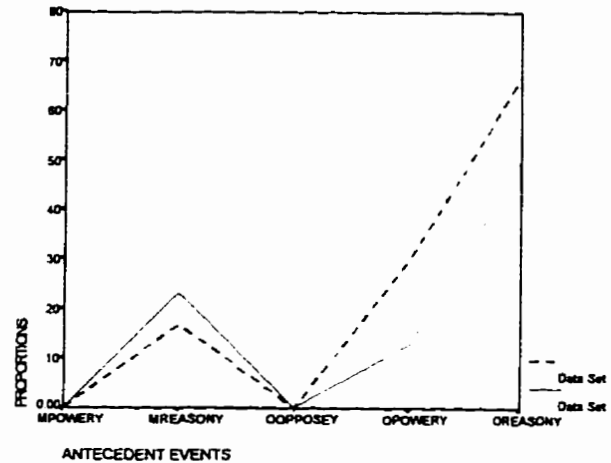
Response stability: r=.941 p<.009

Figure 3

Idiographic Pattern for Subject #23 when *Younger Power* is the Outcome
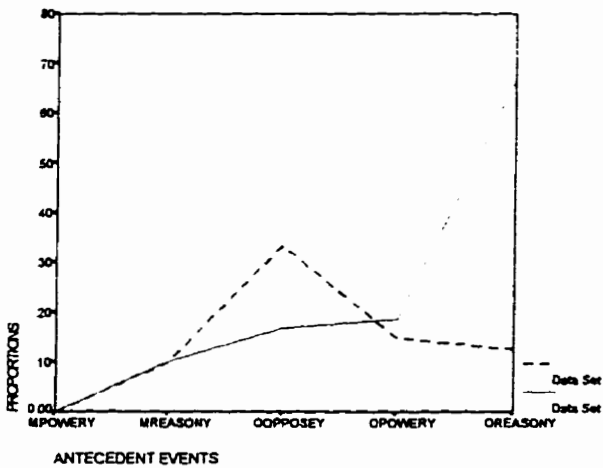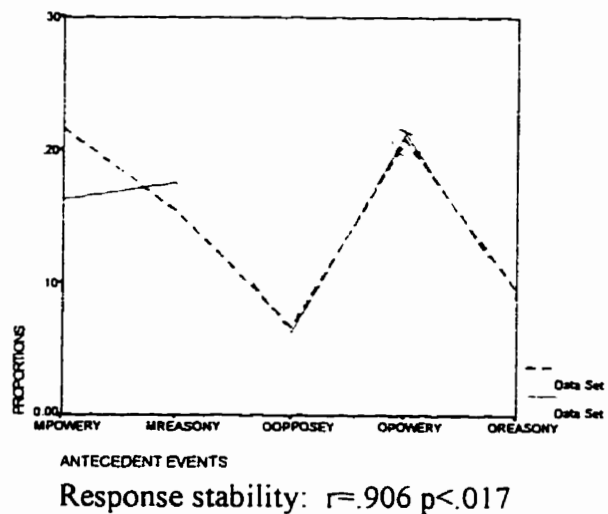

Response stability: r=.146 p<.407

Figure 4

Nomothetic Analysis: Correlations for Data
Sets 1 & 2 for *Older Comply*

Response stability: r=.978 p<.002
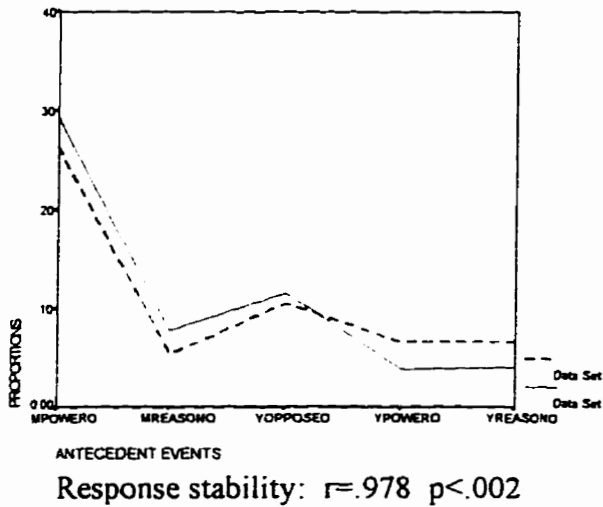
Figure 5

Nomothetic Analysis: Correlations for Data
Sets 1 & 2 for *Younger Comply*

Response stability: r=.975 p<.002
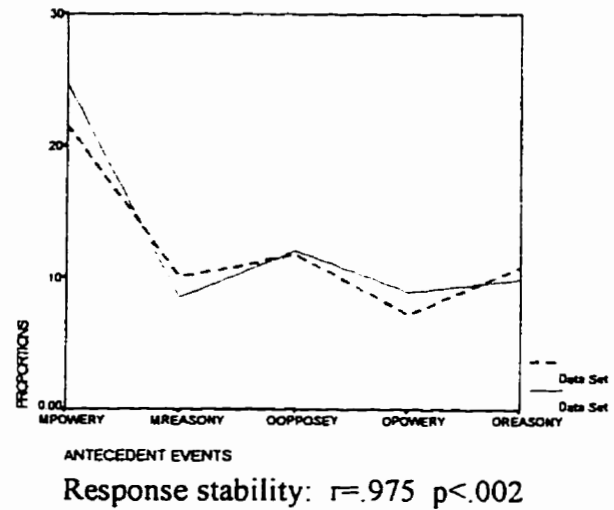
Figure 6

Nomothetic Analysis: Correlations for Data
Sets 1 & 2 for *Older Cry*

Response stability: r=.450 p<.224
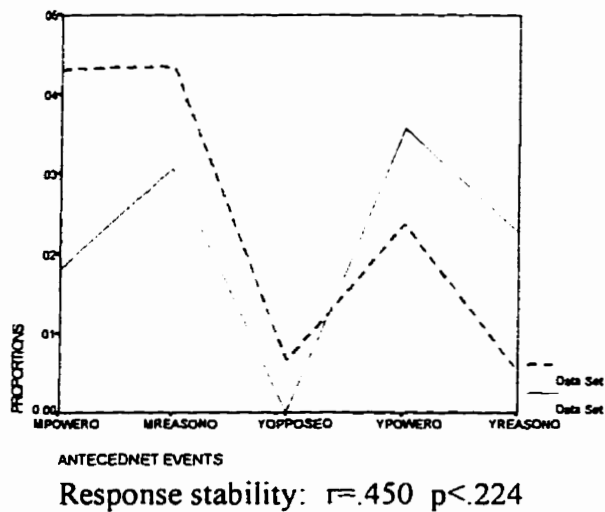
Figure 7

Nomothetic Analysis: Correlations for Data
Sets 1 & 2 for *Younger Cry*

Response stability: r=.906 p<.017

89

Figure 8

Nomothetic Analysis: Correlations for Data
Sets 1 & 2 for *Older Ignore*
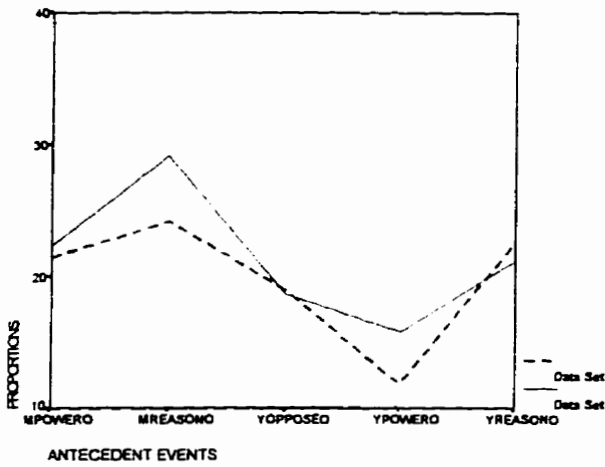
Response stability: r=.848 p<.035

Figure 9

Nomothetic Analysis: Correlations for Data
Sets 1 & 2 for *Younger Ignore*
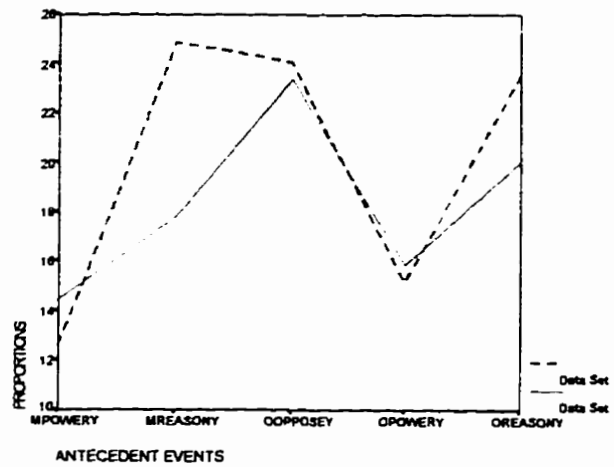
Response stability: r=.798 p<.053

Figure 10

Nomothetic Analysis: Correlations for Data
Sets 1 & 2 for *Older Power*
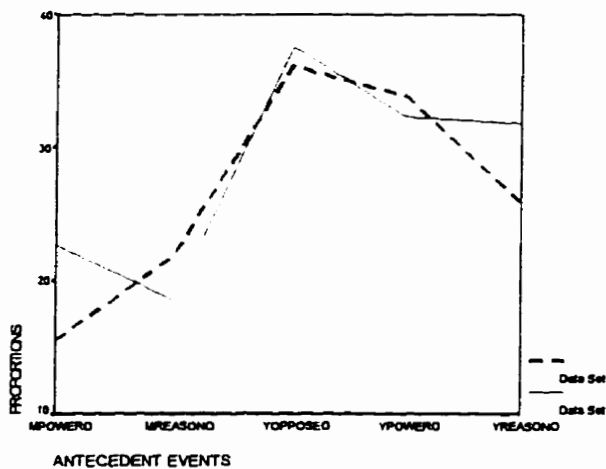
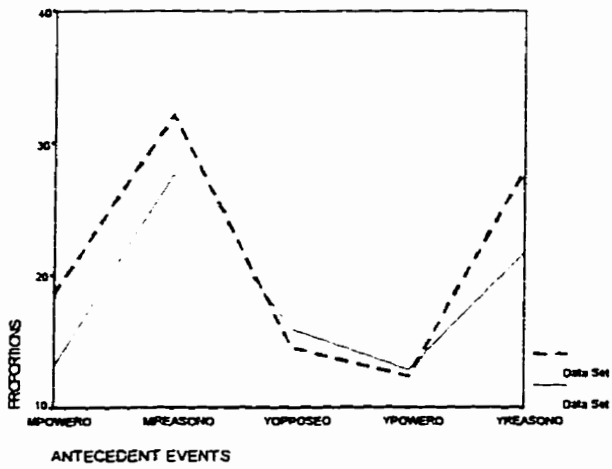Response stability: r=.843 p<.036

Figure 11

Nomothetic Analysis: Correlations for Data
Sets 1 & 2 for *Younger Power*
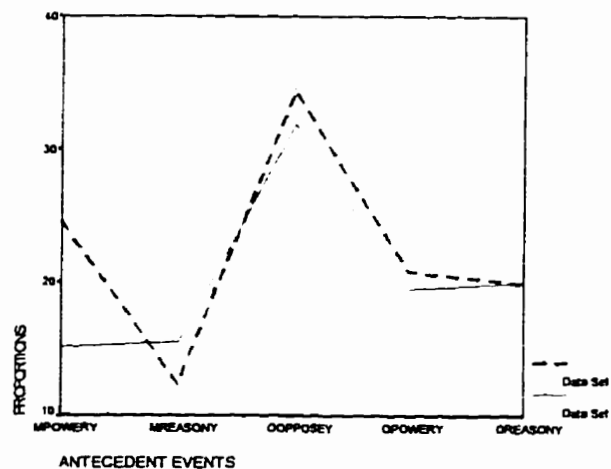
Response stability: r=.813 p<.047

Figure 12

Nomothetic Analysis: Correlations for Data Sets 1 & 2 for *Older Reason*

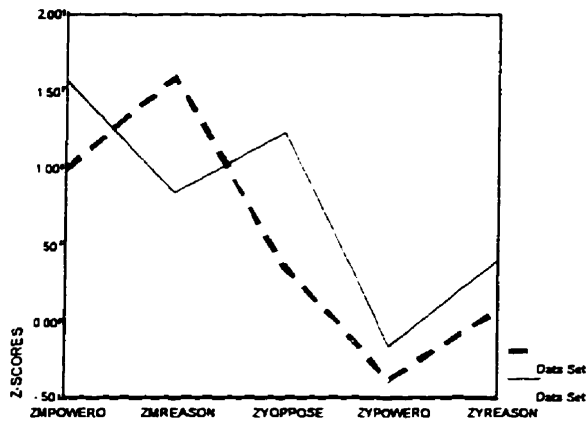Response stability: r=.933 p<.010

Figure 13

Nomothetic Analysis: Correlations for Data Sets 1 & 2 for *Younger Reason*
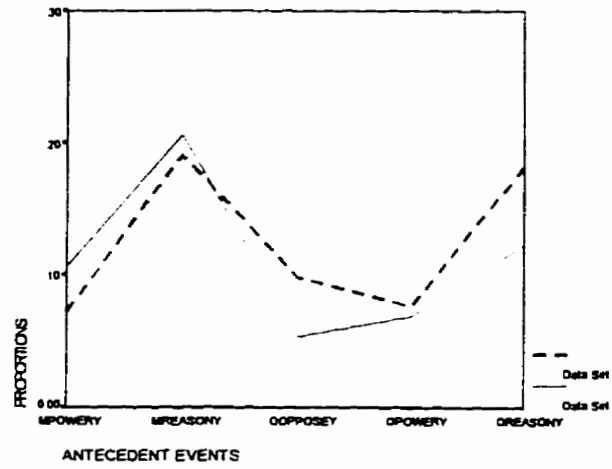
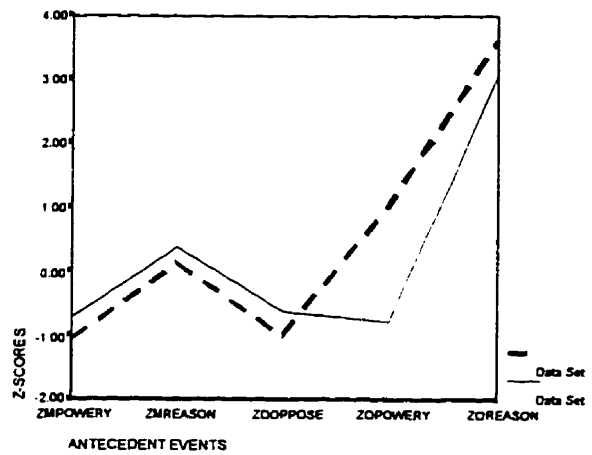Response stability: r=.779 p<.060

Figure 14

Idiosyncratic Pattern for Subject #12 when *Older Reasoning* is the Outcome
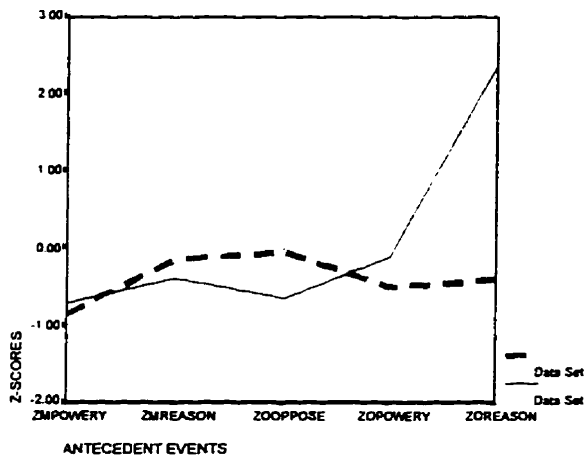

Response stability: r=.657 p<.114

Figure 15

Idiosyncratic Pattern for Subject #4 when *Younger Cry* is the Outcome

Response stability: r=.876 p<.026

Figure 16

Idiosyncratic Pattern for Subject #23 when *Younger Power* is the Outcome

Response stability: r=-.006 p<.496

92

Figure 17

A Comparison of the Idiographic *Crying* Pattern of a Specific Younger Subject with the
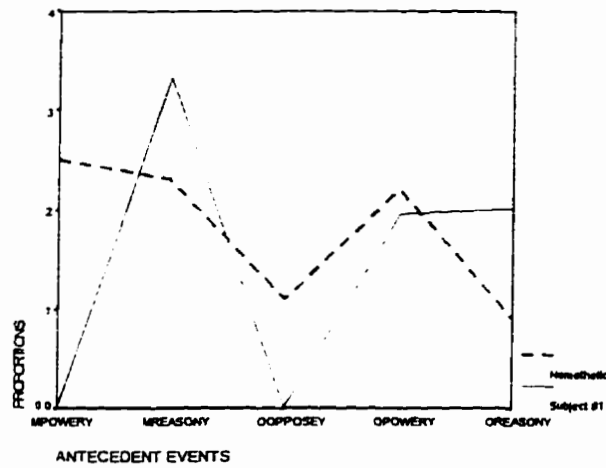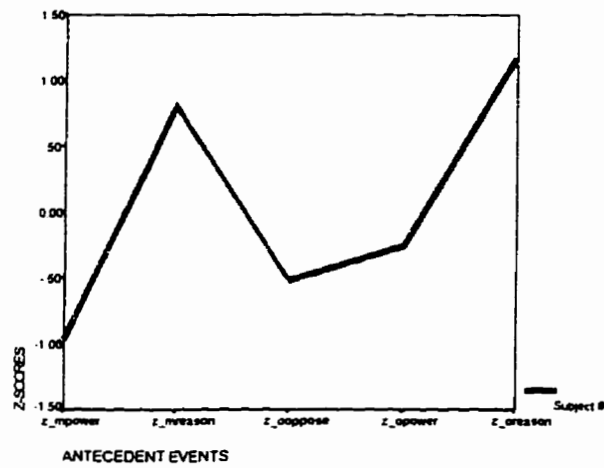Nomothetic Pattern for Younger Children

Figure 18

The Idiosyncratic *Crying* Pattern for Subject #18

References

Abelson, R. P. (1981). Psychological status of the script concept. <u>American Psychologist, 36,</u> 715-729.

Adams, L. T., & Worden, P. E. (1986). Script development and memory organization in preschool and elementary school children. <u>Discourse Processes, 9,</u> 149-166.

Baldwin, M. W. (1992). Relational schemas and the processing of social information. <u>Psychological Bulletin, 112,</u> 461-484.

Boston, M. B., & Levy, G. D. (1991). Changes and differences in preschoolers' understanding of gender scripts. <u>Cognitive Development, 6,</u> 417-432.

Bower, G. H., Black, J. B., & Turner, T. J. (1979). Scripts in memory for text. <u>Cognitive Psychology, 11,</u> 177-220.

Bowlby, J. (1969). <u>Attachment and loss: Vol. 1. Attachment.</u> New York: Basic Books.

Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. <u>Monographs of the Society for Research in Child Development, 50,</u> 3-35.

Bronson, W. C. (1985). Growth in organization of behavior over the second year of life. <u>Developmental Psychology, 21(1),</u> 108-117.

Byng-Hall, J. (1985). The family script: A useful bridge between theory and practice. <u>Journal of Family Therapy, 7,</u> 301-305.

Byng-Hall, J. (1988). Scripts and legends in families and family therapy. <u>Family Process, 88,</u> 167-179.

Cairns, R. B. (1979). <u>Social development: The origins of interchanges.</u> New York: W. H. Freeman.

Cantor, N., & Kihlstrom, J. F. (1985). Social intelligence: The cognitive basis of personality. <u>Review of Personality and Social Psychology, 6,</u> 15-33.

Carlson, R. (1981). Studies in script theory: I. Adult analogs of a childhood nuclear scene. <u>Journal of Personality and Social Psychology, 40,</u> 501-510.

Demorest, A. P., & Alexander, I. E. (1992). Affective scripts as organizers of personal experience. <u>Journal of Personality, 60,</u> 645-663.

Demorest, A. P. (1995). The personal script as a unit of analysis for the study of personality. <u>Journal of Personality, 63(3),</u> 569-592.

Duncan, S. Jr., & Farley, A. (1990) Achieving parent-child coordination through convention: Fixed- and variable-sequence conventions. <u>Child Development, 61,</u> 741-753.

Duncan, S. Jr. (1991) Convention and conflict in the child's interaction with others. <u>Developmental Review, 11,</u> 337-367.

Dunn, J., & Munn, P. (1986). Sibling quarrels and maternal intervention: Individual differences in understanding and aggression. <u>Journal of Child Psychology and Psychiatry, 27,</u> 583-595.

Dunn, J., & Munn, P. (1987). Development of justification in disputes with mother and sibling. <u>Developmental Psychology, 23,</u> 791-798.

Eisenberg, A., & Garvey, C. (1981). Children's use of verbal strategies in resolving conflicts. <u>Discourse Processes, 4,</u> 149-170.

Fivush, R. (1984). Learning about school: The Development of kindergartner's school scripts. <u>Child Development, 55,</u> 1697-1709.

Ginsburg, G. P. (1988). Rules, scripts and prototypes in personal relationships. In S. W. Duck
(Ed.), Handbook of personal relationships (pp. 23-39). New York: Wiley.

Gottman, J. M. (1979). Marital interaction: Experimental investigations. San Diego, CA:
Academic Press.

Gottman, J. M. (1993). The roles of conflict engagement, escalation, and avoidance in marital
interaction: a longitudinal view of five types of couples. Journal of Consulting and
Clinical Psychology, 61(1), 6-15.

Graesser, A. C., Gordon, S. W., & Sawyer, J. D. (1979). Recognition memory for typical and
atypical actions in scripted activities: Tests of a script pointer + tag hypothesis.
Journal of Verbal Learning and Verbal Behavior, 18, 319-332.

Hardway C., & Duncan, S. Jr. (1995). Me First!: Structure and dynamics of a four-way
conflict. Unpublished special honors dissertation, University of Chicago.

Hartshorne, H., & May, A. (1928). Studies in the nature of character, Vol. 1. Studies in
deceit. New York: Macmillan.

Hay, D. F., & Ross, H. S. (1982). Parental punishment and sibling aggression. Social
Psychology Quarterly, 51, 11-18.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process.
Journal of Personality and Social Psychology, 52, 511-524.

Hermans, H. J. M. (1988). On the integration of nomothetic and idiographic research
methods in the study of personal meaning. Journal of Personality, 56(4), 785-812.

Howard, G. S., & Myers, P. R. (1990). Predicting human behavior: Comparing idiographic,
nomothetic and agentic methodologies. Journal of Counseling Psychology, 37(2),
227-233.

Howell, D. C. (1982). Statistical methods for psychology. 2nd Edition. Boston: PWS-Kent Publishing Co.

Hudson, J., & Nelson, K. (1983). Effects of script structure on children's story recall. Developmental Psychology, 19, 625-635.

Hudson, J., & Nelson, K. (1986). Repeated encounters of a similar kind: Effects of familiarity on children's autobiographic memory. Cognitive Development, 1, 253-271.

Hue, C. W., & Erikson, J. R. (1991). Normative studies of sequence strength and scene structure of 30 scripts. American Journal of Psychology, 104, 229-240.

Huesman, L. R. (1988). An information processing model for the development of aggression. Aggressive Behavior, 14, 13-24.

Katz, L. L., (1991). Cultural scripts: The home-school connection. Early Child Development and Care, 73, 95-102

Kihlstron, J. F., & Cantor, N. (1983). Mental representations of the self. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology, 17, 1-47. San Diego, CA: Academic Press.

Kluckhohn, C., & Murray, H. A. (1953). Personality formation: The determinants. In C. Kluckhohn, H. Murray & D. Schneider (Eds.), Personality in Nature, Society and Culture, 53-67. New York: Knopf.

McCartney, K., & Nelson, K. (1981). Children's use of scripts in story recall. Discourse Processes, 4, 59-70.

Mischel, W. (1968). Personality and assessment. New York: Wiley.

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality:

    Reconceptualizing situations, dispositions, dynamics, and invariance in personality

    structure. Psychological Review, 102(2), 246-268.

Nelson, K. (1978). How children represent knowledge of their world in and out of language:

    A preliminary report. In R. S. Siegler (Ed.), Children's thinking: What develops?

    Hillsdale, NJ: Erlbaum.

Nelson, K. (1981). Individual differences in language development: Implications for

    development and language. Developmental Psychology, 17, 170-187.

Nelson, K. (1986). Event knowledge: Structure and function in development. Hillsdale, NJ:

    Lawrence Erlbaum Associates.

Nelson, K, Fivush, R., Hudson, J., & Lucariello, J. (1983). Scripts and the development of

    memory. In M. T. H. Chi (Ed.), Trends in memory development research (Vol. 9).

    Basel, Switzerland: S. Karger.

Nelson, K., & Gruendel. J (1981). Generalized event representations: Basic building blocks

    of cognitive development. In M. Lamb & A Brown (Eds.), Advances in

    Developmental Psychology (Vol. 1). Hillsdale, NJ: Lawrence Erlbaum Associates.

Nelson, K., & Nelson, A. P. (1990). Category production in response to script and category

    cues by kindergarten and second-grade children. Journal of Applied Developmental

    Psychology, 11, 431-446.

Patterson, G. R. (1982). Coercive family processes. Eugene, OR: Castalia.

Patterson, G. R., & Bank, L. (1989). Some amplifying mechanisms for pathologic processes

    in families. Minnesota Symposium on Child Psychology, 22, 167-209.

Perlman, M., & Ross, H. S. (1997). The benefits of parent intervention in their children's

    disputes: An examination of concurrent changes in children's fighting styles. Child

    Development, 64(4), 690-700.

Phinney, J. S. (1986). The structure of 5-year-olds' verbal quarrels with peers and siblings.

    The Journal of Genetic Psychology, 147(1), 47-60.

Reid, W. J., & Donovan, T. (1990). Treating sibling violence. Family Therapy, 17, 49-59.

Schank, R. C., & Abelson, R. P. (1977). Scripts, plans, goals, and understanding. Hillsdale,

    NJ: Erlbaum.

Shantz, S. U., & Hartup, W. W. (1992). Conflict in child and adolescent development, 153-

    185. Cambridge: Cambridge Press.

Silverstein, A. (1988). An Aristotelian resolution of the idiographic versus nomothetic

    tension. American Psychologist, 43(6), 425-430.

Simpson, J. A., Rholes, W. S., & Nelligan, J. A. (1992). Support seeking and support giving

    within couples in an anxiety-provoking situation: The role of attachment styles.

    Journal of Personality and Social Psychology, 62, 434-436.

Shoda, Y., Mischel, W., & Wright, J. C. (1993). Links between personality judgments and

    contextualized behavior patterns: Situation-behavior profiles of personality

    prototypes. Social Cognition, 11, 399-429.

Shoda, Y., Mischel, W., & Wright, J. C. (1994). The role of situational demands and

    cognitive competencies in behavior organization and personality coherence. Journal

    of Personality and Social Psychology, 65, 1023-1035.

Slackman, E., & Nelson, K. (1984). Acquisition of an unfamiliar script in story form by

    young children. Child Development, 55, 329-340.

Steinmetz, S. K., & Strauss, M., (Eds.) (1974). <u>Violence and the family.</u> New York: Harper

and Row.

Steinmetz, S. (1977). The use of force for resolving family conflict: The training ground for

abuse. <u>Family Coordinator, 26,</u> 19-26.

Tomkins, S. S. (1987). Script theory. In J. Aronoff, A. Rabin, & R. Zucker (Eds.) <u>The</u>

<u>emergence of personality,</u> 147-217. New York: Springer.

Trzebinski, J. (1985). Action-oriented representations of implicit personality theories. <u>Journal</u>

<u>of Personality and Social Psychology, 48,</u> 1266-1278.

Vuchinich, S. (1984). Sequencing and Social Structure in Family Conflict. <u>Social Psychology</u>

<u>Quarterly, 47,</u> 217-234.

Vuchinich, S., Emery, R. E., & Cassidy, J. (1988). Family members as third parties in dyadic

family conflict: Strategies, alliances, and outcomes. <u>Child Development, 59,</u> 1293-

1302.

Zahn-Waxler, C., & Chapman, M. (1982). Immediate antecedents of caretakers' methods of

discipline. <u>Child Psychiatry and Human Development, 12,</u> 179-192.

-