

THE RELATIONSHIP BETWEEN THE INCIDENCE AND
TYPE OF SIBLING AND
MARITAL VIOLENCE

By

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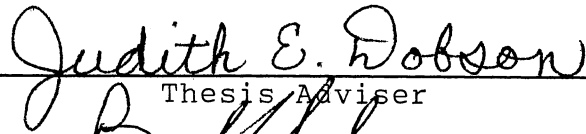
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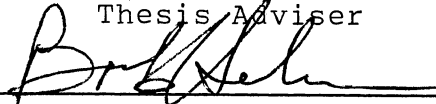
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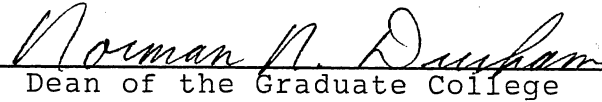


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CHAPTER I

INTRODUCTION

While domestic violence has become a concern for the people of the United States over the past decade, one area of violent behavior, sibling violence in the home, continues to be ignored. (The purpose of this study is to determine if the incidence and type of sibling violence in the family-of-origin is repeated in adult marital violence.)

Although the quality of the sibling relationship is well represented in children's literature (Jalongo & Renck, 1985), only recently has the professional literature taken note of the absence of attention it has given to sibling relations (Calladine, 1983; Gelles & Cornell, 1985; Pollak & Hundermark, 1984). Sibling violence has been overlooked even though it is the most prevalent form of violence in the family (Gelles & Cornell, 1985; Straus, Gelles, & Steinmetz, 1980).

The influence of sibling violence on subsequent adult behavior has been ignored partly because the role of the sibling as an agent of socialization has become only recently a subject of scrutiny (Stewart & Marvin, 1984). The disregard of sibling socialization is remarkable, given that the sibling relationship is the longest-lasting relationship in life (Dunn, 1985). Studies of the development

of children in the family-of-origin that do not include the sibling subsystem are incomplete because the sibling relationship appears to represent (a) a different interactional system than the child-parent, and (b) a relationship in which parents do not compete (Lamb, 1978). The sibling relationship is the first truly intimate relationship a person has in which the members understand each other well and feel strongly about each other (Dunn, 1985).

One study has indicated that childhood violence acted out on a sibling is a better predictor of adult violent behavior than is the child's observation of parental violence in the home (Gully, Dengerink, Pepping, & Bergstrom, 1981). Adults in the family seem to model the violent behavior, which then is repeated by the siblings, who even use the same form of violence as performed by the parents (Bernard & Bernard, 1983).

For adults, evidence indicated persistency in the forms of violent behaviors used in the intimate relations of courtship and marriage (Roscoe & Benaske, 1985). These authors linked marital violence to courtship violence, and provided evidence that childhood observation of violent behavior is not a significant predictor of courtship and marital violence. Bernard and Bernard (1983) suggested that courtship violence among college students may be one link in an unbroken chain of violent behaviors within intimate relationships from childhood through marriage.

Theoretical Base

Gelles and Straus (1979) considered social-learning theory as appropriate to conceptualize interpersonal violence in the family. For the purpose of this study, a social-learning model of aggression (Bandura, 1973) has been adopted to conceptualize the discussion of sibling violence.

Social-learning theory approaches human behavior as understandable and predictable through knowledge of the principles of learning. However, unlike earlier learning theories, social-learning pays more attention to the social context of the behavior, and emphasizes the importance of vicarious learning (Hall & Lindzey, 1978).

Social-learning theorists see humans as cognitive beings, capable of influencing their environment, including their own behavior and others', as well as being influenced by the environment, including the behavior of others. Learning through imitation is an important facet of the social-learning theory of human behavior (Hall & Lindzey, 1978). Two aspects of sibling violence, the generational effects of family violence and implications for family treatment will be discussed.

Generational Effects on Family Violence

The social-learning approach to violence suggests that violent behaviors are learned. Conversely, children of non-violent parents tend to learn and use nonviolent

behaviors with siblings, and, later as adults, they continue to use nonviolent behaviors with their spouses and their own children (Straus et al., 1980). Several authors identify the family as the training ground in which people acquire a repertoire of violent behaviors (Bernard & Bernard, 1983; Gelles & Cornell, 1985; Gully et al., 1981; Straus et al., 1980).

Although families are reluctant to discuss most forms of domestic violence (e.g., wife abuse, child abuse), sibling violence is discussed openly, and described as normal sibling behavior (Straus et al., 1980). Gelles and Cornell (1985) described the typical family's attitude toward sibling violence as one in which the family perceived sibling violence as an important and desirable preparatory exercise for children to learn how to handle themselves in violent conflicts with classmates and friends. The authors continued that any level of sibling violence that did not exceed what the family defined as normal or inevitable remained ignored by the family and society.

That parents provide a familial role model of aggression for their children's use of violence, has been suggested in a study by Bernard and Bernard (1983). The authors described childhood sibling abuse as taking the same form as that which the children experienced or observed in the parents' spousal relationship. A generational effect is further indicated by Crittenden's (1984) finding that these imitative behaviors can appear in children's behavioral repertoires by their third year of life.

Gelles and Cornell (1985) described family awareness of sibling violence as a significant problem for the family, and that parental reporting of sibling violence for professional intervention remained low. Denzin (1984) stated that families caught up in a series of violent domestic interactions lose their ability to state clearly what actions are, or are not, violent.

From these data one can see that once violence became a standard feature of a family relational style, it tended to persist from generation to generation through (a) the modeling of violent behavior by parents, which children then imitate, (b) familial and societal discounting of the possible negative aspects of sibling violence, (c) allowing, or even encouraging, sibling violence by the family, which perceives it as a beneficial preparatory activity for future conflicts, and (d) the deterioration of the family's ability, generally, to discriminate violent from nonviolent behaviors.

Implications for Family Treatment

This section has been included because of the prevention orientation of this study. The results of this study is intended to support an intervention/prevention approach by human services providers toward family violence at the sibling relationship level. Gordon (1970) stated that parents are not trained for the job of parenting. Violent families have not learned constructive ways to handle conflicts of interests, and thus, revert to teaching children

to deal with sibling conflicts in a violent manner (Straus et al., 1980).

Many parents do not seek help to learn conflict management skills as long as sibling violence is perceived to be an inevitable and normal result of sibling rivalry. Adler (1927) characterized sibling rivalry as the result of feelings of jealousy by one sibling toward another, especially toward newborn siblings. Jealousy appears to be a built-in reaction to the younger sibling, expressing the perception by the elder sibling of being neglected or discriminated against by the parent. From the sibling rivalry approach, sibling conflict is perceived as an expression of the siblings' struggle for power (Sutton-Smith & Rosenberg, 1970), which allows the more powerful sibling to demand more attention from the parent (Adler, 1927).

If the sibling rivalry model of sibling conflict and violence is perceived by the public as the way to understand violent sibling conflict behavior, then the desirability for doing the present study appears to be lessened. Even though this study might demonstrate a significant relationship between sibling violence and marital violence, if sibling violence were the unavoidable consequence of a natural and innate sibling rivalry, then one might question the practicality of understanding what cannot be altered. Contrary to this apparent limitation, there is literature (Dunn & Kendrick, 1981; Kelly & Main, 1979; Kendrick & Dunn, 1983) indicating that parents' behaviors toward their children's sibling conflicts can, and do,

influence the incidence of sibling violence. Therefore, the findings of this study can have practical value.

Similarly, although some human behavior models appear to be more deterministic (e.g., Scarr & McCartney, 1983) than social-learning, the present study has approached aggression as a learned behavior used by siblings to cope with conflicts of interest involving real and tangible issues. A model that fits the approach of this study is the realistic conflict model (Felson, 1983). This model states that the sibling conflicts arise over the possession or use of tangible goods, or over the performance of undesirable chores. Conflict and aggressive behavior appears to be related to vague and unclear rules of ownership and division of labor within the household (Felson, 1983). If sibling violence is shown to be a significant correlate of marital violence, and is, therefore, perceived by professionals and the public to be of greater diagnostic importance than previously believed, then the realistic conflict model might help provide a theoretical framework for professional intervention into sibling violent behavior. Such intervention might include parental training in conflict management skills. Studies have indicated that parents can learn conflict management skills that would lessen the incidence and severity of sibling aggression (Calladine, 1983; Kelly & Main, 1979).

Apparently, teaching parents practical conflict management skills offers a much-needed process of intervention into family domestic violence. Even with the best intentions,

parental violence in settling violence tends to elicit additional violent behavior by the children (Steinmetz & Straus, 1974). Intervention has the goal to break up the transgenerational patterns of family violence at the point of the sibling relationship.

Statement of the Problem

The introduction of this study has reviewed evidence that (a) sibling violence is a neglected area of research, (b) sibling violence is prevalent in our society, (c) the sibling relationship has implications for later adult behavior, (d) violence in intimate relationships shows persistency of incidence for courtship and marital relationships, (e) this persistency has only been speculated to include the sibling relationship, (f) family violence is generational and transgenerational as related to sibling violence, and (g) the findings of this study may have practical implications for professional intervention of domestic violence, as supported by the social-learning model of aggression, and a possible relationship between childhood sibling violence and adult marital violence. This study was designed to fill the gap in the literature by explaining the relationship between childhood sibling violence in the family-of-origin with adult marital violence. The study was designed to answer the following question: Are the incidence and type (physical and verbal violence) of childhood sibling violence repeated by the incidence and type of adult marital violence?

Significance of the Study

The socializing influence that siblings have on one another has been ignored by the research literature (Dunn, 1985). Several textbooks on the family do not have an index entry for sibling (Pollak & Hundermark, 1984). Societal conceptualizations of the family, and of interpersonal violence, seem to perpetuate the public and professional dismissal of family and sibling violence as an important area of study or change (Denzin, 1984; Straus et al., 1980).

The results of this study may contribute to a reevaluation of the meaning and importance of sibling violence for families and society. Results, for example, may help theorists develop explanatory models of sibling abuse to complement theorists' more developed understanding of the dynamics of child abuse (Straus et al., 1980). This study does not intend to support, or encourage, the development of a separate area of treatment modality for violent siblings. There is already too little overlap of treatment for child abuse and wife abuse; there has been too little attention paid to treatment of domestic violence for the whole family system (Gelles & Cornell, 1985), and very few theories (e.g., Gelles, 1983) of domestic violence at the family unit level (Finkelhor, Gelles, Hotaling, & Straus, 1983).

Rather, data from this study may encourage development of intervention strategies to deal with transgenerational domestic violence at the sibling level. Although

earlier writers wrote pessimistically regarding sustaining a public response to issues raised in the professional literature (Justice & Justice, 1976), more recent evidence has indicated that professionally raised concerns may translate to more appropriate behavior by the public, at least in the case of child abuse (Straus & Gelles, 1986).

Last, a purpose of this study is to demonstrate the possibility of violent behaviors as being persistent from family-of-origin relations to marital relations. This persistency has been, up to now, left for speculation (Makepiece, 1981).

Definition of Terms

This section presents the definition of terms. The following terms are pertinent to this study.

Incidence of Violence

For the purpose of this study, the Incidence of Violence (IV) is defined as the sum of the scores for the physically violent and the verbally violent behavior items of the Conflict Tactics Scales (Straus, 1979). Incidence of Violence scores were derived for each scale used in this study. Therefore, each subject had Hypothetical Incidence of Violence (HIV), Marital Incidence of Violence (MIV), and Sibling Incidence of Violence (SIV) scores.

Nonviolent Behavior

The disputants' behavior under this term includes calmly

discussing the issue, providing backup information for one's position, and using, or attempting to use, outside mediation (Straus, 1979).

Physically Violent Behavior

This term describes behavior such as throwing, smashing, hitting, or kicking something during a conflict. This term also includes throwing something at the other person, pushing, grabbing, shoving, slapping, kicking, biting, choking, or hitting the other person with one's hand or fist. The term also includes hitting, or trying to hit, the other person with an object, beating up the other person, or threatening with a knife or gun, or using a knife or gun on the other person (Straus, 1979). Each subject had a Physical Violence (PV) score for each scale used in this study. Therefore, each subject had Hypothetical Physical Violence (HPV), Marital Physical Violence (MPV), and Sibling Physical Violence (SPV) scores.

Type of Violence

For the purpose of this study, type of violence is considered to have two levels. These two levels of type of violence are the Physically Violent (PV) and the Verbally Violent (VV) behaviors.

Verbally Violent Behavior

Behaviors such as insulting or swearing at the other person, sulking or refusing to talk, and stomping out of

the presence of the other person are covered by this term. Also included under this term is doing or saying something spiteful to hurt the other person's feelings, and threatening to hit or throw something at the other one (Straus, 1979). Each subject had a Verbal Violence (VV) score for each scale used in this study. Therefore, each subject had Hypothetical Verbal Violence (HVV), Marital Verbal Violence (MVV), and Sibling Verbal Violence (SVV) scores.

Limitations

The following limitations are inherent in the study.

1. Subjects were all volunteers; therefore, generalizability of results are limited to a volunteer population.

2. Further, these volunteers were all from two-children families; although this limitation also restricts generalizability, Bureau of Census (1950, 1985, 1986) statistics show that two-children families represented over 23 million persons in 1985, while maintaining an 18-19% proportion of all families between 1960 and 1985. These statistics indicate that persons growing up in one-sibling families represent a substantial population.

3. Another limitation of the study involved the use of recall data. The ability of volunteers to accurately recall conflict behavior toward siblings during the subject's high school years appears limited, as measured in this study. (A discussion of the recall data statistics is given in the Pilot Study section of this study, page 40). It is upon this recall data that relations were determined

between sibling and marital violence.

Research Hypotheses

Because of the literature regarding the socialization effects of the sibling relationship (Stewart & Marvin, 1984), the predictive value of sibling violence for adult violence (Gully et al., 1981), the persistency of adult violence in intimate relations (Roscoe & Benaske, 1985), and the suggestion that violence with intimates may be a life-long pattern of behavior (Bernard & Bernard, 1983), this study established three research hypotheses to be tested. The .05 level of significance was used to test the following research hypotheses:

1. There is no significant difference between the means of the Sibling Incidence of Violence and of the Marital Incidence of Violence.

2. There is no significant difference between the means of Sibling Verbal Violence and of Marital Verbal Violence.

3. There is no significant difference between the means of Sibling Physical Violence and of Marital Physical Violence.

A fourth research hypothesis involves the Hypothetical Marriage Vignette on the Demographic Information Form (Appendix A). This demographic question was included to give an indication of the accuracy of the subject's self-report of Marital Incidence of Violence. It was expected that those subjects reporting the occurrence of a similar

conflict as the Vignette in the subject's own marriage would report higher Marital Incidence of Violence scores than those subjects who reported no occurrence of such a conflict. Therefore, the fourth research hypothesis is:

4. There is a significant positive correlation between the Marital Incidence of Violence scores and the reported occurrence of a marital conflict similar to the Hypothetical Marriage Vignette.

In addition to these four research hypotheses, a research objective was to gather validity data regarding the Conflict Tactics Scales, as used in this study. These data were derived by a factor analysis of the subject's responses on each Scale, as used for the purposes of this study.

Organization of the Study

This chapter has provided an overview of the topic under study, as well as the rationale for the preparation of this study. Chapter II presents a review of the pertinent literature. The method of the study will be described in Chapter III. The results of the study will be presented in Chapter IV. The summary, conclusions, and recommendations for future research and for human services providers, will constitute the contents of Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter presents a review of the literature pertinent to this study. The literature is presented in four sections; (a) family-of-origin as a model of violence, (b) persistency of relationship behaviors, (c) relationship of sibling violence to adult violence, and (d) parental influence on sibling violence.

Family-of-Origin as a Model of Violence

Research has indicated that the form, or severity, of violence observed, or experienced, by children in the family-of-origin subsequently appears as the preferred mode of expressed violent behavior by the child (Bernard & Bernard, 1983). This duplication of mode of violence has been demonstrated in early childhood behaviors (Crittenden, 1984), as well as adult behaviors (Bernard & Bernard, 1983).

Bernard and Bernard (1983) administered a self-report questionnaire to 168 male and 293 female undergraduate students in introductory psychology classes at a large Southern, urban university. The respondents indicated the form of spousal abuse observed, or form of child abuse experienced, by the subjects as children in their family-

of-origin. Subjects also indicated if they were abusive, or abused, in a dating relationship. A total of 19 of the 26 abusive males (73%) had experienced, or observed, violence in their family-of-origin. Of those 19 abusive males, 14 (74%) used the same form of violent behavior in a dating relationship. A total of 31 of the 62 abusive females (50%) reported family-of-origin violence. Of those 31 abusive females, 24 (77%) used the same form of abuse in a dating relationship. Unfortunately, the experiences of nonabusive subjects, for the purpose of comparing the two groups, were not collected.

The Bernard and Bernard (1983) study indicated the importance of modeling violent family behaviors. However, it did not differentiate the relative predictive value of observing or experiencing the violence. Neither did it include the possible predictive value of sibling acting-out of violent behavior.

Thirty-six 6-to-11-month-old infants were videotaped interacting with mother, with sibling, and with a second adult (Crittenden, 1984). At each sibling age, ranging from two to 10 years, the adult/sibling patterns of interaction were coded as Abusive, Neglecting, Inept, or Sensitive. Siblings were found to interact with the infant in a manner similar to the pattern of interaction observed in the mothers. Furthermore, the appearance of these styles of relatedness were observed in the siblings as early as the third year of life. The author concluded that this

result helped indicate a generational effect in the learning of interpersonal skills, by ruling out that this effect was attributable to the infant's temperament.

A similar conclusion was reached by Stewart and Marvin (1984), who observed 57 mother/older-sibling/infant nuclear family subsystems. The infants ranged in age from 10 to 24 months, and the older siblings from 36 to 60 months. In all observed families, the mother was described as the primary caregiver for both children. Observations consisted of seven episodes, beginning with a three-minute base rate observation of mother, child, and infant. Other episodes consisted of observations of mother/infant, mother/child/infant, child/infant, and child/infant/stranger interactions. Behaviors of the participants were coded as Attachment, Caregiving, Sociable, Fear/Wariness, and Exploratory. The authors concluded from these observations that the older sibling's interpersonal skills, as caregivers of the infants, follow a similar process as that which occurred in the mother's relationship with the infant.

Montemayor and Hanson (1985) demonstrated the apparent parallelism between sibling relationships and relationships modeled by parents. A total of 64 families with adolescents (n=30 sons, 34 daughters) volunteered to be interviewed over the telephone. These volunteers had been solicited by letters sent to a random sample of 150 tenth-grade students in a western mountain state. None of these adolescents was currently receiving psychological counseling.

The 40-minute interview consisted of items regarding the adolescent's behavior involving conflicts with parents or siblings during the previous day. The interviews were conducted on three randomly selected evenings at about one-week intervals with each adolescent. Results indicated that 73% of the adolescents' arguments with parents, and 89% of the arguments with siblings, were about interpersonal issues, rather than rule enforcement. The authors concluded that the conflicts adolescents have with siblings are not unlike the conflicts they have with parents. Furthermore, withdrawal was the most preferred mode of conflict resolution in both relationships.

In a descriptive study by Prochaska and Prochaska (1985), 77 male and 72 female fourth and fifth grade students in public elementary schools in South Kingston, Rhode Island, responded to a student-generated survey regarding causes and possible solutions for sibling rivalry. These responses were from the child's point of view. Student responses indicated that they believed sibling fighting for parental attention was the least-often cause, contrary to Adler's (1927) emphasis of sibling fighting as attention-getting behavior aimed at parents. The students appeared to see sibling conflicts as the children's problem over which parents had little influence.

These studies indicate that siblings fight with each other over mostly the same issues that create conflicts between themselves and their adult parents. Modeling also

appears important in the fostering of caregiving behaviors in relationships, as well as conflict behaviors. Modeling relationship behaviors seems to have some effectiveness by early childhood, as well as into adolescence. These results support the social-learning model used in the present study. Also, the results of these studies indicate the importance of looking at the family-of-origin as a generational source for developing the behavioral styles observed in intimate relationships. There also is an indication that children experience sibling conflicts without an impression of strong parental influence on the quality of the sibling relationship, at least regarding the modeling of effective conflict management skills.

Persistency of Relationship Behaviors

An underlying assumption of this study is that the violent behaviors expressed within intimate relationships are consistent in mode and persists over time. Several studies looked at the persistency of relationship behaviors, including those behaviors which are considered as violent, during childhood, adulthood, and across situations. Results supporting persistency of relationship behaviors are mixed.

A total of 24 infants, their mothers, fathers, and pre-school-aged siblings were studied by Lamb (1978). The infants were one year old at first observation and 18 months old at the second observation. Observers, behind one-way windows, recorded play behaviors of each sibling pair in

playrooms provided with toys for the children and chairs for the parents. Stability of infant and sibling behaviors across time were determined by correlating the behaviors observed at the first and second observation periods. Results revealed impressive longitudinal consistencies in the siblings' behavior toward each other. The authors found they were able to predict the extent of sibling-directed social behavior at the second observation from the corresponding measures taken at the first observation time.

Berndt and Bulleit (1985) studied 17 males and 17 females, aged 36 to 64 months old. The authors questioned if sibling relational styles carried over to peer relationships. The 34 subjects were observed for equal amounts of free-play time relating to a target pre-school classmate and with siblings at home. The behaviors were categorized as Initiating aggression, Receiving aggression, Initiating prosocial behavior, Receiving prosocial behavior, Ordering or Suggesting the other's behavior, Complying with an order or suggestion, Not complying with an order or suggestion, Stating one's activity, Imitating another's behavior, Asking or answering questions, and Talking in a fantasy role. Results indicated a degree of consistency in preschoolers' behavior toward siblings and peers. Inconsistencies were attributable to differences in patterns of same-age (peers) and mixed-age (siblings) interactions.

Longitudinal differences in sibling relationship behaviors were found by Brody, Stoneman, MacKinnon, and McKinnon

(1985). A total of 36 same-sex sibling pairs, half of the pairs male/male, half female/female, half preschool-age, half school-age, were observed in the homes of the sibling pairs. All of the subjects were from Caucasian, middle-class, two-child families. Children were directed to go about their normal routines, except not to leave their yard. Data were gathered during a thirty-minute observation period. Relationship roles and behaviors were coded as Teacher, Learner, Manager, Managee, Helper, Helpee, Observer, Solitary, Prosocial, and Agonistic. Data from the preschool-age and school-age sibling pairs indicated sibling interactions changed with age for certain behaviors. For example, preschool-age female siblings played with each other less than preschool-age male siblings, but school-age female siblings played with each other more than school-age male siblings. Also, older female school-age siblings assumed the teacher role more often than any other group. Further, preschool-age male siblings directed more agonistic behavior toward each other than any other sibling pair.

Persistency of intimacy behaviors in adults was studied by Roscoe and Benaske (1985). The subjects were 82 women clients at domestic violence shelters across Michigan. Women who had reported abusive marital behavior were administered an anonymous questionnaire in order to gather descriptive information regarding violence during childhood, dating, and marital experiences. The categories

of violence were Slapping, Hitting with an object, Punching/Shoving, Hitting with fist, Beatings, Kicking, Objects thrown, Choking, Biting, Other, Throwing of victim, Threatening with a gun/knife, Trying to hit with an object, Using a gun or knife (Straus, 1979). A total of 42 of the 82 women (51%) reported they had been abused physically in a previous dating relationship. The forms of marital abuse received by the respondents were markedly similar to the forms of dating abuse received, when each set of abusive behaviors were rank ordered by frequency of each behavior.

Stillwell and Dunn (1985) demonstrated that individual differences in the quality of first born's behavior toward younger siblings showed considerable stability over a three to four year period. In their study 13 girls and 12 boys, from an original sample of 19 girls and 21 boys, were observed when younger siblings were newborns and, again, when the younger siblings were 14 months old. The sibling pairs also were observed when the older sibling was six years old, which amounted to a period of three to four years later. Categories of sibling behavior were coded as Positive social approaches, Negative social approaches, and Negative touch. Two one-hour observations of the siblings were carried out in the home. Results indicated that there was a significant positive correlation between the initial positive interest shown by the first-born in the newborn, and the positive comments made by the first-born at six years of age ($r=.48$, $p<.05$).

Contrary results seemed to be indicated by Abramovitch, Carter, Pepler, and Stanhope (1986), who found little evidence of stability of sibling relationship behaviors over time. Neither did they find indications of behavior stability between sibling and peer interactions. They studied 24 pairs of same-sex siblings and 24 pairs of mixed-sex siblings who were living in the middle-socioeconomic community of Mississauga, Ontario. In 19 of the 24 sibling pairs, peer subjects also were recruited. Observations of the sibling pairs were made at 18-month intervals, with the initial observation done when the younger sibling was five years old, and the age differences between siblings were either large (2.5 to 4 years) or small (1 to 2 years). Relationship behaviors were coded as Agonistic, Prosocial, Play-related, Imitation, and Responses to Prosocial and Agonistic behavior. Correlations of behavior codes observed at all three observations indicated little evidence of stability of behavior across time. In the comparison of general patterns of behavior toward siblings and peers, correlations between peer and sibling interactions, again, showed little evidence of stability.

These studies present mixed results regarding persistency of sibling behaviors over time and across relationships. The present study is intended to help clarify the issue of persistency of conflict behavior. The degree of such conflict behavior persistency is indicated in this study by the comparison between the means for sibling

conflict violence and the means for marital conflict violence. The statistical results of this comparison indicates the degree of behavioral persistency demonstrated by the present study.

Sibling Violence and Adult Violence

Only one study was found that investigated specifically the question of the contribution that sibling violence makes to adult violent behaviors. Gully, Dengerink, Pepping, and Bergstrom (1981) studied the relative contribution made by parents and siblings to later violent behavior, and the mechanism by which those behaviors were acquired. An anonymous questionnaire was given to 335 undergraduate students in introductory psychology courses. Subjects reported on observed and experienced violence in the family-of-origin, as well as reporting violent behaviors performed by themselves on other family members. They then reported on recent acts of violence on nonfamily members, and predicted probability of violence for three hypothetical situations. Results indicated that acting-out violently toward siblings was the only family-of-origin violence to discriminate adults who had reported an act of violence during the previous 12 months from those adults who had not, correctly classifying 60.4% of the subjects (Canonical $R=.43$, $\chi^2 [1]=41.89$, $p<.001$).

The present study is designed to extend the implications of the Gully et al. (1981) findings. Specifically, this study investigates the relationship of sibling violence

to marital violence.

Parental Influence on Sibling Violence

In the past, parents may have ignored sibling conflict aggression because many societal models for conflict resolution presented violent behavior as a solution for various conflicts (Bandura, 1973). Only in recent years has a body of knowledge become available to parents to develop the skills to promote nonviolent resolution of conflicts. This expanding area of mediation and negotiation skills is available to the parent in books (e.g., Folberg & Taylor, 1984; Moore, 1986; Saposnek, 1983) and periodicals (e.g., Lemmon, 1988; Rubin, 1988). Also, parents may not have appreciated the possible importance of sibling violence to later adult violence. Or parents may have depreciated their own impact on their children's sibling conflict behavior. Following are studies that indicated parents can, and do, make a difference in sibling violence, both positively and negatively.

Sewell (1974) studied 70 children in nursery school and preschool clinics. The author studied the relationship between parental discipline style and the presence of jealousy between siblings. The author concluded that inconsistency in parental discipline of the children was the factor most associated with sibling jealousy.

Kelly and Main (1979) used a case-study approach of a single-parent mother with two sons, ages eight and five years. The family was a participant in a larger research

program conducted at the Boys Town, Nebraska, Center for the Study of Youth Development. The two boys were experiencing intense conflict. For ten consecutive weeks the family was seen for one 60-minute session per week. In order to evaluate effects of intervention strategies taught the family, the mother was provided behavior monitoring charts with which to chart the siblings' frequency of fighting behavior over a two-week baseline period. After the baseline measures of daily fighting activity were taken, an intervention strategy of encouragement of positive sibling behavior was introduced (Dreikurs & Soltz, 1964). Two weeks later, encouragement was supplemented by the introduction of applying logical consequences to the fighting behavior (Dreikurs & Soltz, 1964). Another two weeks later, the third intervention strategy of family councils was begun (Dreikurs & Soltz, 1964). An additional two weeks of monitoring sibling behavior without further training constituted a follow-up evaluation period. An interrupted time-series analysis for level and change in level of sibling fighting indicated a significant reduction in the frequency of fighting between the two boys had occurred over the 10-week experimental period ($F=33.34$; $df=5, 65$; $p<.001$). The addition of logical consequences to the encouragement phase showed a dramatic improvement in sibling behavior, which was maintained through the family council and follow-up weeks of behavior monitoring.

An unintended influence by the mother on the quality

of the sibling and infant relationship was implied in the findings of Dunn and Kendrick (1981). A total of 40 sibling pairs were observed when the younger sibling was eight months old, and again, when the younger sibling was 14 months of age. At least two home visits were made at each observation period. Home visits consisted of direct family observations and maternal interviews. Observations of sibling interactions were categorized as either Positive socially directed or Negative socially directed behavior. Mothers were seen to play more with the second child if the gender of the second child were different from the first child's. The sibling relationship was seen to be more aggressive if mother spent more of her time attending to the second child.

In additional findings to the 1981 study cited above, Kendrick and Dunn (1983) reported mothers' responses to male sibling aggression was much more consistent than their responses to female sibling aggression. Data for these findings were gathered from the 40 families studied through home visits. Home visits included direct observations of the family and maternal interviews. At least two home visits were conducted at each of four time periods; (a) late in the mother's pregnancy of her second child, (b) during the second and third weeks after the birth of the sibling, (c) eight months after the sibling birth, and (d) 14 months after the sibling birth. From these observations and interviews, the authors speculated that the consistency

of maternal responses to the male sibling aggression resulted from a more definitely held preconception of what was acceptable or unacceptable behavior by males, than what they held for females. The mothers' responses to female sibling aggression appeared to be more situationally specific.

These studies indicate that parents may have intentional or unintentional influence on the quality of sibling relations in general, and on sibling violence, specifically. With such findings, parents may be more willing to undertake the increasingly available training in conflict-management skills in order to resolve incidents of sibling conflicts more effectively in a nonviolent manner. This type of intervention is relevant to the current study's research hypotheses that childhood sibling conflict behaviors are significantly related to later adult conflict behaviors, because of the socializing effects of the sibling relationship.

Summary

The family plays an important role in modeling violent behaviors in the intimate relationships of childhood and adulthood. A review of the literature supports the supposition of this study that the relationship between violence in childhood sibling relations and adult marital relations warrants study.

Mixed results were found in the literature regarding the persistency of violent behaviors across time and situation.

This study was designed to help clarify the issue of behavioral persistency by comparing the means of sibling conflict violence with the means of marital conflict violence for the subjects of this study. Up to this point, childhood sibling violence reported in the literature has been linked only to adult violence with nonfamily individuals.

Parents can, and do, have an influence on the quality of the sibling relationship in general, and on sibling violence, specifically. This finding may help make the results of the present study more practically meaningful in conjunction with the expanding body of literature available regarding the skills of nonviolent conflict management.

CHAPTER III

METHOD

This chapter contains a discussion of the sampling method, the instrumentation used in gathering the data, the pilot study, pilot study results, and the statistical procedures used in analyzing the data. The chapter concludes with a summary section.

Subjects

A total of 78 subjects were selected from the volunteer population of adults who had only one sibling in the family-of-origin. Subjects must have lived with the sibling at least one year during the subject's four high school years (grades 9 through 12). Of the 78 subjects, 58 were female (74.4%) and 20 were male (25.6%). All 78 subjects were Caucasian, middle-socioeconomic residents from 10 cities and towns in the central metropolitan area of a southwestern state. The age of the subjects ranged from 19 to 62 with a mean age of 35.7 years. The subject/sibling gender mix was 25 female/female (32.1%), 33 female/male (42.3%), 11 male/female (14.1%), and 9 male/male (11.5%). The current marital status of the 78 subjects was In Original Marriage 46 (59.0%), Widowed 1 (1.3%), Divorced 18 (23.1%), and Married, Not to First Spouse 13 (16.7%). (The

complete demographic data gathered for this study is presented in Appendix B.)

Subjects were recruited from various sources, including church bulletins, community newspapers, and word-of-mouth. An Information Sheet (Appendix C) was distributed to individuals and posted on various bulletin boards. Subjects also were recruited through community advertisers and civic organizations. The 78 full study subjects and the 24 pilot study subjects were recruited identically.

Instrumentation

Conflict Tactics Scales (CTS)

The instrument chosen for this study was the Conflict Tactics Scales (CTS) (Straus, 1979). What the CTS measures, how it was developed, and how it was modified for this study will be presented in the following sections of this chapter. Findings regarding the reliability and validity of the CTS, including the validity data from this study, will conclude the discussion of instrumentation.

Factors Measured by the CTS. The CTS was designed to measure intrafamily conflict tactics. Two factors on the CTS provide information regarding intrafamily conflicts; (a) categories of conflict resolution methods and (b) the specific nuclear family role structure involved in the conflict. There are three categories of the tactics of conflict resolution, as coded in this study. They are (a) NonViolent behavior (NV), (b) Verbally Violent behavior

(VV), and (c) Physically Violent behavior (PV).

The CTS measures conflict tactics for eight possible levels of the nuclear family role structure, with direction of the behavior tactics included. The family roles for which conflict tactics can be measured on the CTS are (a) husband's conflict tactics toward wife, (b) wife-toward-husband, (c) father-toward-child, (d) child-toward-father, (e) mother-toward-child, (f) child-toward-mother, (g) child-toward-sibling, and (h) sibling-toward-child. Therefore, the CTS can yield a total of $3 \times 8 = 24$ different conflict tactics scores (Straus, 1979). That is, three categories of conflict tactics by eight levels of family role structure.

For the purpose of this study all subjects completed three surveys, yielding a total of nine scores. The derived scores represented only the respondent's conflict behavior, and did not account for the other person's conflict behavior. The surveys and scores are (a) the Hypothetical Marriage Vignette survey (Appendix D) yielding scores for a Hypothetical person's Verbal Violence toward a spouse (HVV), Hypothetical Physical Violence (HPV), and Hypothetical Incidence of Violence (HIV); (b) the Sibling survey (Appendix E) yielding scores for Sibling Verbal Violence (SVV), Sibling Physical Violence (SPV), and Sibling Incidence of Violence (SIV); and (c) the Marital survey (Appendix F) yielding scores for Marital Verbal Violence (MVV), Marital Physical Violence (MPV), and Marital Incidence of Violence (MIV).

In addition to the subject's responses, the sibling of each pilot study subject completed one survey (Appendix G) yielding a total of three scores. These scores represented the conflict behavior of the pilot study subject directed toward the sibling, as recalled by the sibling. Scores were derived for Sibling Verbal Violence Received (SVVR), Sibling Physical Violence Received (SPVR), and Sibling Incidence of Violence Received (SIVR).

CTS Development. The items on the CTS were designed to refer to the conflict tactics used by members of the family to resolve conflicts of interest among family members (Straus, 1979). The choice of which tactics were to be measured was determined by the catharsis theory of violence control (Straus, 1974). Consequently, the three modes of dealing with conflict particularly suited to this theory are the content of the scales on the CTS. The first mode, intellectual and reasonable approach to the dispute, which Straus called the Reasoning tactic, has been designated in this study as the NonViolent (NV) behavior tactic. The second mode, verbal hurting, or nonverbal symbolic hurting of the other disputant, originally termed the Verbal Aggression tactic, has been designated in this study as the Verbally Violent (VV) behavior tactic. The third mode, physical force against the other disputant in order to resolve the conflict of interest, which Straus termed the Violence tactic, has been designated in this study as the Physically Violent (PV) behavior tactic. Straus

(1979) stated that although the items are theoretically based, they are, nevertheless, arbitrarily chosen from a much larger, and, as then, undefined set of items. Even so, these three modes of conflict resolution were considered important enough to apply to a wide range of research questions (Straus, 1979), and have been chosen by the present author as suitable to the research questions of this study.

Modification of the CTS for this Study. For the purpose of this study, the response categories have been modified from numerical categories to categories termed Never (N), Once or Twice a year (OT), a Few times a Year (FY), a Few times a Month (FM), and a Few times a Week (FW) for the Sibling and Marital scales. This modification was intended to allow adults to recall sibling relationship data in a more reasonably accurate manner, as required by this study. The response categories for the Hypothetical Marriage Vignette survey was modified to Not at all typical (N), Rarely typical (R), Somewhat typical (S), Typical (T), and Very typical (V) to correspond to the survey question regarding the typicalness of each conflict behavior in the hypothetical situation. Further details regarding the use of the instrument will be found under the Pilot Study section of this chapter.

Reliability of the CTS. For Form N the Alpha coefficient of reliability (Cronbach, 1970) was computed by Straus (1979). For the sibling relationship the coefficient

correlations are NonViolent behavior, .56; Verbally Violent behavior, .79; and Physically Violent behavior, .82. Husband toward wife correlations are NonViolent behavior, .50; Verbally Violent behavior, .80; and Physically Violent behavior, .83. The wife toward husband correlations are NonViolent behavior, .51; Verbally Violent behavior, .79; and Physically Violent behavior, .82. The Verbally Violent and Physically Violent behavior coefficients are relatively high, while the NonViolent behavior coefficients are relatively low. The differences are primarily attributable to the few number of items that make up the NonViolent behavior mode (N=3). Because NonViolent behavior was not included in the research questions studied presently, the NonViolent behavior items were administered to subjects to retain item presentation context of the survey, but were not scored, and were not included in the data analysis of the present study.

Concurrent Validity of the CTS. Straus (1979) reported that with large samples, students reported almost identical rates of parental violence as reported by spouses in his nationally representative sample of conjugal violence. Students in two sociology classes completed the CTS for the referent period of the last year they lived at home while in high school. They were instructed to answer, as accurately as they could, how often their parents had committed each of the items in the CTS. Other questionnaires were sent, each addressed in a separate envelope, to each

of the student's parents. Of the 110 students present in the classes when the volunteers were recruited, a total of 105 filled out the questionnaires. Of the 168 questionnaires sent to parents, a total of 121 questionnaires (72%) were returned. Results indicated that correlations between student reports and parental reports were higher for Verbally Violent behavior (Husbands, $N=57$, $r=.51$; Wives, $N=60$, $r=.43$) and Physically Violent behavior (Husbands, $N=57$, $r=.64$; Wives, $N=60$, $r=.33$) than for NonViolent behavior (Husbands, $N=57$, $r=.19$; Wives, $N=60$, $r=-.12$). The higher correlations for the violent behaviors are the pertinent data for the current study.

Content Validity of the CTS. The items in the Physically Violent behavior tactic all describe acts of actual physical force as performed by one family member toward another. Consequently, there accrues to the instrument a degree of content validity (Straus, 1979).

Construct Validity of the CTS. Evidence was cited by Straus (1979) for construct validity from several sources. There was consistently a close agreement of findings between the CTS and the catharsis theory of aggression control, upon which the CTS items were based. The validity of the instrument for use in a social-learning theory base, as used in this study, was implied by Gelles and Straus (1979). A factor analysis of the items was conducted on the instrument to evaluate the CTS's construct validity in the present study. Results of this analysis are presented

next in this section of this chapter. Also, the CTS has indicated consistently high rates of physical and verbal violence, as have previous in-depth interviews. Transgenerational data of violence were consistent with previous empirical evidence (Straus, 1979).

A factor analysis of responses by subjects in the full study (i.e., these data did not include responses by subjects in the pilot study) on the Hypothetical Marriage Vignette, Sibling, and Marital Scales yielded the construct validity data for the use of the CTS in this study. These data are found in Appendix H. Several points of discussion may be made from the data in this Appendix.

There is good consistency of the three factors identified by items with factor loadings of .60 or more. This consistency suggests good construct validity of the CTS as used in this study.

An examination of the items in each factor suggests the following constructs:

(a) Factor One in the Hypothetical Marriage Vignette, Sibling, and Marital Scales appears to be conflict behavior designed to intimidate the other person into submission, so that dominance is established in the relationship for the person demonstrating the behavior. The goal is to stop further conflict behavior by the other party, but, at the same time, preserve the relationship. This behavior of intimidation appears to have the ritualistic purpose of establishing the structural ranking order of the relationship

demonstrated in many animal species (Lorenz, 1966): It is not the purpose of the behavior to resolve the conflict in a mutually satisfying manner.

(b) Factor Two in the Hypothetical Marriage Vignette Scale and Factor Three in the Sibling and Marital Scales, appears to involve the actual possibility of doing serious, or deadly, harm to the other person. In this case, neither resolving the conflict constructively, nor preserving the relationship seems to be motivating the behavior. Rather, the focus of behavior has shifted to the actual possibility of eliminating the other person. Fortunately, this factor moves down from the second largest contribution of how subjects thought the average person would act in a hypothetical marriage situation to the third largest contributing factor of how the subjects reported treating their siblings and spouses (17%, 12%, and 10%, respectively). Perhaps the subjects view others as more violent than themselves, or perhaps they have not experienced as provocative a situation as described in the hypothetical marriage vignette (Appendix D).

(c) The third factor in the Hypothetical Marriage Vignette and the second factor in the Sibling and Marital Scales, appears to describe a more passive-aggressive mode to conflict behavior. The subject either physically, or emotionally, withdraws, or attacks the other person in indirect ways.

One exception each occurs in the ritually limited

behaviors of dominance in the sibling and marital relationships. In the case of the sibling relationship, Factor One included beating up the sibling (Item p). Perhaps beating up siblings was not perceived as threatening the relationship as it might do in the marital relationship.

The other exception is the unexpected appearance of "Used a knife or gun" (Item r) in Factor One of the marital relationship. It is as though societal norms have placed life-threatening weapons at the use of persons in conflict, who only intended to intimidate the other person, thereby establishing the desired ranking order to stop the other's conflict behavior from continuing. However, instead of preserving the relationship while ending the conflict, the technology of violence supercedes the ritualistic intent of the behavior, and deadly force is used inadvertently. In such cases, the disbelief of what the person has done is probably genuine. The general interpretation of this analysis might be that technology has led to unnatural conflict behavior (behavior not controlled by the ritualistic intent of intimidation), rather than helping to support natural conflict behavior. The most expansive implications of this premise might apply to the results of highly liberal gun laws, such as in Florida, or the arms race, if technology distorts an underlying goal of intimidation in various conflicts between disputants who both want to preserve the relationship, while dominating the behavior of the other party.

Procedure

Pilot Study

A pilot study was conducted to answer two procedural questions: (a) How closely do subject and sibling agree regarding the subject's conflict behavior during the subject's high school years, while both were living at home? as measured by recall on the Conflict Tactics Scales and (b) Is there an order effect in the presentation of the three Conflict Tactics Scales used in this study? Following are brief discussions regarding these two issues, and the respective results revealed by the pilot study data.

Recall Data. In order to answer the first procedural question above, the use of recall data was evaluated. Although interviews requiring recall of childhood environments have been shown to be reasonably valid in at least some cases (Robins, Schoenberg, Holmes, Ratcliff, Benham, & Works, 1985), reliability for the use of the Sibling Scale of the Conflict Tactics Scales gathered by adult recall has not been demonstrated. A pilot study was conducted using adult siblings to determine the reliability of such recall data. A total of 24 adult sibling pairs separately were administered the child-toward-sibling questionnaire. The initially contacted volunteer subject was asked to complete the Conflict Tactics Scale for conflict with a sibling (Appendix E). The sibling was mailed an envelope with a self-addressed stamped envelope, a cover

letter (Appendix I), a sibling consent form (Appendix J), and a Conflict Tactics Scale for the pilot study sibling to complete (Appendix G). The sibling was asked to describe the subject's conflict behavior toward the sibling during the subject's high school years, while both siblings lived together at home. An introductory telephone call was made to the sibling about the third day after the questionnaire was mailed to him or her. A two-week follow-up call was made to four siblings, whose questionnaires had not yet been returned. A total of 24 sibling questionnaires (100%) were returned, counter to the response rates of the 1960's (80-85%) and 1970's (60-65%) cited by Daniel, Schott, Atkins, and Davis (1982). Even though siblings had not originally volunteered for the study, they seemed interested. The introductory telephone call seemed helpful, and the forms were simple and brief (Appendixes G, I, and J). Table 1 presents a correlation matrix for the three research categories between subject and sibling, using a SYSTAT Pearson correlation program (Wilkinson, 1986). The critical Pearson correlation for 22 degrees of freedom at the .05 significance level is .34. As can be seen in Table 1, Sibling Verbal Violence and Sibling Incidence of Violence reach levels of significance, while the Sibling Physical Violence value falls just short of significance.

Order Effect. The second procedural question of order effect was examined. A total of six pilot study subjects (three male and three female) were randomly assigned

Table 1

Pearson Correlation Matrix for Conflict Tactics by Subject
Toward Sibling as Recalled by 24 Sibling Pairs

Sibling's Recall	Subject's Recall		
	Verbal Violence	Physical Violence	Incidence of Violence
Verbal Violence	.406*		
Physical Violence		.329	
Incidence of Violence			.387*

* $p < .05$.

within each gender to one of four presentation orders; (a) Sibling/Marital/Hypothetical (SMH), (b) Marital/Sibling/Hypothetical (MSH), (c) Hypothetical/Sibling/Marital (HSM), and (d) Hypothetical/Marital/Sibling (HMS). The means and standard deviations that resulted from each of the four order presentations are presented in Table 2. An Order Effect analysis of variance was conducted on the data from Table 2, using an SPSS-X (1986) program for a three factor design with repeated measures on two factors: Scales and Tactics. No significant main effect was observed for Order, $F(3, 20) = .083$, $p > .05$, or for the interaction

Table 2

Means and Standard Deviations from the Four Order Presentations

Scale	Tactic		Order			
			SMH	MSH	HSM	HMS
Hypothetical	Verbal	<u>M</u>	10.83	10.17	9.00	11.00
	Violence	<u>SD</u>	2.32	2.93	1.67	2.53
	Physical	<u>M</u>	4.83	5.83	4.17	4.83
	Violence	<u>SD</u>	3.66	4.31	3.71	3.76
Sibling	Verbal	<u>M</u>	9.83	8.00	8.00	7.83
	Violence	<u>SD</u>	3.66	3.69	5.90	3.19
	Physical	<u>M</u>	3.67	4.67	1.00	2.17
	Violence	<u>SD</u>	2.66	3.23	1.55	2.64

(table continues)

of Order by Scales, $F(6, 40)=1.01$, $p>.05$. The main effect of Scales was significant, $F(2, 40)=10.84$, $p<.05$, but this result simply reflects the different relationships measured by the three scales used in this study; therefore, it has no bearing on the interpretation of an order effect of the instrument.

Table 2 (continued)

Scale	Tactic		Order			
			SMH	MSH	HSM	HMS
Marital	Verbal	<u>M</u>	4.33	7.00	9.17	3.00
	Violence	<u>SD</u>	2.07	6.57	4.62	2.45
	Physical	<u>M</u>	0.17	3.50	0.17	0.33
	Violence	<u>SD</u>	0.41	7.15	0.41	0.52

Note. The higher the score, the greater the violence in the conflict tactic. n=24.

Design

Subjects were presented five pages of material to complete. The first page consisted of a Subject Consent Form (Appendix K). The second page was a Demographic Information Form (Appendix A). The next three pages were made up of the scales from the Conflict Tactics Scales used in this study; (a) the scale for the Hypothetical Marriage Vignette (Appendix D), (b) the scale for conflict with a Sibling (Appendix E), and (c) the scale for Marital conflict (Appendix F). Subjects completed a conflict scale pertaining to what they thought an average person of the

subject's own sex would do in a hypothetical marital situation, involving conflict over finances. This scale corresponded to the last item of the Demographic Information Form (Appendix A). The scale was included to disguise the research intent to compare sibling and marital violence. The items for all three conflict scales were identical. Each scale introduction, and the scale items, were read aloud to the subjects. Each subject completed the survey individually. The subject indicated the incidence category for each item pertaining to the appropriate referent year(s) regarding their childhood relationship (conflict with a sibling) and their first marriage relationship lasting over two years (conflict with a spouse).

Introductions included the investigator explaining that in most important relationships, especially such intimate ones as those with brothers, sisters, and spouse, that conflicts of interest inevitably arise. The subjects were told that there are many different ways people might try to settle their differences in those relationships. The subjects were given lists of such methods of conflict resolution; one for a marital vignette, one that applied to their sibling relationship, and one for their marital relationship.

The survey for the marital vignette described an ongoing financial conflict. The subject indicated how typical each conflict behavior would be in that situation for the average person of the subject's same sex toward

his or her spouse. Responses were categorized as (a) Not at all typical conflict behavior (N), (b) Rarely typical (R), (c) Somewhat typical (S), (d) Typical (T), and (e) Very typical (V). These responses were scored 0, 1, 2, 3, and 4, respectively.

The sibling and marital conflict scales had response categories designated as (a) Never (N), (b) Once or Twice a year (OT), (c) a Few times a Year (FY), (d) a Few times a Month (FM), and (e) a Few times a Week (FW). These categorical responses were scored 0, 1, 2, 3, and 4, respectively.

The referent year(s) for the sibling scale was the high school year(s) of the subject (grades 9 through 12, ages approximately 15 through 18), while both siblings lived at home. Siblings must have lived together at home at least one year. The referent year for the marital scale was the previous 12 months, if the subject were currently living in the first marriage, or the last year of the subject's first marriage of at least two years duration, if that marriage was no longer in effect.

Statistical Analyses

Three statistical analyses were conducted to examine the data of this study. This section presents a discussion of these three analyses.

1. A 3x2 Analysis of Variance with totally repeated measures was used to analyze three of the four research hypotheses. Because the Incidence of Violence was defined

as the sum of scores for the two levels of Type of violence (Verbal and Physical), the analysis of both Type and Incidence of Violence was accomplished by one ANOVA procedure. The hypothesis of no significant difference between the means of Sibling Incidence of Violence and of Marital Incidence of Violence was evaluated as a main effect of the analysis. The interaction effect of the analysis tested the two research hypotheses of no significant differences between the Sibling and Marital means for Verbal and Physical Violence.

2. A factor analysis of the items on the Conflict Tactics Scales was run to evaluate the construct validity of the instrument as used in the present study. The findings of this analysis was presented in the Construct Validity of the CTS section of Chapter III.

3. A Pearson correlation for every pair of independent and dependent variables, demographic data, and CTS items was derived as part of this exploratory descriptive study. It was from these data that the conclusion regarding the fourth research hypothesis was drawn. This hypothesis postulated that those subjects who confirmed the occurrence in their own marriage of a conflict similar to the Hypothetical Marriage Vignette would report higher Marital Incidence of Violence scores than those subjects who did not report the occurrence of such a conflict.

Summary

This chapter has described the Conflict Tactics Scales,

which was the instrument used in this study. The purpose, procedure, and the results of the pilot study also were presented. The subjects and design of this study were discussed. A description of the statistical analyses used to examine the data concluded this chapter.

CHAPTER IV

RESULTS OF THE STUDY

Introduction

In this chapter the results of the statistical analyses of the data are presented. A discussion of each research hypothesis presented in Chapter I, the statistical test used to test the hypothesis, and the finding of each test are presented. This chapter is concluded with a summary of the results.

Results Related to Research Hypotheses

Research Hypothesis I

There is no significant difference between the mean of Sibling Incidence of Violence and the mean of Marital Incidence of Violence.

A 3x2 Analysis of Variance using an SPSS-X program (Norusis, 1985; SPSS-X, 1986) was run on the values of means shown in Table 3. The results of the ANOVA are shown in Table 4. As can be seen in Table 4, a significant main effect for Scale was found, $F(2, 154)=10.30, p<.001$. Because Scale has three levels (Sibling Incidence of Violence, Marital Incidence of Violence, and Hypothetical Incidence

Table 3

Means and Standard Deviations for Scale by Tactic

Scale	Tactic			
	Verbal Violence	Physical Violence	Incidence of Violence ^a	
Hypothetical	<u>M</u>	2.56	0.72	1.43
	<u>SD</u>	2.17	0.94	1.32
Sibling	<u>M</u>	1.92	0.51	1.05
	<u>SD</u>	2.06	0.73	0.99
Marital	<u>M</u>	1.76	0.32	0.87
	<u>SD</u>	2.62	1.32	1.69

Note. The higher the mean scores, the greater the amount of violence involved in the tactic. Mean item values. n=78.

^aMain effect.

of Violence), a Tukey's Honestly Significant Difference (HSD) (Bruning & Kintz, 1977) post hoc test was performed to determine where the significant difference(s) of mean scores lay. The Tukey's HSD yielded a critical value of .45. As can be seen in Table 3, there is no significant difference between the means of Sibling Incidence of Violence

Table 4

Source Table for ANOVA of Scale by Tactic

Source	SS	df	MS	F	p
Scale	12.36	2	6.18	9.08	<.001
Error	104.36	154	0.68		
Tactic	285.06	1	285.06	71.76	<.001
Error	305.87	77	3.97		
Scale X					
Tactic	4.72	2	2.36	3.81	.024
Error	95.66	154	0.62		

and Marital Incidence of Violence. Therefore, Research Hypothesis I is confirmed.

The other main effect of Tactic also was significant, $F(1, 77)=71.76$, $p<.001$. However, this result merely reflects the difference between Verbal Violence and Physical Violence mean scores recorded for the Sibling, Marital, and Hypothetical Scales. This result is not relevant to the present study, and the means are not shown in Table 3.

Research Hypothesis II

There is no significant difference between the mean of Sibling Verbal Violence and the mean of Marital Verbal Violence.

Research Hypothesis III

There is no significant difference between the mean of Sibling Physical Violence and the mean of Marital Physical Violence.

Research Hypotheses II and III were analyzed in the interaction step of Table 4. The significant ordinal interaction $F(2, 154)=3.81, p=.024$, is shown graphically in Figure 1. Because there were five items in the Verbal Violence tactic, and eight items in the Physical Violence tactic, the means for each tactic were divided by its respective number of items, yielding mean item values for each tactic, in order to compare tactics in Figure 1.

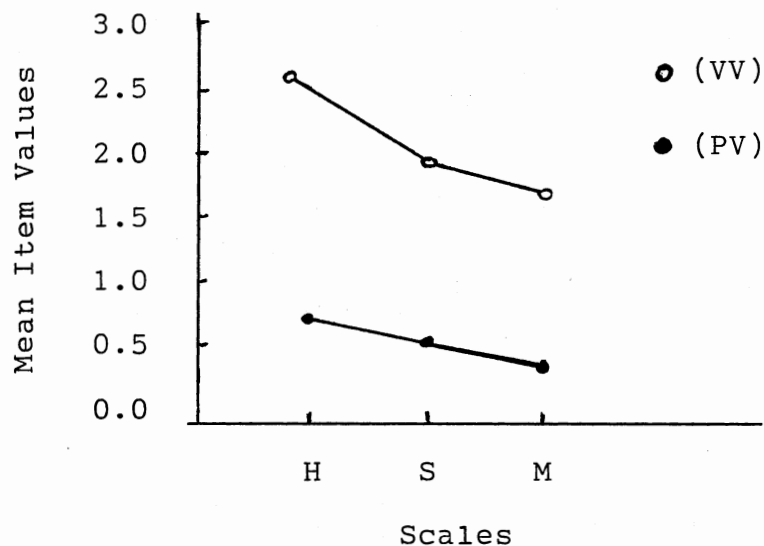


Figure 1. Mean Item Values for Verbal Violence (VV) and Physical Violence (PV) Across the Hypothetical (H), Sibling (S), and Marital (M) Scales.

The significant ordinal interaction, shown in Figure 1, simply means that the two trend lines deviate from parallel. Primarily, the difference between the mean item value for Verbal Violence and Physical Violence for the Hypothetical Scale is somewhat larger than the difference between Verbal and Physical Violence for the Sibling and Marital Scales. There is no difference between the size of the Verbal-Physical Violence discrepancies for the Sibling and Marital Scales; therefore, it can be concluded that the findings regarding Verbal and Physical Violence tactics are the same as the finding regarding the Incidence of Violence. That is, there is no difference between Verbal Violence and Physical Violence, respectively, between the Sibling and Marital Scales. Therefore, Research Hypotheses II and III are confirmed.

Research Hypothesis IV

There is a positive correlation between the Marital Incidence of Violence scores and the reported occurrence of a marital conflict similar to the Hypothetical Marriage Vignette.

The Marital Incidence of Violence and the reported occurrence in the subject's marriage of a conflict similar to the Hypothetical Marriage Vignette had a significant, positive correlation ($r=.24$, $p<.05$). Therefore, Research Hypothesis IV is confirmed.

Summary

The results of the statistical analyses of the data were presented in this chapter. All four research hypotheses were confirmed.

The data from this study have shown that there is no difference between the means for Sibling Verbal Violence, Physical Violence, or the Incidence of Violence and their respective means for Marital Violence. Also, there is some support for the validity of subject's responses because, as predicted by the investigator, subject's Marital Incidence of Violence scores were significantly increased for those subjects who reported a marital conflict similar to the Hypothetical Marriage Vignette over those subjects who did not report the presence of such a conflict.

CHAPTER V
SUMMARY, CONCLUSIONS, AND
RECOMMENDATIONS

Summary

The purpose of this study was to determine if there is a relationship between the incidence and type of sibling and marital violence. A review of the literature indicated that although sibling violence is prevalent in our society, it has been a neglected area of professional study, and undervalued as a socialization experience for the development of adult behavior. Further, it has been demonstrated that violence in intimate relationships is persistent through courtship and marriage relationships, and this behavioral persistency has been speculated to include the childhood sibling relationship. The literature also has indicated that family violence patterns are generational and transgenerational, as related to sibling violence. The design of this study had the goal to bridge the gap between childhood sibling violence in the family-of-origin and adult marital violence. The research question was: Are the incidence and type of childhood sibling violence repeated by the incidence and type of adult marital violence?

Subjects for this study were 78 Caucasian, middle-socioeconomic residents of 10 cities and towns in the central metropolitan area of a southwestern state. Of those 78 subjects, 58 were female, 20 were male. Subjects were adults who had been married at least two years, and had only one sibling in the family-of-origin. Also, subjects had lived with the sibling at least one year of the subject's four high school years, grades 9 through 12.

The instrument used to measure sibling and marital violence was the Conflict Tactics Scales (CTS). The subjects completed one CTS for a hypothetical marriage vignette for which they described what they thought the average person, of their own sex, would do; one for their childhood sibling relationship; and one for their adult marital relationship.

All four research hypotheses formulated for this study were confirmed. A 3x2 Analysis of Variance with totally repeated measures was used to test the first three research hypotheses that sibling verbal violence, physical violence, and the incidence of violence were repeated in the adult marital relationship. The results revealed that each of the levels of sibling conflict tactics was significantly related to the respective level of violence in the marital relationship.

A Pearson coefficient correlation was used to test the fourth research hypothesis that those subjects reporting a conflict similar to the hypothetical marriage vignette

would also report greater scores for marital incidence of violence, indicating some support for the validity of subject's self-reports of marital violence. The results of the analysis revealed there was a significant positive correlation between the presence of a similar marital conflict and greater marital incidence of violence scores, confirming the fourth research hypothesis.

Conclusions

Major Research Question

The major research question of this study was, Is the type and incidence of childhood sibling violence repeated in adult marital violence? The first three research hypotheses postulated that sibling verbal violence, physical violence, and total incidence of violence were each repeated in the subject's marriage. Scores on the Conflict Tactics Scales confirmed that all three levels of violence in the sibling relationship are related to the respective levels of violence in the marital relationship. (Complete score data are presented in Appendix L.)

The results of this study support the view that conflict behaviors in intimate relationships are persistent over time and across setting. How the subjects in this study treated sibling conflicts in the family-of-origin is how these subjects also tended to treat marital conflicts in their own marriages. The strength of association (η^2) value for this relationship was a moderately high 12%,

indicating a reasonably practical point of intervention into childhood violence that may make a meaningful difference in adult marital violence. These results indicate that greater attention may need to be focused on the quality of sibling relationships, specifically, on the quality of sibling conflict behaviors. For instance, although nearly one-third of the subjects reported requesting or receiving marital counseling to improve the marital relationship, none of the 78 subjects reported requesting or receiving counseling as children to improve the quality of the sibling relationship (Table B-6). That is, families and professionals may be neglecting an opportunity to intervene in the development of long-lasting destructive conflict behaviors.

Therefore, the major conclusion of this study is that perhaps families and society, as well as professional counselors, have underestimated the significance of sibling conflict behaviors. Violence in homes has been shown to continue from one generation to another. This study indicates that how children learn to treat siblings during conflicts is repeated in how that person will later treat a spouse as an adult during conflicts. The findings of this study indicate that the American society need not accept as unchangeable its relatively high levels of domestic and societal violence. It is suggested that by teaching mediation and negotiation skills to families trapped in domestic violence, that the patterns of violence

in some of these families can be stopped from being passed on to the next generation. A summary of this study's results, conclusions, and recommendations was sent to those volunteer subjects who had made a request for such a summary (Appendix M).

Correlational Data

This part of the Conclusions section is drawn from Appendix N. Appendix N is provided for the reader who has specific correlational questions not covered in the text.

A Pearson correlation coefficient of the relationship between reporting a marital conflict similar to a hypothetical marriage vignette, and the self-reported marital incidence of violence tested this study's fourth research hypothesis. The results indicated that subjects scored significantly higher on marital incidence of violence when they reported the marital conflict example was present in their own marriage, than when it was not so reported. This result helps support the validity of the marital violence scores. However, other interpretations of this result are possible. For example, subjects who admit the hypothetical marital conflict in their own marriage may have overreported the incidence of violence.

Although the sibling and marital conflict behaviors were significantly related, only 8 of the 14 individual items were significantly correlated. Those items, as designated on the CTS, with correlations $p < .05$ between the

sibling and marital scales were: Items (d) Insulted or swore, (e) Sulked or refused to talk, (f) Stomped out, (i) Threatened to hit or throw something at the other one, (k) Threw something at the other one, (l) Pushed, grabbed, or shoved, (m) Slapped or spanked, and (o) Hit or tried to hit with something. Each item's correlation with every other item is shown in Appendix N.

Whether or not subjects considered themselves as skillful to handle family conflicts was unrelated to the incidence of marital violence they performed ($r=.16$, $p=.08$), but it was significantly inversely related to the incidence of violence subjects reported performing toward their sibling during high school ($r=-.24$, $p=.02$). At least in some small part, the subjects' self-concepts as conflict negotiators were influenced by how they handled conflicts as children with a brother or sister, rather than how they handled adult conflicts with a husband or wife. The greater the violence perpetrated toward a sibling, the less skillful in conflicts the subject rated himself or herself. This result also leads to the conclusion of this study that the socializing effects of the sibling relationship may have been underestimated, and may be used by professionals and parents to develop better adult conflict skills.

Recommendations for Future Research

1. This study should be replicated in other geographical areas in order to determine if other samples produce similar results.

2. Additional demographic information in studies on incidence of domestic violence should include determination of the presence of alcohol/drug abuse in the subject's family-of-origin and/or marital relationship.

3. Earlier referent years for the sibling violence measures might indicate if the significant statistical relationship between sibling and marital violence is established by an earlier age than the high school years used in this study.

4. Another study might use subjects with more than one sibling in order to investigate if number of siblings, or certain sibling relationships, contribute significantly to the variance of marital violence.

5. Further work to improve the reliability of the recall data on the CTS would be helpful toward refining analyses of the correlation between childhood and adult conflict behaviors.

6. Items 7 and 10 of the Demographic Information Form should be changed to delete the request for counseling in the sibling and marital relationships. In that way, comparisons can be made to determine if marital counseling had an impact on the levels of marital violence from the levels of sibling violence for those subjects who received marital counseling, compared to those subjects who had not.

Recommendations for Human
Services Providers

1. Human services providers working with adults may be able to have clients give more revealing information regarding sibling relationships than may be forthcoming regarding adult peer relationships. This information may be helpful as applied to current relational problems.
2. Human services providers working with childhood siblings may be able to use the apparently important socializing sibling relationship to shape healthier peer relations skills. The effect of this intervention may prevent long-term destructive intimate peer relations, specifically regarding conflict tactics.
3. Human services providers may take the opportunity to prevent future conflict violence by modeling for parents, and educating their children, that there are alternatives available to sibling conflict violence. The human services providers may demonstrate various mediation and negotiation skills to handle conflicts nonviolently.
4. Human services providers in dealing with family conflicts may benefit themselves, and clients, by being familiar with mediation literature and its delineation of the mediator's role in conflicts involving other family members.

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APPENDIXES

APPENDIX A

DEMOGRAPHIC INFORMATION FORM

DEMOGRAPHIC INFORMATION FORM

Please fill in blanks or circle appropriate responses:

1. Sex M F 2. Age _____ 3. Occupation _____
4. Sex of sibling M F
5. Sibling is _____ years YOUNGER OLDER
6. During your school years, grades 9 through 12 (ages approximately 15 through 18), how many years did you and your sibling live together at home? 1 2 3 4
7. Was sibling counseling ever requested or received for the purpose of improving the sibling relationship?
YES NO
8. Length in years of your first marriage, or current marriage to date, if you are in your original marriage:
_____ years
9. Your current marital status is: IN ORIGINAL MARRIAGE
WIDOWED DIVORCED REMARRIED TO FIRST SPOUSE
MARRIED, NOT TO FIRST SPOUSE
10. Has marital counseling ever been requested or received for the purpose of improving the marital relationship?
YES NO
11. Do you feel skillful in handling conflicts in your family? YES NO
12. Read the following hypothetical marriage vignette:

A couple has had financial problems for over a year. Many heated arguments have occurred regarding the management of money. The spouse has appeared to spend money foolishly on unnecessary expenses. Finally, once again, it has been discovered that the spouse has spent needed money on a very expensive item the spouse has wanted to buy.

Has this situation, or a similar one, ever occurred
in your marriage? YES NO

APPENDIX B
DEMOGRAPHIC DATA

Table B-1

Subject Gender Frequency and Percent

Gender	Frequency	Percent
Female	58	74.4
Male	<u>20</u>	<u>25.6</u>
Total	78	100.0

Table B-2

Subject Age Range

Mean	Median	S.D.	Minimum	Maximum
35.73	34.50	9.50	19.0	62.0

Table B-3

Subject/Sibling Gender Mix

Subject Gender/Sibling Gender	Frequency	Percent
F/F	25	32.1
F/M	33	42.3
M/F	11	14.1
M/M	<u>9</u>	<u>11.5</u>
Total	78	100.0

Table B-4

Sibling Age Difference in Years

Mean	Median	S.D.	Minimum	Maximum
2.60	2.00	4.47	-4.0	16.0

Note. Positive values=subject older than sibling; negative value=subject younger than sibling.

Table B-5

Years Siblings Lived Together During Subject's
Four High School Years (Grades 9-12)

Years Together	Frequency	Percent
1	8	10.3
2	5	6.4
3	12	15.4
4	<u>53</u>	<u>67.9</u>
Total	78	100.0

Table B-6

Incidence of Sibling and Marital Counseling

Sibling/Marital	Frequency	Percent
Yes/Yes	0	0.0
Yes/No	0	0.0
No/Yes	25	32.1
No/No	<u>53</u>	<u>67.9</u>
Total	78	100.0

Table B-7

Current Marital Status

Status	Frequency	Percent
In Original Marriage	46	59.0
Widowed	1	1.3
Divorced	18	23.1
Remarried to First Spouse	0	0.0
Married, Not to First Spouse	<u>13</u>	<u>16.7</u>
Total	78	100.1 ^a

^aRounding error.

Table B-8

Subject Skillful in Family Conflicts?

Skillful	Frequency	Percent
Yes	59	75.6
No	<u>19</u>	<u>24.4</u>
Total	78	100.0

Table B-9

Hypothetical Marriage Vignette Occurred
in Subject's Marriage?

Occurred?	Frequency	Percent
No	36	46.2
Yes	<u>42</u>	<u>53.8</u>
Total	78	100.0

APPENDIX C
INFORMATION SHEET

TO WHOM IT MAY CONCERN

My name is Tom Shadid, and I am looking for volunteer subjects interested in the area of conflict management to participate in a doctoral dissertation research study as part of my degree requirements at Oklahoma State University. The results of this study may help families handle conflicts more effectively.

Volunteers must be adults who had only one sibling in their family-of-origin. They must have lived at home with their brother or sister at least one year of the volunteer's four school years in grades 9 through 12 (ages approximately 15 through 18). The volunteer subject must also have had a marriage of at least two years duration.

For the pilot study, I must be able to get a written response from the volunteer's sibling regarding the volunteer's conflict behaviors during grades 9 through 12, while the volunteer and his/her sibling lived together at home. A written survey with a self-addressed, stamped envelope will be sent to the sibling for his or her responses.

Participation time for the volunteer subject should be approximately one-half hour. All responses will be strictly confidential. Participants may receive a summary of the results upon request.

If you are interested in making a valuable contribution to the study of conflict management, please contact:

Tom Shadid

(405) 341-4134

If you reach a recording, please leave your name and

telephone number, and I will return your call as soon as I can.

Thank you for your time and kind attention,

Tom Shadid

(405) 341-4134

APPENDIX D

CTS FOR HYPOTHETICAL MARRIAGE VIGNETTE

CONFLICT TACTICS SCALES

by Murray A. Straus

Conflict in a Hypothetical Marriage Vignette

Read the following hypothetical marriage vignette:

A couple has had financial problems for over a year. Many heated arguments have occurred regarding the management of money. The spouse has appeared to spend money foolishly on unnecessary expenses. Finally, once again, it has been discovered that the spouse has spent needed money on a very expensive item the spouse has wanted to buy.

On the following survey indicate how typical you believe each behavior would have been in the above situation with the spouse. Mark the typicalness of each behavior for someone of the same sex as you are.

N = NOT AT ALL TYPICAL

R = RARELY TYPICAL

S = SOMEWHAT TYPICAL

T = TYPICAL

V = VERY TYPICAL

For each item please circle the appropriate response:

- | | | | | | |
|---|---|---|---|---|---|
| a. Discussed the issue calmly_____ | N | R | S | T | V |
| b. Got information to back up his/her side of things_____ | N | R | S | T | V |
| c. Brought in or tried to bring in someone to help settle things_____ | N | R | S | T | V |
| d. Insulted or swore at the other one_____ | N | R | S | T | V |
| e. Sulked or refused to talk about it_____ | N | R | S | T | V |
| f. Stomped out of the room or house or yard_ | N | R | S | T | V |
| g. Cried_____ | N | R | S | T | V |
| h. Did or said something to spite the other one_____ | N | R | S | T | V |
| i. Threatened to hit or throw something at the other one_____ | N | R | S | T | V |

- j. Threw or smashed or hit or kicked something_____ N R S T V
- k. Threw something at the other one_____ N R S T V
- l. Pushed, grabbed, or shoved the other one_ N R S T V
- m. Slapped or spanked the other one_____ N R S T V
- n. Kicked, bit, choked, or hit with a fist__ N R S T V
- o. Hit or tried to hit with something_____ N R S T V
- p. Beat up the other one_____ N R S T V
- q. Threatened with a knife or gun_____ N R S T V
- r. Used a knife or gun_____ N R S T V
- s. Other_____ N R S T V
- _____ N R S T V

APPENDIX E

CTS FOR CONFLICT WITH A SIBLING

CONFLICT TACTICS SCALES

by Murray A. Straus

Conflict with a Brother or Sister

In many families where there are children, they always seem to be having spats, fights, disagreements, and so forth. They use many different ways of trying to settle differences between themselves. I'm going to read you a list of some things you might have done when you and your sibling had a disagreement. For each one, I would like to know how often you did it during your school years, grades 9 through 12 (ages approximately 15 through 18), while you both lived at home.

N = NEVER
 OT = ONCE OR TWICE A YEAR
 FY = A FEW TIMES A YEAR
 FM = A FEW TIMES A MONTH
 FW = A FEW TIMES A WEEK

For each item please circle the appropriate response:

- | | | | | | | |
|----|--|---|----|----|----|----|
| a. | Discussed the issue calmly_____ | N | OT | FY | FM | FW |
| b. | Got information to back up your side of things_____ | N | OT | FY | FM | FW |
| c. | Brought in or tried to bring in someone to help settle things_____ | N | OT | FY | FM | FW |
| d. | Insulted or swore at the other one____ | N | OT | FY | FM | FW |
| e. | Sulked or refused to talk about it____ | N | OT | FY | FM | FW |
| f. | Stomped out of the room or house or yard_____ | N | OT | FY | FM | FW |
| g. | Cried_____ | N | OT | FY | FM | FW |
| h. | Did or said something to spite the other one_____ | N | OT | FY | FM | FW |
| i. | Threatened to hit or throw something at the other one_____ | N | OT | FY | FM | FW |

j.	Threw or smashed or hit or kicked something_____	N	OT	FY	FM	FW
k.	Threw something at the other one_____	N	OT	FY	FM	FW
l.	Pushed, grabbed, or shoved the other one_____	N	OT	FY	FM	FW
m.	Slapped or spanked the other one_____	N	OT	FY	FM	FW
n.	Kicked, bit, choked, or hit with a fist_____	N	OT	FY	FM	FW
o.	Hit or tried to hit with something_____	N	OT	FY	FM	FW
p.	Beat up the other one_____	N	OT	FY	FM	FW
q.	Threatened with a knife or gun_____	N	OT	FY	FM	FW
r.	Used a knife or gun_____	N	OT	FY	FM	FW
s.	Other_____					
	_____	N	OT	FY	FM	FW

APPENDIX F

CTS FOR CONFLICT WITH A SPOUSE

CONFLICT TACTICS SCALES

by Murray A. Straus

Conflict with a Spouse

No matter how well a couple gets along, there are times when they disagree on major decisions, get annoyed about something the other person does, or just have spats or fights because they're in a bad mood or tired or for some other reason. They use many different ways of trying to settle their differences. I'm going to read a list of some things that you might have done when you had a dispute with your spouse. I would like you to tell me for each one how often you did it in the past year, if you are in your first marriage, or the last year of your first marriage, if it has been ended.

N = NEVER
 OT = ONCE OR TWICE A YEAR
 FY = A FEW TIMES A YEAR
 FM = A FEW TIMES A MONTH
 FW = A FEW TIMES A WEEK

For each item please circle the appropriate response:

- | | | | | | |
|--|---|----|----|----|----|
| a. Discussed the issue calmly_____ | N | OT | FY | FM | FW |
| b. Got information to back up your side
of things_____ | N | OT | FY | FM | FW |
| c. Brought in or tried to bring in
someone to help settle things_____ | N | OT | FY | FM | FW |
| d. Insulted or swore at the other one___ | N | OT | FY | FM | FW |
| e. Sulked or refused to talk about it___ | N | OT | FY | FM | FW |
| f. Stomped out of the room or house or
yard_____ | N | OT | FY | FM | FW |
| g. Cried_____ | N | OT | FY | FM | FW |
| h. Did or said something to spite the
other one_____ | N | OT | FY | FM | FW |

i.	Threatened to hit or throw something at the other one_____	N	OT	FY	FM	FW
j.	Threw or smashed or hit or kicked something_____	N	OT	FY	FM	FW
k.	Threw something at the other one_____	N	OT	FY	FM	FW
l.	Pushed, grabbed, or shoved the other one_____	N	OT	FY	FM	FW
m.	Slapped or spanked the other one_____	N	OT	FY	FM	FW
n.	Kicked, bit, choked, or hit with a fist_____	N	OT	FY	FM	FW
o.	Hit or tried to hit with something_____	N	OT	FY	FM	FW
p.	Beat up the other one_____	N	OT	FY	FM	FW
q.	Threatened with a knife or gun_____	N	OT	FY	FM	FW
r.	Used a knife or gun_____	N	OT	FY	FM	FW
s.	Other_____					
	_____	N	OT	FY	FM	FW

APPENDIX G

CTS FOR PILOT STUDY SIBLING

CONFLICT TACTICS SCALES

by Murray A. Straus

Conflict with a Brother or Sister

In many families where there are children, they always seem to be having spats, fights, disagreements, and so forth. They use many different ways of trying to settle differences between themselves. Below is a list of some things your sibling might have done when the two of you had a disagreement. For each one, I would like to know how often your sibling did it during his/her school years, grades 9 through 12, while both of you lived at home.

N = NEVER

OT = ONCE OR TWICE A YEAR

FY = A FEW TIMES A YEAR

FM = A FEW TIMES A MONTH

FW = A FEW TIMES A WEEK

For each item please circle the appropriate response:

- | | | | | | | |
|----|--|---|----|----|----|----|
| a. | Discussed the issue calmly_____ | N | OT | FY | FM | FW |
| b. | Got information to back up his/her side of things_____ | N | OT | FY | FM | FW |
| c. | Brought in or tried to bring in someone to help settle things_____ | N | OT | FY | FM | FW |
| d. | Insulted or swore at you_____ | N | OT | FY | FM | FW |
| e. | Sulked or refused to talk about it_____ | N | OT | FY | FM | FW |
| f. | Stomped out of the room or house or yard_____ | N | OT | FY | FM | FW |
| g. | Cried_____ | N | OT | FY | FM | FW |
| h. | Did or said something to spite you_____ | N | OT | FY | FM | FW |
| i. | Threatened to hit or throw something at you_____ | N | OT | FY | FM | FW |
| j. | Threw or smashed or hit or kicked something_____ | N | OT | FY | FM | FW |

k.	Threw something at you_____	N	OT	FY	FM	FW
l.	Pushed, grabbed, or shoved you_____	N	OT	FY	FM	FW
m.	Slapped or spanked you_____	N	OT	FY	FM	FW
n.	Kicked, bit, choked, or hit you with a fist_____	N	OT	FY	FM	FW
o.	Hit or tried to hit you with something_____	N	OT	FY	FM	FW
p.	Beat you up_____	N	OT	FY	FM	FW
q.	Threatened you with a knife or gun____	N	OT	FY	FM	FW
r.	Used a knife or gun_____	N	OT	FY	FM	FW
s.	Other_____					
	_____	N	OT	FY	FM	FW

APPENDIX H

FACTOR ANALYSIS RESULTS: CTS VALIDITY
DATA FOR THIS STUDY

Table H-1

Factor Loadings of Items on the Hypothetical
Marriage Vignette Scale

Factor 1	r	Factor 2	r	Factor 3	r
m. Slapped or spanked	.83	q. Threatened with knife or gun	.87	d. Insulted or swore	.82
n. Kicked, bit, choked, hit with fist	.80	r. Used knife or gun	.86	h. Did, said something spiteful	.73
k. Threw something at other one	.79	p. Beat up other one	.70	e. Sulked or refused to talk	.67
o. Hit, tried hit with something	.79				
l. Pushed, grabbed, or shoved	.67				
i. Threatened to hit, throw something at other one	.66				
Percent of construct measured by Scale accounted for by each factor.					
	43%		17%		9%

Note. Items a, b, c, g, and j were not scored for this study. Loading values of .60 or more were required to include the item in the construct.

Table H-2

Factor Loadings of Items on the Sibling Scale

Factor 1	r	Factor 2	r	Factor 3	r
n. Kicked, bit, choked, hit with fist	.88	f. Stomped out	.78	q. Threatened with knife or gun	.90
o. Hit, tried hit with something	.87	h. Did, said something spiteful	.68	r. Used knife or gun	.84
l. Pushed, grabbed, or shoved	.83	e. Sulked or refused to talk	.67		
i. Threatened to hit, throw some- thing at other one	.78	d. Insulted or swore	.61		
k. Threw some- thing at other one	.78				
m. Slapped or spanked	.76				
p. Beat up other one	.71				
Percent of construct measured by Scale accounted for by each factor.					
	42%		14%		12%

Note. Items a, b, c, g, and j were not scored for this study. Loading values of .60 or more were required to include the item in the construct.

Table H-3

Factor Loadings of Items on the Marital Scale

Factor 1	r	Factor 2	r	Factor 3	r
m. Slapped or spanked	.84	h. Did, said something spiteful	.74	p. Beat up other one	.86
k. Threw something at other one	.83	e. Sulked or refused to talk	.72	q. Threatened with knife or gun	.71
r. Used knife or gun	.82	f. Stomped out	.69		
l. Pushed, grabbed, or shoved	.81	d. Insulted or swore	.67		
i. Threatened to hit, throw something at other one	.80				
n. Kicked, bit, choked, hit with fist	.72				
o. Hit, tried hit with something	.66				
Percent of construct measured by Scale accounted for by each factor.					
	46%		14%		10%

Note. Items a, b, c, g, and j were not scored for this study. Loading values of .60 or more were required to include the item in the construct.

APPENDIX I

PILOT STUDY LETTER

Dear Sibling,

I am Tom Shadid, a doctoral student at Oklahoma State University. Your brother or sister has recently participated in a research study regarding conflict management between siblings. This research is important in helping families handle conflicts between children in the home. Your sibling has completed all items as accurately as possible.

Enclosed are two pages of information needed from you to complete this research. On page one is a consent form to use your answers in my research. Please read it carefully before you sign. If you have questions, call me collect at (405) 341-4134. If you reach a recording, please leave your name and phone number, including area code, and I will return your call as soon as I can.

On page two is the Conflict Tactics Scale for siblings, which your brother or sister completed, describing his/her conflict behavior toward you during your sibling's school years, grades 9 through 12 (ages approximately 15 through 18), while you both lived at home. Please complete this survey describing how often your sibling performed each listed behavior toward you during those years. It is important to answer these items as accurately as you can.

Your participation in this research will be very helpful. I would greatly appreciate receiving your completed forms in the enclosed self-addressed stamped envelope within the week. You may call me collect if you would like

to receive a summary of the results of this research.

I sincerely thank you for your time and attention.

Tom Shadid

APPENDIX J

SIBLING CONSENT FORM

No. _____

SIBLING CONSENT FORM

PLEASE PRINT YOUR NAME AND ADDRESS BELOW:

Name _____

Address _____

I, being 21 years of age or older, do hereby give my consent to have this information I will be providing to be used in a research project. I will be completing the Conflict Tactics Scales, which describe several coping methods people use during conflicts in important relationships. I will fill out a survey for my sibling relationship as the recipient of the listed behaviors. I understand that I am doing this survey with the knowledge and permission of my sibling although I am not, thereby, obligated to do so.

This information will be used by Tom F. Shadid, a doctoral student at Oklahoma State University, as partial fulfillment of his degree requirements. The results of his research may be helpful to families that wish to expand their conflict management skills. I will answer each item as accurately as I can in order to maximize the usefulness of the results.

No one other than the above named person will have access to any information that could identify me personally as having completed these forms. Neither the research nor the report of the research will contain any information

that could identify me personally. I may ask Tom Shadid further questions regarding my rights and the research. My participation is fully voluntary, and I may refuse to participate without penalty at any time.

Signature _____

Date _____

APPENDIX K

SUBJECT CONSENT FORM

No. _____

SUBJECT CONSENT FORM

PLEASE PRINT YOUR NAME AND ADDRESS BELOW:

Name _____

Address _____

I, being 21 years of age or older, do hereby give my consent to have this information I will be providing to be used in a research project. I will be completing the Conflict Tactics Scales, which describe several coping methods people use during conflicts in important relationships. I will fill out one survey each for my sibling and marital relationships, and for a marriage vignette. If I am in the pilot study, I understand my sibling will be asked to corroborate my responses independently.

This information will be used by Tom F. Shadid, a doctoral student at Oklahoma State University, as partial fulfillment of his degree requirements. The results of his research may be helpful to families that wish to expand their conflict management skills. I will answer each item as accurately as I can in order to maximize the usefulness of the results.

No one other than the above named person will have access to any information that could identify me personally as having completed these forms. Neither the research nor the report of the research will contain any information that could identify me personally. I may ask Tom Shadid further questions regarding my rights and the research.

My participation is fully voluntary, and I may refuse to participate without penalty at any time.

Signature _____

Date _____

APPENDIX L

SCORE DATA SUMMARIES

Table L-1

Item Frequencies and (Percents) on the
Hypothetical Marriage Vignette Scale

Item	Response Category ^a				
	N	R	S	T	V
Hd	5 (6.4)	13 (16.7)	17 (21.8)	24 (30.8)	19 (24.4)
He	6 (7.7)	13 (16.7)	25 (32.1)	26 (33.3)	8 (10.3)
Hf	4 (5.1)	17 (21.8)	24 (30.8)	20 (25.6)	13 (16.7)
Hh	0 (0.0)	6 (7.7)	23 (29.5)	31 (39.7)	18 (23.1)
Hi	15 (19.2)	38 (48.7)	15 (19.2)	8 (10.3)	2 (2.6)
Hk	26 (33.3)	36 (46.2)	11 (14.1)	5 (6.1)	0 (0.0)
Hl	23 (29.5)	35 (44.9)	19 (24.4)	0 (0.0)	1 (1.3)
Hm	31 (39.7)	28 (35.9)	7 (9.0)	2 (2.6)	0 (0.0)
Hn	41 (52.6)	31 (39.7)	5 (6.4)	1 (1.3)	0 (0.0)
Ho	33 (42.3)	32 (41.0)	11 (14.1)	2 (2.6)	0 (0.0)
Hp	46 (59.0)	29 (37.2)	3 (3.8)	0 (0.0)	0 (0.0)
Hq	55 (70.5)	20 (25.6)	3 (3.8)	0 (0.0)	0 (0.0)

(table continues)

Table L-1 (continued)

Item	Response Category ^a				
	N	R	S	T	V
Hr	60 (76.9)	18 (23.1)	0 (0.0)	0 (0.0)	0 (0.0)

Note: Items a, b, c, g, and j were not scored for this study. Percent of responses in the category for each item appears in parentheses below the frequency of that category for each item. n=78.

^aN = Not at all typical, score value = 0;

R = Rarely typical, score value = 1;

S = Somewhat typical, score value = 2;

T = Typical, score value = 3; and

V = Very typical, score value = 4.

Table L-2

Item Frequencies and (Percents) on the Sibling Scale

Item	Response Category ^a				
	N	OT	FY	FM	FW
Sd	10 (12.8)	19 (24.4)	21 (26.9)	14 (17.9)	14 (17.9)
Se	21 (26.9)	26 (33.3)	16 (20.5)	12 (15.4)	3 (3.8)
Sf	15 (19.2)	27 (34.6)	19 (24.4)	12 (15.4)	5 (6.4)
Sh	4 (5.1)	24 (30.8)	16 (20.5)	18 (23.1)	16 (20.5)
Si	30 (38.5)	22 (28.2)	9 (11.5)	11 (14.1)	6 (7.7)
Sk	47 (60.3)	17 (21.8)	7 (9.0)	5 (6.4)	2 (2.6)
Sl	32 (41.0)	23 (29.5)	10 (12.8)	8 (10.3)	5 (6.4)
Sm	55 (70.5)	12 (15.4)	5 (6.4)	2 (2.6)	4 (5.1)
Sn	56 (71.8)	11 (14.1)	6 (7.7)	3 (3.8)	2 (2.6)
So	49 (62.8)	18 (23.1)	4 (5.1)	6 (7.7)	1 (1.3)
Sp	67 (85.9)	7 (9.0)	2 (2.6)	2 (2.6)	0 (0.0)
Sq	75 (96.2)	3 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)
Sr	77 (98.7)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)

(table continues)

Table L-2 (continued)

Item	Response Category ^a				
	N	OT	FY	FM	FW

Note. Items a, b, c, g, and j were not scored for this study. Percent of responses in the category for each item appears in parentheses below the frequency of that category for that item. n=78.

^aN = Never, score value = 0;

OT = Once or Twice a year, score value = 1;

FY = a Few times a Year, score value = 2;

FM = a Few times a Month, score value = 3; and

FW = a Few times a Week, score value = 4.

Table L-3

Item Frequencies and (Percents) on the Marital Scale

Item	Response Category ^a				
	N	OT	FY	FM	FW
Md	16 (20.5)	21 (26.9)	15 (19.2)	18 (23.1)	8 (10.3)
Me	15 (19.2)	26 (33.3)	17 (21.8)	14 (17.9)	6 (7.7)
Mf	25 (32.1)	24 (30.8)	17 (21.8)	9 (11.5)	3 (3.8)
Mh	13 (16.7)	21 (26.9)	19 (24.4)	17 (21.8)	8 (10.3)
Mi	61 (78.2)	8 (10.3)	7 (9.0)	0 (0.0)	2 (2.6)
Mk	65 (83.3)	8 (10.3)	4 (5.1)	0 (0.0)	1 (1.3)
Ml	58 (74.4)	12 (15.4)	5 (6.4)	2 (2.6)	1 (1.3)
Mm	64 (82.1)	10 (12.8)	2 (2.6)	1 (1.3)	1 (1.3)
Mn	70 (89.7)	4 (5.1)	3 (3.8)	0 (0.0)	1 (1.3)
Mo	64 (82.1)	7 (9.0)	3 (3.8)	3 (3.8)	1 (1.3)
Mp	76 (97.4)	2 (2.6)	0 (0.0)	0 (0.0)	0 (0.0)
Mq	76 (97.4)	2 (2.6)	0 (0.0)	0 (0.0)	0 (0.0)
Mr	77 (98.7)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)

(table continues)

Table L-3 (continued)

Item	Response Category ^a				
	N	OT	FY	FM	FW

Note. Items a, b, c, g, and j were not scored for this study. Percent of responses in the category for each item appears in parentheses below the frequency of that category for that item. n=78.

^aN = Never, score value = 0;

OT = Once or Twice a year, score value = 1;

FY = a Few times a Year, score value = 2;

FM = a Few times a Month, score value = 3; and

FW = a Few times a Week, score value = 4.

Table L-4

Mean Scores, Standard Deviations, and Ranges for
Each Conflict Tactic Category

Category	Mean	SD	Minimum	Maximum
Hypothetical Verbal Violence (HVV)	12.8	10.9	4.0	80.0
Sibling Verbal Violence (SVV)	9.6	10.3	1.0	90.0
Marital Verbal Violence (MVV)	8.8	13.1	0.0	90.0
Hypothetical Physical Violence (HPV)	5.7	7.5	0.0	60.0
Sibling Physical Violence (SPV)	4.1	5.8	0.0	30.0
Marital Physical Violence (MPV)	2.6	10.5	0.0	90.0
Hypothetical Incidence of Violence (HIV)	17.3	10.3	4.0	82.0
Sibling Incidence of Violence (SIV)	13.7	12.9	1.0	90.0
Marital Incidence of Violence (MIV)	10.1	13.2	0.0	81.0

APPENDIX M

RESULTS SUMMARY FOR SUBJECTS

Dear Research Study Volunteer,

Some time ago, you participated in a doctoral dissertation research study for me regarding sibling and marital conflict. The purpose of the study was to determine if people's conflict behavior during high school toward a brother or sister was repeated by how that person, as an adult, treated a husband or wife during conflicts.

A total of 78 persons volunteered to fill out the conflict surveys in the full study. The results indicate that there is a real relationship between how people treated a sibling during conflicts, and how that person later treated a husband or wife during conflicts. However, there are many other influences on marital conflict behavior besides how a person treated a sibling.

The major conclusion of the study is that perhaps families and society, as well as professional counselors, have underestimated the significance of sibling conflict behaviors. Violence in homes has been shown to continue from one generation to another. My study indicates that how children learn to treat a sibling during conflicts is related to how that person will later treat a husband or wife as an adult. Therefore, the recommendations of this study include using our knowledge of mediation and conflict negotiation to teach brothers and sisters to work out conflicts in a less violent manner. The findings of this study indicate that our society need not accept as unchangeable its relatively high levels of domestic and

societal violence. It is hoped that by teaching the mediation and negotiation skills to families trapped in domestic violence, that the patterns of violence in some of these families can be stopped from being passed on to the next generation.

I hope you find these results and discussion interesting. The research could not have been completed without your help.

Thank you again for your interest and participation.

Sincerely yours,

Tom Shadid
(405) 341-4134

APPENDIX N

ALL CORRELATIONS MATRIX:
A DESCRIPTIVE SUMMARY
OF RELATIONSHIPS

Table N-1

All Correlations Matrix: A Descriptive Summary of Relationships

Key to matrix headings:

AGE	Age of subject.
GENDER	Gender of subject.
GENDMIX	Genders of subject and sibling.
AGEDIFF	Difference of ages between subject and sibling.
YRSTOGET	Years subject and sibling lived together during subject's high school years (grades 9 through 12).
VIGRESP	Whether or not the Hypothetical Marriage Vignette had occurred in the subject's marriage.
ORDER	Order of the items on the instrument.
SIBMACO	Whether or not counseling had been requested or received in the sibling and/or marital relationships.
LENGMAR	Length in years of the subject's first marriage to last at least two years.
CURMAR	Current marital status.
SKILLFUL	Whether or not the subjects rate themselves as skillful to handle family conflicts.
SVV	Sibling Verbal Violence.
SPV	Sibling Physical Violence.
MVV	Marital Verbal Violence.
MPV	Marital Physical Violence.
HVV	Hypothetical Verbal Violence.
HPV	Hypothetical Physical Violence.
SIV	Sibling Incidence of Violence.

(table continues)

Table N-1 (continued)

Key to matrix headings:

(continued)

MIV	Marital Incidence of Violence.
HIV	Hypothetical Incidence of Violence.
HD to HR	Items on the Hypothetical Scale.
SD to SR	Items on the Sibling Scale.
MD to MR	Items on the Marital Scale.

(table continues)

Table N-1 (continued)

In order to interpret correlation signs for nominal data, when appropriate, refer to the following values:

Data	Value Label	Value
GENDER	Female	1
	Male	2
GENDMIX	Female subject/Female sibling	1
	Female subject/Male sibling	2
	Male subject/Female sibling	3
	Male subject/Male sibling	4
VIGRESP	No	1
	Yes	2
SIBMACO	Sibling yes/Marital yes	1
	Sibling yes/Marital no	2
	Sibling no/Marital yes	3
	Sibling no/Marital no	4
CURMAR	In original marriage	1
	Widowed	2
	Divorced	3
	Remarried to first spouse	4
	Married, not to first spouse	5
SKILLFUL	Yes	1
	No	2

Note. n=78. df=76. Critical values are for 1-tailed tests of significance at the .05 level. Rounding sometimes yields apparently discrepant values of significance.

*p<.05. **p<.01.

(table continues)

Table N-1 (continued)

	GENDER	GENDMIX	AGEDIFF	YRSTOGET	VIGRESP
AGE	.04	.07	-.01	.03	.04
GENDER		.86**	.17	-.07	-.08
GENDMIX			.20*	-.02	-.13
AGEDIFF				.51**	-.16
YRSTOGET					-.24*

(table continues)

Table N-1 (continued)

	ORDER	SIBMACO	LENGMAR	CURMAR	SKILLFUL
AGE	.06	.06	.69**	.09	.19*
GENDER	-.07	-.01	-.03	-.17	-.11
GENDMIX	-.12	.01	.01	-.07	-.03
AGEDIFF	-.02	.03	.04	-.17	.23*
YRSTOGET	.07	.03	-.04	.08	.13
VIGRESP	.09	-.09	-.11	.31**	.03
ORDER		-.29**	-.13	-.09	-.31**
SIBMACO			-.13	.11	.08
LENGMAR				-.30**	.08
CURMAR					.20*

(table continues)

Table N-1 (continued)

	SVV	SPV	MVV	MPV	HVV
AGE	-.01	-.18	.03	-.01	.08
GENDER	-.10	-.03	-.10	-.11	-.06
GENDMIX	-.17	.04	-.14	-.07	-.06
AGEDIFF	-.06	.06	-.08	-.13	-.10
YRSTOGET	.09	-.01	-.15	-.27**	-.12
VIGRESP	.10	.04	.19*	.15	.08
ORDER	.90**	-.08	.62**	-.03	.71**
SIBMACO	-.30**	-.35**	-.66**	-.65**	-.54**
LENGMAR	-.14	.06	.14	.30**	.16
CURMAR	.01	.13	-.03	.02	-.11
SKILLFUL	-.30**	-.01	-.18	-.04	-.25*
SVV		.21*	.68**	.12	.74**
SPV			.38**	.59**	.30**
MVV				.72**	.89**
MPV					.56**

(table continues)

Table N-1 (continued)

	HPV	SIV	MIV	HIV	HD
AGE	.09	-.09	.00	.09	.06
GENDER	-.01	-.10	-.13	.01	.00
GENDMIX	-.09	-.12	-.19*	.01	.00
AGEDIFF	.04	-.02	-.06	-.07	-.08
YRSTOGET	.06	.06	-.13	-.16	-.01
VIGRESP	.03	.10	.24*	.02	-.03
ORDER	.83**	.68**	.62**	.27**	-.24*
SIBMACO	-.33**	-.40**	-.63**	-.49**	.43**
LENGMAR	-.02	-.08	.06	.28**	.01
CURMAR	-.05	.06	.05	-.05	.00
SKILLFUL	-.27**	-.24*	-.16	-.13	.09
SVV	.80**	.90**	.68**	.40**	-.17
SPV	.12	.62**	.41**	.48**	.03
MVV	.58**	.72**	.97**	.69**	-.34**
MPV	.08	.37**	.70**	.68**	-.24*
HVV	.72**	.73**	.81**	.82**	-.08
HPV		.69**	.58**	.60**	-.06
SIV			.74**	.54**	-.13
MIV				.62**	-.33**
HIV					.13

(table continues)

Table N-1 (continued)

	HE	HF	HH	HI	HK
AGE	.01	-.01	-.04	.09	.03
GENDER	.21*	.17	-.02	.04	-.06
GENDMIX	.22*	.15	-.02	.05	.00
AGEDIFF	-.01	.08	.20*	-.13	-.09
YRSTOGET	-.01	.02	.28**	-.04	-.04
VIGRESP	-.08	-.10	-.00	-.16	-.03
ORDER	-.13	.17	-.23*	.08	.14
SIBMACO	.30**	-.02	.35**	-.03	-.25*
LENGMAR	-.03	.10	-.08	.03	.07
CURMAR	-.00	-.18	.19*	.15	.15
SKILLFUL	.08	-.15	.25*	-.03	.01
SVV	-.12	.22*	-.11	.14	.23*
SPV	-.01	.13	.00	.04	.29**
MVV	-.18	.14	-.25*	.07	.24*
MPV	-.17	.04	-.21*	.08	.28**
HVV	.04	.41**	-.12	.33**	.43**
HPV	-.07	.29**	-.04	.41**	.56**
SIV	-.10	.23*	-.09	.13	.32**
MIV	-.21*	.11	-.22*	.07	.23*
HIV	.14	.45**	.09	.56**	.71**
HD	.38**	.32**	.51**	.37**	.21*
HE		.40**	.26**	.23*	.13
HF			.16	.36**	.23*

(table continues)

Table N-1 (continued)

	HE	HF	HH	HI	HK
HH				.26**	.20*
HI					.75**

(table continues)

Table N-1 (continued)

	HL	HM	HN	HO	HP
AGE	.09	-.00	.06	.01	.10
GENDER	.12	.01	.08	.10	.16
GENDMIX	.13	-.05	.03	.05	.05
AGEDIFF	.08	-.02	.11	.04	.26**
YRSTOGET	.10	-.12	-.15	-.08	.06
VIGRESP	-.10	-.01	-.05	-.13	-.09
ORDER	-.14	-.12	.07	-.11	.11
SIBMACO	.09	-.29**	-.27**	-.12	-.12
LENGMAR	.14	.19*	.22*	.11	.10
CURMAR	.09	-.00	-.05	.01	-.07
SKILLFUL	-.03	-.05	-.13	.04	-.00
SVV	-.06	.01	.19*	-.02	.12
SPV	.23*	.39**	.41**	.27**	.14
MVV	-.10	.19*	.34**	.07	.05
MPV	.05	.38**	.39**	.20*	-.04
HVV	.07	.25*	.39**	.17	.08
HPV	.28**	.37**	.52**	.41**	.54**
SIV	.06	.19*	.34**	.11	.16
MIV	-.06	.19	.30**	.07	.09
HIV	.43**	.65**	.71**	.59**	.35**
HD	.45**	.19*	.03	.24*	.07
HE	.22*	.02	-.01	.10	-.05
HF	.31**	.23*	.19*	.27**	.13
HH	.35**	.15	.08	.26*	.14

(table continues)

Table N-1 (continued)

	HL	HM	HN	HO	HP
HI	.49**	.45**	.38**	.56**	.35**
HK	.54**	.62**	.60**	.69**	.46**
HL		.63**	.51**	.56**	.43**
HM			.72**	.78**	.56**
HN				.74**	.61**
HO					.63**

(table continues)

Table N-1 (continued)

	HQ	HR	SD	SE	SF
AGE	.06	.09	-.18	.03	-.07
GENDER	.07	.03	-.11	.07	-.00
GENDMIX	-.01	-.03	-.11	-.08	-.06
AGEDIFF	.15	.14	-.06	-.07	-.23*
YRSTOGET	.13	.14	.14	.03	.00
VIGRESP	.00	-.02	.15	-.02	-.17
ORDER	-.07	-.06	.17	.06	.14
SIBMACO	-.04	-.00	.03	-.09	.01
LENGMAR	.06	.07	-.28**	-.00	-.03
CURMAR	.02	.05	.30**	.02	.02
SKILLFUL	.10	.06	.01	-.06	-.20*
SVV	-.04	-.01	.45**	.33**	.42**
SPV	.14	.17	.28**	.21*	.25*
MVV	-.04	-.08	.09	.20*	.18
MPV	-.05	-.07	-.05	.18	.03
HVV	-.04	-.06	.10	.22*	.16
HPV	.33**	.31**	.11	.21*	.17
SIV	.03	.07	.49**	.36**	.45**
MIV	-.02	-.08	.13	.20*	.17
HIV	.27**	.23*	-.00	.31**	.15
HD	.08	.05	.08	.00	-.00
HE	-.01	-.08	-.07	.02	.06
HF	.06	-.02	.05	.25*	.12

(table continues)

Table N-1 (continued)

	HQ	HR	SD	SE	SF
HH	.23*	.20*	.11	.20*	.03
HI	.33**	.25*	.11	.21*	.08
HK	.43**	.40**	.07	.19*	.10
HL	.24*	.23*	-.06	.17	.04
HM	.44**	.36**	-.06	.27**	.06
HN	.40**	.49**	-.04	.29**	.13
HO	.60**	.47**	-.05	.29**	.06
HP	.75**	.64**	-.15	.17	.09
HQ		.78**	-.13	.16	.01
HR			-.04	.17	.05
SD				.15	.40**
SE					.36**

(table continues)

Table N-1 (continued)

	SH	SI	SK	SL	SM
AGE	-.14	-.21*	-.09	-.21*	-.18
GENDER	-.16	-.11	.03	-.06	.02
GENMIX	-.16	-.07	.09	-.00	.03
AGEDIFF	-.10	.13	.05	.13	.40**
YRSTOGET	.11	.13	.11	.24*	.25*
VIGRESP	.10	.09	-.05	-.04	.10
ORDER	-.21*	-.11	-.08	-.10	-.06
SIBMACO	.03	.11	-.04	.14	-.00
LENGMAR	-.03	-.12	-.05	-.17	-.14
CURMAR	.11	.26**	.20*	.26*	.11
SKILLFUL	.04	.06	.04	.04	.13
SVV	.17	.23*	.18	.19	.11
SPV	.46**	.73**	.75**	.70**	.64**
MVV	.02	.06	.04	-.08	-.00
MPV	.19*	.17	.15	.01	.01
HVV	-.00	.03	-.02	-.10	-.05
HPV	-.12	.07	.07	.00	.09
SIV	.34**	.52**	.48**	.47**	.37**
MIV	.03	.14	.13	.01	.05
HIV	.13	.19*	.11	.01	.07
HD	.20*	.19*	.08	.19	.09
HE	.00	.05	.01	.03	.08
HF	-.04	.09	.03	.05	.07
HH	.32**	.29**	.08	.22*	.24*

(table continues)

Table N-1 (continued)

	SH	SI	SK	SL	SM
HI	.04	.08	-.04	.04	-.09
HK	.11	.20*	.14	.14	.07
HL	.08	.31**	.25*	.23*	.22*
HM	.17	.27**	.24*	.13	.20*
HN	.09	.25*	.23*	.09	.18
HO	.10	.19*	.16	.11	.16
HP	-.06	.20*	.17	.05	.24*
HQ	.02	.17	.09	.06	.25*
HR	.05	.20*	.19*	.15	.31**
SD	.46**	.44**	.38**	.51**	.26**
SE	.42**	.26*	.17	.15	.12
SF	.35**	.34**	.36**	.32**	.07
SH		.58**	.37**	.53**	.22*
SI			.72**	.81**	.64**
SK				.74**	.62**
SL					.60**

(table continues)

Table N-1 (continued)

	SN	SO	SP	SQ	SR
AGE	-.29**	-.22*	-.18	.17	.15
GENDER	.05	-.07	.03	.19*	-.07
GENDMIX	.07	-.02	.09	.20*	-.01
AGEDIFF	.07	.02	.04	.03	.19*
YRSTOGET	.03	.08	-.02	-.02	.07
VIGRESP	-.07	.03	-.03	.03	.09
ORDER	-.06	-.07	-.04	-.02	-.01
SIBMACO	.01	-.07	-.18	.02	-.11
LENGMAR	-.27**	-.04	-.13	-.06	.11
CURMAR	.14	.08	.15	.29**	.06
SKILLFUL	-.01	-.06	-.09	.05	.19*
SVV	.13	.16	.08	.02	-.05
SPV	.72**	.78**	.64**	.11	.10
MVV	-.03	.06	.11	-.02	-.02
MPV	.04	.18	.25*	-.04	-.02
HVV	-.02	.02	.10	-.02	-.05
HPV	.09	.08	.12	.03	.03
SIV	.43**	.48**	.35**	.07	.00
MIV	.05	.16	.19	-.03	-.02
HIV	.11	.15	.23*	.04	-.01
HD	.24*	.18	.10	.03	-.05
HE	.11	.03	.12	.02	-.13
HF	.14	.15	.12	.07	-.03

(table continues)

Table N-1 (continued)

	SN	SO	SP	SQ	SR
HH	.12	.08	-.08	-.10	-.10
HI	.05	-.03	.09	.08	-.03
HK	.13	.16	.22*	.02	.01
HL	.20*	.25*	.19	.00	.00
HM	.19*	.28**	.15	-.02	.04
HN	.19	.17	.26**	.13	.07
HO	.17	.24*	.24*	.06	.03
HP	.26*	.17	.23*	.08	.11
HQ	.26*	.17	.24*	.12	.14
HR	.24*	.09	.15	.21*	.21*
SD	.27**	.30**	.10	.05	-.09
SE	.15	.05	.03	.05	-.04
SF	.16	.26*	.03	.25*	-.05
SH	.33**	.44**	.21*	-.04	-.11
SI	.63**	.71**	.46**	.06	-.02
SK	.64**	.75**	.39**	.06	.03
SL	.71**	.78**	.44**	.04	-.01
SM	.66**	.54**	.34**	.08	.15
SN		.71**	.70**	.10	.06
SO			.61**	.01	.04
SP				.26*	.15
SQ					.57**

(table continues)

Table N-1 (continued)

	MD	ME	MF	MH	MI
AGE	-.09	-.02	.03	-.08	-.13
GENDER	-.23*	.16	.16	-.08	-.13
GENDMIX	-.33**	.02	.02	-.15	-.20*
AGEDIFF	-.06	.17	.04	.16	-.00
YRSTOGET	-.10	.16	-.02	-.02	-.07
VIGRESP	.26**	.12	.10	.20*	.26*
ORDER	.11	.13	.08	-.17	-.05
SIBMACO	-.10	-.01	-.01	-.09	-.24*
LENGMAR	-.18	-.03	-.04	-.09	-.12
CURMAR	.34**	.04	.02	.27**	.22*
SKILLFUL	.21*	.05	-.01	.30**	.04
SVV	.21*	.19*	.08	-.06	.07
SPV	.16	-.01	-.02	.24*	.51**
MVV	.39**	.22*	.17	.23*	.30**
MPV	.25*	-.04	-.04	.24*	.44**
HVV	.15	.04	-.04	-.08	.09
HPV	.11	.10	.03	-.14	.07
SIV	.24*	.15	.06	.06	.28**
MIV	.49**	.24*	.24*	.32**	.46**
HIV	.13	-.03	-.10	-.00	.20*
HD	.07	-.20*	-.12	-.09	.00
HE	-.08	.04	.09	-.08	-.12
HF	-.10	-.04	.05	-.08	-.01

(table continues)

Table N-1 (continued)

	MD	ME	MF	MH	MI
HH	.09	.11	.01	.28**	.04
HI	-.02	-.07	-.14	-.19*	.01
HK	-.00	-.11	-.16	-.19*	.03
HL	-.02	-.08	-.19*	-.04	.25*
HM	.07	-.13	-.14	.09	.31**
HN	.01	.09	-.16	.03	.14
HO	.05	-.08	.02	.01	.21*
HP	.03	.10	.19*	.06	.15
HQ	.08	.04	.24*	.09	.11
HR	-.01	.12	-.04	.03	-.03
SD	.20*	.13	-.02	.10	.09
SE	.09	.20*	.08	.08	.11
SF	.20*	.21*	.20*	.05	-.01
SH	.11	-.01	-.04	.17	.15
SI	.22*	.11	.01	.26*	.41**
SK	.12	.09	-.01	.17	.42**
SL	.07	.08	-.03	.17	.35**
SM	.13	.11	.09	.24*	.37**
SN	.12	-.07	.03	.16	.34**
SO	.12	-.03	.12	.20*	.47**
SP	.02	-.13	.14	.07	.36**
SQ	.04	.01	.02	.08	-.01
SR	-.07	-.06	-.02	.11	.08

(table continues)

Table N-1 (continued)

	MD	ME	MF	MH	MI
MD		.23*	.41**	.60**	.46**
ME			.34**	.39**	-.01
MF				.38**	.26**
MH					.47**

(table continues)

Table N-1 (continued)

	MK	ML	MM	MN	MO
AGE	.00	-.12	-.16	-.04	-.11
GENDER	-.14	-.04	-.10	-.12	-.24*
GENDMIX	-.16	-.04	-.18	-.15	-.31**
AGEDIFF	.02	.00	.03	-.03	-.09
YRSTOGET	-.08	-.08	-.05	-.06	-.09
VIGRESP	.25*	.15	.19*	.11	.27**
ORDER	-.04	-.06	-.04	-.03	-.05
SIBMACO	-.31**	-.28**	-.17	-.21*	-.24*
LENGMAR	.04	.02	-.19*	-.09	-.09
CURMAR	.24*	.18	.22*	.30**	.29**
SKILLFUL	.02	.06	-.08	.13	.07
SVV	.04	.07	.08	.01	.06
SPV	.44**	.55**	.49**	.27**	.32**
MVV	.32**	.38**	.19*	.19*	.29**
MPV	.50**	.59**	.37**	.40**	.46**
HVV	.14	.18	.02	.03	.07
HPV	.04	.06	.03	.04	-.03
SIV	.23*	.31**	.29**	.13	.19*
MIV	.46**	.54**	.39**	.38**	.46**
HIV	.22*	.30**	.10	.09	.10
HD	-.10	-.05	.01	-.16	-.15
HE	-.10	-.11	-.22*	-.14	-.24*
HF	-.11	-.01	-.03	-.14	-.03

(table continues)

Table N-1 (continued)

	MK	ML	MM	MN	MO
HH	-.01	-.02	.03	-.07	-.02
HI	.11	.08	-.02	.04	-.07
HK	.19	.18	.05	.17	-.02
HL	.15	.28**	.17	.08	.01
HM	.16	.28**	.16	.16	.16
HN	.11	.21*	.11	.03	-.02
HO	.04	.19	.11	.09	.10
HP	.10	.10	.05	.14	.01
HQ	.08	-.02	.00	.05	.01
HR	.06	-.09	.01	-.06	-.15
SD	-.04	.08	.20*	.02	.12
SE	.08	.13	.12	-.00	.12
SF	-.08	.02	-.03	-.03	.02
SH	.12	.15	.18	-.00	.20*
SI	.33**	.38**	.40**	.19	.17
SK	.28**	.42**	.51**	.25*	.24*
SL	.26*	.37**	.40**	.19*	.18
SM	.16	.25*	.33**	-.02	.09
SN	.27**	.28**	.37**	.17	.15
SO	.31**	.47**	.53**	.24*	.33**
SP	.46**	.36**	.35**	.34**	.21*
SQ	.02	-.10	.02	-.06	-.08
SR	.13	-.06	-.04	-.03	-.05

(table continues)

Table N-1 (continued)

	MK	ML	MM	MN	MO
MD	.31**	.41**	.40**	.36**	.51**
ME	.11	.16	.06	-.05	-.05
MF	.20*	.21*	.10	.10	.24*
MH	.33**	.40**	.37**	.33**	.50**
MI	.68**	.78**	.74**	.55**	.67**
MK		.69**	.60**	.61**	.47**
ML			.73**	.66**	.63**
MM				.61**	.67**
MN					.66**

(table continues)

Table N-1 (continued)

	MP	MQ	MR
AGE	-.05	-.04	.00
GENDER	-.10	-.10	-.07
GENDMIX	-.09	-.18	-.12
AGEDIFF	-.00	.01	.01
YRSTOGET	.10	-.07	-.16
VIGRESP	.12	.12	.09
ORDER	-.02	-.02	-.01
SIBMACO	-.03	-.15	-.11
LENGMAR	-.10	-.08	-.07
CURMAR	.20*	.20*	.21*
SKILLFUL	.10	.10	-.06
SVV	.03	-.05	-.02
SPV	.02	.12	.23*
MVV	.05	.07	.05
MPV	.09	.19*	.21*
HVV	-.04	-.06	-.05
HPV	.08	.06	.02
SIV	.04	.02	.09
MIV	.14	.24*	.23*
HIV	.03	.00	-.03
HD	-.07	-.07	-.05
HE	-.26*	-.11	-.02
HF	.03	-.04	-.13

(table continues)

Table N-1 (continued)

	MP	MQ	MR
HH	.13	-.05	-.10
HI	.04	-.05	-.03
HK	.11	.01	.01
HL	.00	.10	.14
HM	.17	.17	.04
HN	-.02	-.02	.07
HO	.15	.15	.03
HP	.30**	.30**	.11
HQ	.35**	.20*	-.07
HR	.10	-.09	-.06
SD	-.00	-.13	-.00
SE	.16	-.05	-.04
SF	.13	-.08	-.15
SH	-.03	-.10	-.02
SI	.16	.09	.15
SK	.13	.13	.25*
SL	.05	.05	.17
SM	-.01	-.01	.05
SN	-.00	.16	.29**
SO	.06	.23*	.28**
SP	-.06	.34**	.52**
SQ	-.03	-.03	-.02
SR	-.02	-.02	-.01

(table continues)

Table N-1 (continued)

	MP	MQ	MR
MD	.22*	.28**	.20*
ME	-.02	-.15	-.06
MF	.18	.25*	.08
MH	.22*	.29**	.20*
MI	.21*	.50**	.48**
MK	.06	.42**	.64**
ML	.21*	.41**	.50**
MM	.17	.41**	.61**
MN	.48**	.74**	.71**
MO	.33**	.62**	.51**
MP		.49**	-.02
MQ			.70**

Note. n=78. df=76. Critical values are for 1-tailed tests of significance at the .05 level. Rounding sometimes yields apparently discrepant values of significance.

* $p < .05$. ** $p < .01$.

VITA

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