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Distinguishing Risk Profiles among Parent-Only, Partner-Only, and Dually-Perpetrating Physical Aggressors

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Abstract

This study addressed whether and how men and women who are not physically aggressive, only physically aggressive against their children or their partners, or aggressive against both family members differ in their risk profiles. Risk factors that were unrelated to the partner or parenting role (e.g., impulsivity) and that were specific to one of these roles (e.g., negative parenting attributions, negative partner attributions) were examined using profile analysis. Dually aggressive men and women had the highest overall risk across all types of risk factors; non-aggressive men and women had consistently low risk. Individuals who were aggressive toward only their partners or only their children had distinct risk profiles, with highest levels of risk on the role-specific variable sets. With the exception of parent-only aggressive men, singly aggressive individuals' risk levels were significantly lower on role-independent and the unrelated role-specific risk than they were on the role-related risk factors. These results suggest theories of partner and parent aggression might gain precision if co-occurrence status were specifically taken into account.

Keywords

child abuse; parental aggression; partner violence; co-occurrence; prediction

Family violence is a major public health problem, affecting tens of millions of American families each year. Prevalence of partner physical aggression is estimated at approximately 16% in a nationally representative sample of couples of all ages (e.g., Straus & Gelles, 1990), and characterizes 49% of the young couples in the representative community sample that is the focus of this study (Slep & O'Leary, 2005). Partner aggression is associated with major depressive episodes and posttraumatic stress disorder (e.g., Campbell & Lewandowski, 1997; Cascardi, O'Leary, & Schlee, 1999; Fergusson, Horwood, & Ridder, 2005; Sherman, Sautter, Jackson, Lyons, & Han, 2006), poorer general health and injury (e.g., Coker et al., 2002), as well as with marital discord and divorce (e.g., Lawrence & Bradbury, 2001; O'Leary et al. 1989) among both men and women.

National surveys suggest that severe parent-to-child aggression occurs in 5% of American families (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998; Straus, 1990), and this rate may

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substantially underestimate rates among families with young children, where we found a rate of 13% in a representative community sample (Slep & O'Leary, 2005). The physical, psychological, and social consequences of parent-to-child aggression are enormous, and many of these consequences occur even with relatively commonplace and minor acts of aggression (e.g., Gershoff, 2002; Repetti, Taylor, & Seeman, 2002). Correlational research indicates positive associations between parent-to-child aggression and the extent of children's internalizing and externalizing problems (e.g., Bennett, Sullivan, & Lewis, 2005; Flisher et al., 1997; Keiley, Howe, Dodge, Bates, & Petit, 2001), cognitive impairment (e.g., McFayden & Kitson, 1996), and apparent neurological and physiological effects (e.g., Pollak, Klorman, & Thatcher, 2001).

Despite the relative separateness of the research fields and clinical services, it is also now well established that partner and parental aggression significantly co-occur. In their meta-analysis, Appel and Holden (1998) concluded that approximately 40% of individuals who perpetrate one of these forms of violence also perpetrate the other. In a community sample and with a number of methodological improvements over much of the previous research, we found even higher rates of co-occurrence (Slep & O'Leary, 2005).

Better understanding of the conditions under which individuals perpetrate one but not the other type of physical aggression toward a family member as compared with individuals who perpetrate both types of aggression has theoretical and clinical implications. To the extent that unique etiological processes contribute to an individual's risk for perpetrating parent compared to partner aggression, or vice versa, the different risk profiles might indicate that these singly aggressive perpetrators could be best treated with different interventions. Knowing what might tell us that an individual is likely to be dually aggressive when, for example, the individual presents as a partner aggressor could also affect how intervention proceeds. Further, different risk profiles might suggest that our theories could gain more precision if these possibly importantly distinct subgroups were better understood and integrated into etiological research.

Three published studies have addressed the question of distinctions between dually and singly aggressive individuals. Shipman, Rossman, and West (1999) compared non-aggressive, partner aggressive, and partner and parent aggressive families and found that dual form perpetrators reported higher levels of neighborhood violence, family stress, and more physical punishment in the father's family of origin. The authors concluded that these groups differed "by the degree of severity of adversity and not in qualitative pattern of experience" (Shipman et al., 1999, p. 99).

Tajima (2004) examined differences among parent and partner aggressive, parent aggressive only, and partner aggressive only groups from the 1985 National Family Violence Survey (Straus & Gelles, 1990). Dually aggressive individuals reported higher levels of depressive symptoms and reported stomping out of the room more often during partner conflicts than individuals engaging in only one form of aggression. Dually aggressive respondents differed from parent aggression only respondents in that dually aggressive respondents were younger and married for a shorter period. They also reported lower incomes and greater frequencies of all remaining non-violent conflict tactics (said things in spite, smashed things, insulted partner more) and of the husband being high on drugs. Dually aggressive respondents differed from partner aggressive only respondents only in that the target child was older. These findings present an equivocal picture, suggesting that perhaps there are different risk profiles for dually aggressive individuals compared with parent-only individuals, but perhaps this is not the case when distinguishing dually aggressive individuals from partner only individuals.

Finally, using the National Study of Child and Adolescent Well-Being data, Kohl, Edleson, English, and Barth (2005) compared child welfare system families with and without domestic

violence. They found that families with active domestic violence had an increased chance of child maltreatment being substantiated and were more likely to have prior reports of child maltreatment. Child welfare workers' assessments indicated that dually aggressive parents had higher rates of substance abuse, mental health problems, arrest, and histories of child abuse and neglect in their own backgrounds. The nature of the variables available in this study makes it difficult to determine whether the differences between groups are in degree or in kind.

All of these studies took a fairly empirical approach to isolating distinctions in risk factors for partner-only, parent-only, and dually aggressive individuals. They generally sought to determine if specific risk factors differed among the groups included in terms of kind, which might implicate distinct risk profiles, or severity, which might suggest that dual aggressors are merely at higher risk generally than parent only or partner only aggressors, but otherwise share similar risk profiles. Despite at least one of these studies explicitly concluding that the differences between dual perpetrators and perpetrators of only partner or parent aggression are a matter of degree of risk rather than of the nature of the risks, each of these studies has methodological limitations that render conclusions with respect to this question premature.

Only Tajima (2004) included dually aggressive, parent aggressive only, and partner aggressive only groups, which seems necessary for understanding whether a risk factor is unique to one form of aggression. All studies are limited in the range of risk factors that were available to investigate, with the vast majority of the factors being those that appear in both the partner and parent aggression literatures, such as depressive symptoms, drug use, and family stress, and would not seem to be more tightly linked to one type of aggression over the other. These studies took an empirical approach and this lack of theory regarding which risk factors might be expected to distinguish among aggressors and which might differ in level, although understandable given the infancy of this line of inquiry, makes it more difficult to know how to interpret the pattern of relations found. Finally, the analytic strategies used matched the exploratory nature of the work. The question of whether partner-only, parent-only, and dual aggressors have distinct risk factors or differ in the severity of risk factors that apply to all types of aggression is poorly addressed in a series of separate tests that speak to mean level differences between groups. Rather, the question is better addressed by considering patterns of risk relations, or profiles of risk across risk factors, and whether these profiles have the same shape but are at different levels (i.e., the groups differ in terms of the severity of risk factors, but not kind), or are different shapes (i.e., the groups have different patterns of risk relations).

To develop an a priori framework lacking in the earlier studies and necessary to determine if risk profiles differ among dually aggressive, singly aggressive and non-aggressive individuals, we examined the array of perpetrator risk factors that had been identified in the partner and parent aggression literatures to the time of the review (see Slep & O'Leary, 2001). Although partner and parental aggression literatures are largely independent, a tremendous overlap in the risk factors associated with each was apparent – this despite the partner literature focusing almost exclusively on men and the parental aggression and the child abuse literature focusing almost exclusively on women. Although specific constructs and measures used vary widely from study to study, a number of groups of risk factors were apparent: perpetrator personality characteristics, early life experiences, sociodemographics, cognitions, specific behaviors during interactions, emotional reactivity, adjustment, and relationship qualities (see Black, Slep, & Heyman, 2001; Schumacher, Felbau-Kohn, Slep, & Heyman, 2001). When examined in parallel, however, these literatures suggested another possible organization – one that might be particularly relevant to understanding the conditions under which individuals perpetrate only one or both forms of family violence.

We propose that it might be useful to consider whether perpetrator risk factors are related or unrelated to an individual's specific role as a partner or a parent. Because role-independent

factors (e.g., stress, depressive symptoms, and trait anger) are typically associated with both partner and parent aggression (see Slep & O'Leary, 2001); they may not distinguish parent from partner aggressors, although dual perpetrators might have higher mean levels of such role-independent predictors. In contrast, many risk factors seem specifically related to an individual's role as a parent or partner (e.g., jealousy in the partner aggression area, discipline style in the parent aggression area). We refer to these as role-specific risk factors as they may be uniquely related to one form of aggression. We would expect these risk factors to be related to aggression in that role, but not the other, for example, parenting related risk factors such as attributions for child behavior and discipline should be elevated among aggressive parents, both those who are exclusively aggressive toward their children and those who are also aggressive toward their partners, but not to those who exclusively aggress against their partners. Thus, dual, parent-only, and partner-only aggressors should each have distinct risk profiles in terms of level and type.

The purpose of the present study was to consider whether perpetrators of parent-only physical aggression have different risk profiles than partner-only physical aggressors and whether perpetrators of both forms of physical aggression differ from perpetrators of a single form of physical aggression in terms of the nature of their risk profiles or in terms of the severity of their risk. We expected to find evidence of differences in both the degree and kind of risk factors for dual perpetration. There are at least two ways in which different risk profiles might be manifest. The first is that dual perpetrators may have risk profiles that differ from either parent-only or partner-only perpetrators in that their risk profiles reflect the profiles of both partner and parent aggression but in combination. A second way in which risk profiles of dual perpetrators can be different from those of parent- or partner-only perpetrators is if some risk factors are elevated among dual perpetrators and not among partner- or parent-only aggressors. We expected that this difference was most likely to appear in the set of role-independent risk factors.

Because of our interest in patterns across groups of perpetrator risk factors, the first step was to identify a manageable set of risk factors of each type for each form of aggression. To do this, we examined the variables that were retained in men's and women's path-analytic models predicting parent-to-child and partner aggression (Slep & O'Leary, 2007; O'Leary, Slep, & O'Leary, 2007) and constructed three sets of variables: role-independent, parent-specific, and partner-specific sets. Because of our interest in (a) perpetrator risk factors, which is arguably the best developed segment of the risk factor literatures for both partner and parental aggression, and (b) a need to have comparable data for parent-child and partner relationships and both forms of aggression, we excluded factors such as having a partner who commits partner aggression. Role-independent variables were those that seemed to have no or equal relevance to the parent and partner roles, such as perceived stress, depressive symptoms, and anger. Parent-specific variables included variables such as child blaming attributions and attitudes justifying aggression toward children. Partner-specific variables included variables such as marital adjustment, dominance, and jealousy. Using the data from the sample on which the models were based, these variables, which were slightly different for men and women (reflecting the results of the models), were then standardized, averaged within sets, and subjected to profile analyses for men and women separately.

Method

Participants

Four hundred fifty-three couples participated in the study, and these were the same couples that served as the basis for developing path models for individual predictors of family aggression (Slep & O'Leary, 2007; O'Leary, Slep, & O'Leary, 2007) and for describing the co-occurrence of partner and parent aggression (Slep & O'Leary, 2005). To enhance the

generalizability of the findings, participants were recruited through a random digit dialing (RDD) procedure modeled after the one used by the polling firm Louis Harris & Associates (1986) in conducting the 1985 National Family Violence Survey. Whenever a call reached an adult, the respondent was told that the caller was from the university and was looking for families that might qualify to participate in a study of how families cope with conflict. A brief demographic interview was administered to all willing respondents to determine study eligibility. To be eligible, respondents had to be living as a couple for at least a year, parenting a 3–7 year-old child who was the biological child of at least one of the parents, and able to complete questionnaires in English. If the family had more than one child in the age range, one child was selected randomly to be the target child for the purposes of this study. Screened respondents who were eligible for the study completed a slightly longer interview about family functioning. Finally, eligible respondents were contacted by one of the authors, who described the project in detail and scheduled interested respondents' initial appointments for the main study. The RDD procedure resulted in respondents who were fairly representative of the local population, and in study participants who were quite similar to those who qualified for the study but chose not to participate (see Slep, Heyman, Williams, VanDyke, & O'Leary, 2006; Slep & O'Leary, 2005 for more details). Other publications based on this sample include

Procedure

Couples came to the office for two three-hour sessions or one six-hour session. All procedures were reviewed and approved by Stony Brook University's Institutional Review Board. Participants completed extensive batteries of questionnaires about themselves, their relationships, and their families. In the latter half of the protocol, participants also watched a series of four video-taped scenes of parent-child conflict and four scenes of husband-wife conflict (see Slep & O'Leary, 2007 for details). The conflicts escalated over time, ending with no resolution. Physiological reactivity and anger experienced in response to the vignettes were assessed.

Our anonymity and confidentiality procedures were carefully explained both verbally and in the written consent form. Numbers linking fathers and mothers were randomly assigned to them as a couple following consent, and no records were made of the numbers that participants were assigned or of any other information that would link their identity to their data. They were told that no one would read their written responses to questions while they were in the office and that after completing participation, all of their written responses would be completely anonymous. They were also told, however, that any information they volunteered verbally to the research staff, and not as a written response on a study questionnaire, was not anonymous, but was confidential, and was subject to the normal limits of confidentiality, including mandated reporting of suspected child abuse. After consent was obtained, the couple was separated to complete questionnaires independently. All participants received a family resource list that included aggression hotlines and other aggression-related services and were paid \$250 for their time.

Measures

Aggression variables

Conflict Tactics Scale-II (CTS2): The CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is a 78-item inventory that assesses the frequency (on 0 – 6 scales labeled from “never” to “more than 20 times”) of perpetration of and victimization by partner conflict behaviors in the past 12 months. Aggression frequencies on the 12 physical aggression items (i.e., thrown an object that could hurt, twisted arm or hair, pushed or shoved, grabbed, slapped, beat up, burned or scalded on purpose, kicked, slammed against a wall, choked, punched or hit with a object that could hurt, and used a knife or gun) were used to determine a participant's partner physical aggression status, which was based on both self-report of perpetration and partner

report of victimization (e.g., whether the husband said he pushed or shoved his wife and whether the wife said her husband pushed or shoved her). As is typically done when data from both partners are available (e.g., Schafer, Caetano, & Clark, 1998), if the husband and the wife differed in their ratings on a particular item (e.g., husband said it occurred and wife said it did not), then the affirmative response prevailed.

Parent-Child Conflict Tactics Scale (CTS-PC; Straus et al., 1998): The CTS-PC is a 22-item self-report inventory that assesses the frequency (on 0–6 scales labeled from “never” to “more than 20 times”) of the parent’s conflict resolution and discipline behaviors in the past 12 months. The physical aggression scale consists of 13 items that include corporal punishment (i.e., spanked on bottom with bare hand; hit on bottom with something like a belt, hairbrush, a stick or some other hard object; slapped on hand, arm, or leg; slapped on head, face, or ears; pinched; shook) as well as severe physical aggression (i.e., hit some part of the body other than the bottom with something like a belt, hairbrush, a stick or some other hard object; burned or scalded on purpose; beat up; hit with fist or kicked hard; grabbed around neck and choked; threatened with a knife or gun; thrown or knocked down). Spank on the bottom with one’s hand and slap on hand, arm, or leg were omitted in determining the parental physical aggression status for this paper, because 42–63% of men and women endorsed these items, a prevalence we deemed too common to merit considering important physical aggression. In addition, if these two items were included in the criterion for physical aggression, 68% of men and 78% of women would meet the parent aggression criterion.

For the remainder of the variables, which are organized by the variable set to which they were assigned, superscripts following each variable name indicate the sample(s) for which the variable was used (i.e., men, women, or both) based on which path model or models retained the variable. Also, where a variable is not a combination of other variables or based on standardized scores initially, relevant alphas for the samples of men and women, in that order, appear at the end of each variable description. Variables were rescored if necessary so that a high score on each variable was dysfunctional

Role-independent variables

Perceived stress ^(m,w): The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) contains 14 items that are rated on scales of 1 = “never” to 5 = “very often”. The mean was used ($\alpha = .85, .85$).

Childhood history of aggression ^(m,w): Participants were asked 12 questions (Riggs, O’Leary, & Breslin, 1990) about the frequency with which they physically fought with siblings, classmates, and friends during grade school, those plus parents during junior high school, and those four items plus dating partners during high school on scales from 1 = “never” to 5 = “often”. The mean of these items was computed ($\alpha = .84, .88$).

Anger expression ^(m,w): The Anger Expression Index from the State-Trait Anger Expression Inventory (Spielberger, 1988) was computed from the Anger Expression-In, Anger Expression-Out, and Anger Control subscales involving 24 items that are rated from 1 = “almost never” to 4 = “almost always”. The summary Index score, described simplistically, involves adding the means of anger expression in and out subscales and subtracting the mean of the anger control items. Alphas for the three subscales for men and women respectively were: Anger-In = .72, .65; Anger-Out = .74, .66; and Anger Control = .82, .84.

Depressive symptoms ^(m,w): The sum of the 21 items on the Beck Depression Inventory-II (Beck, Steer, & Brown, 1996) was used ($\alpha = .87, .91$).

Family of origin aggression (m,w): Using a modified version of the scale developed by Rosenbaum and O'Leary (1981), participants were asked 5 questions each about psychological and physical aggression toward them by their mothers, fathers, and siblings (if they had any) when they were growing up as well as 7 questions about similar behaviors between their parents. These 22 items were rated on scales from 0 = "never" to 4 = "very often". The means of each of these four subscales were averaged. Alphas are not appropriate for the Family of Origin subscales as each scale does not assess one construct, e.g., experienced aggression from the mother, but rather, asks about how many of the possible forms of aggression occurred and how often. One would not expect that a high frequency on one item theoretically means that the other items on that subscale should also receive high scores.

Impulsivity (m): The 20 items of the Hyperactive-Impulsive subscale of the Adult Attention Deficit Disorders Evaluation Scales (McCarney & Anderson, 1996), rated 0 = "do not engage in this behavior" to 4 = "one to several times per hour" were averaged ($\alpha = .89$).

Perceived social support (m,w): The Interpersonal Support Evaluation List (Cohen, Mermelstein, Kamarck, & Hoberman, 1985) contains 40 items that are rated True or False. The number of items indicating presence of social support was used ($\alpha = .86, .83$).

Negative life events (m,w): The sum of the negative intensity scores on the 47-item Life Experiences Survey (Sarason, Johnson, & Siegel, 1978) was used.

Age (w): This was based on self-reported years of age.

Marital status (m): Coded dichotomously, "married" = 1 and "living together" = 2.

Education (m): Participants' education was scored on a 6-point scale from 10th grade or less through doctoral degrees.

Man's occupational prestige (m): Man's occupational prestige was coded based on Nakao and Treas (1994) using a 0 (low prestige) to 100 (high prestige).

Family size (w): Family size was the number of individuals living in the household.

Partner role-specific variables

Marital adjustment (m,w): The Dyadic Adjustment Scale (Spanier, 1976) is a widely-used 32-item measure that assesses perceptions of marital satisfaction. The sum was used ($\alpha = .93, .94$).

Power imbalance (m,w): A six-item scale developed by Blood and Wolfe (1960) assesses perceived power imbalance in the marital relationship. Each item asks "who has the final say" regarding six types of family decisions (e.g., having children). Response choices include "husband only", "husband more than wife", "husband and wife exactly the same", "wife more than husband", and "wife only". Responses are scored as the absolute difference from the egalitarian response, with high scores reflecting a power imbalance. The sum was used ($\alpha = .60, .58$).

Dominance/jealousy (m,w): A scale based on Kasian and Painter's (1992) factor analysis of the Psychological Maltreatment of Women Scale (Tolman, 1989) and used by Slep, Cascardi, Avery-Leaf, and O'Leary, (2001) assesses controlling and jealous behaviors perpetrated by and experienced by each partner (as is done with the CTS2). One pair of items was dropped from the jealousy scale because participants clearly misread them. Of the remaining item pairs,

11 tap dominance and 6 tap jealousy. Items were rated from 1 = "never" to 5 = "almost always". Mean dominance and jealousy scores were computed by averaging across self and partner reports of the same activity with the same perpetrator. Because dominance ($\alpha = .71, .72$) and jealousy ($\alpha = .74, .81$) were strongly correlated ($r_s = .67$ and $.66$ for husbands and wives respectively), the subscale scores were standardized, inverse transformed, and averaged to produce a combined dominance/jealousy score.

Partner responsibility attributions (m,w): Constructed for this project, 10 of 30 items on a Partner Cognition Scale, rated on 6-point scales from 1 = "always true" to 6 = "never true", assess the degree to which the participant attributes responsibility for his/her partners' undesirable or unpleasant behaviors to the partner (i.e., the partner has control over the behavior, is acting with a negative intent; e.g., "My husband tries to get me angry," "My husband is very demanding"). The scale has demonstrated reliability and concurrent validity (Foran & Slep, 2007) ($\alpha = .92, .92$).

Emotional flooding by partner anger (m,w): Designed for this study (Heyman & Slep, 1998), the scale assesses a construct proposed by Gottman (1999), a construct he thought might be particularly relevant to men's conflict behaviors. Theoretically, when overwhelmed by another's negative emotions, one's abilities to cope are compromised, higher-order cognitive processing suffers, and ending the aversive experience becomes paramount. Items assess feeling overwhelmed by the partner's anger (e.g., "I get so stressed when my husband blows up at me that I shut down") this 15-item scale was subjected to psychometric evaluation. Nine items, rated 1 = "never" to 5 = "almost always", were retained. The scale has concurrent validity as evidenced by this paper and Foran and Slep (2007). The mean was used ($\alpha = .92, .92$).

Physiological reactivity (w): Coulbourn LabLinc V series equipment was used to obtain skin conductance frequency and heart inter-beat interval, which was transformed into heart rate per minute. Diastolic and systolic blood pressure readings were obtained with a Johnson & Johnson Dinamap unit. An 8 min rest period occurred prior to participants viewing the conflict video vignettes. Baseline physiology was recorded for the final 4 min of an 8-min rest period that occurred immediately prior to the presentation of the conflict scenes. Reactivity scores for the video vignettes were the differences of the mean of each physiological measure across the last 30 s of each scene and the mean of the 4 min baseline. The last 30 s of each scene were chosen for the computation of reactivity scores because conflict was more intense during these sections of the scenes. Skin conductance reactivity required a square root transformation. The four physiological reactivity measures were subjected to exploratory factor analyses. Based on these analyses and the relatively high bi-variate correlations, all four measures were standardized and averaged, given that at least three measures were available for a participant. Low scores indicate decreases in the measure relative to baseline and were positively associated with higher rates of aggression.

Parent role-specific variables

Attitudes approving of parent aggression (m,w): Adapted from the Riggs and O'Leary (1996) Acceptance of Violence Questionnaire, this 12-item scale asks parents the extent to which each of six psychologically or physically aggressive acts is justified and will solve the problem when their child does something wrong and is rated from 1 = "never" to 5 = "almost always". The mean was used ($\alpha = .82, .83$).

Parenting satisfaction (m,w): The Satisfaction with the Parent-Child Relationship factor of the Parenting Satisfaction Scale (Guidubaldi & Cleminshaw, 1994) contains 15 items (e.g., "I am delighted with the relationship I have with my child."), that are rated from 1 = "strongly agree" to 4 = "strongly disagree". The mean was used ($\alpha = .82, .81$).

Child responsibility attributions (m,w): Constructed for this project, 10 of 30 items on a Parent Cognition Scale, rated on 6-point scales from 1 = “always true” to 6 = “never true”, assess the degree to which the participant views the child as responsible for his or her “misbehavior” (e.g., “My child thinks he/she is the boss”). The reasons indicated in the items were characterized as under the child’s control and involving negative intent (used in Leung & Slep, 2006). The mean was used ($\alpha = .91, .89$).

Overreactive discipline (m,w): The Parenting Scale is a 30-item measure designed to assess parental discipline strategies (Rhoades & O’Leary, 2007). Parents rate their probabilities of using specific discipline strategies in response to child misbehaviors. Ratings are made on 7-point scales, anchored at the ends by one effective and one ineffective discipline strategy. After reverse coding some of the items, a score of 1 indicates effective discipline and 7 indicates ineffective discipline. The six items (i.e., items 3, 6, 9, 14, 17, and 22) from the Overreactive discipline factor that do not overlap in content with items from the CTS-PC (e.g., “When I’m upset or under stress, I am picky and on my child’s back”) were averaged ($\alpha = .68, .68$).

Emotional flooding by child affect (m,w): Designed for this study (Slep & Heyman, 1998), the scale assesses the degree to which participants are overwhelmed by their children’s anger and experience it as unpredictable (e.g., “I get so stressed when my child blows up at me that I shut down”). This 15-item scale was subjected to psychometric evaluation. Nine items, rated 1 = “never” to 5 = “almost always”, were retained. The means were used ($\alpha = .94, .93$).

Experienced anger (m,w): At the end of each of the four parent-child video vignettes, participants rated their subjective affective experience of anger, irritation, and annoyance on 1–5 scales (“not at all” to “very strongly”). Ratings were averaged across emotions and across vignettes (used in Slep & O’Leary, 1998) ($\alpha = .83, .86$).

Data Analysis Plan

The hypotheses to be tested relate to patterns of differences across aggressor groups and variable sets, that is role-specific or role-independent sets of variables. Profile analysis provides an analytic framework for the multivariate analysis of repeated measures dependent variables as evaluated with MANOVA wherein hypotheses concern patterns of results rather than a sole focus on group differences. The overarching question addressed whether groups have different profiles or patterns of means on a set of measures. Profile analysis focuses on three tests: levels (Does at least one group score higher or lower than at least one other group across the set of dependent variables?), parallelism (Do different groups have the same pattern of means on the various dependent variables?), and flatness (Do all the dependent variables have the same means?). Here we limit our attention to (1) levels, to examine whether composite risk, of all types, differs among the groups, and (2) parallelism, to evaluate our hypotheses concerning whether the three groups of aggressors show different patterns of risk from one another and from non-aggressors. Finally, we conduct a set of comparisons between singly aggressive groups to test the hypotheses regarding differences on the role-specific variables.

Results

Prior to conducting analyses, all data were examined for completeness and normality in the full sample. At the item level, mean substitution was used to replace missing values as long as more than half of the items on a scale were not missing. All variables were then examined for the presence of outliers (i.e., scores more than four standard deviations above the mean). Clearly aberrant scores were deleted. Including these deletions, and at the variable level, less than 0.1% of the data were missing. The estimation maximization procedure in the SPSS Missing Values module was implemented to replace missing variable values. Demographic information on the

four sub-groups of men and women appears in Table 1. We standardized scores on each variable using the full sample separately for men and women. Scores on variables were then averaged across specific risk factors within each risk factor type, resulting in a role-independent, parenting role-specific, and partner role-specific composite risk score for each participant. Non-aggressors', partner-only, parent-only, and dual aggressors' scores on these composite variables are depicted in Table 2 and Figure 1. These scores were subjected to profile analysis, conducted separately for men and women.

Men

Levels—A 4×3 , group (independent measures: parent-only, partner-only, dually-perpetrating, non-aggressive) $\times$ risk (repeated measures: role-independent, partner-specific, parenting-specific) mixed model MANOVA was computed. Means are plotted in Figure 1, panel 1. The main effect of group provided a test of the “levels” question of profile analysis. This omnibus test was significant [$F(3, 449) = 23.22, p < .001, \eta^2_{\text{partial}} = .13$], indicating that the groups reliably differed on the risk factors as a whole. Pairwise comparisons with Bonferroni corrections indicated that dually-aggressive men had higher levels of overall risk than partner-only, parent-only, and non-aggressive men ($ps < .001$). Although partner-only aggressive men had higher overall risk than non-aggressive men ($p < .01$), the same was not true of parent-only aggressive men. The two single-domain aggressor groups did not reliably differ from one another in overall risk.

Parallelism—Parallelism is also evaluated in the context of MANOVA, but on difference scores between pairs of adjacent repeated measures dependent variables, with these difference scores called “segments” in the language of profile analysis. Accordingly, whereas the previous MANOVA was performed on the three risk scores, the analyses of parallelism were performed on two adjacent segments: 1) role-independent minus partner-specific risk, and 2) partner-specific risk minus parent-specific risk. A 3×3 , group (independent measures: parent-only, partner-only, dually-perpetrating, non-aggressive) $\times$ risk segment (repeated measures: as describe immediately above) mixed model MANOVA was computed. A significant main effect of group indicated that the groups' profiles were not parallel, or that they showed different patterns of M s on the risk variables, $F(3, 449) = 2.99, p < .05, \eta^2_{\text{partial}} = .02$, as can be seen in Figure 1, panel 1. Much in the tradition of probing a significant interaction, follow-up analyses were conducted to identify the nature of the non-parallel effect.

First a series of simple-effects analyses (one-way repeated measures MANOVAs) were computed to test for differences in composite risk variable M s for each of the four groups. Relative to Scheffe-adjusted F -critical values ($\alpha = .05$; Tabachnick & Fidell, 2001), risk M s varied significantly in the partner- [$F(2, 186) = 11.09$] and parent-only [$F(2, 142) = 7.44$] groups, but not in the non-aggressive [$F(2, 422) = 4.05$] and dually-aggressive groups [$F(2, 148) = 2.76$]. Second, the significant simple effects were further followed-up with Bonferroni-corrected pairwise comparisons to determine which composite risk factors differed in each single-domain aggressive group of men. Partner-only aggressive men had greater partner-specific risk than they did either parent-specific ($p < .001$) or role-independent ($p < .05$) risk. Parent-only aggressive men had greater parent-specific risk, in comparison to partner-specific risk. However, their role-independent risk did not differ from their parent- or partner-specific risk. Finally, partner-only aggressors had greater risk than parent-only aggressors on partner-specific risk factors, $t(164) = 3.45, p < .001$; and parent-only aggressors had greater risk than partner-only aggressors on parent-specific risk factors, $t(164) = 2.76, p < .01$.

Women

Levels—A 4×3 , group $\times$ risk mixed model MANOVA was computed. Means are plotted in Figure 1, panel 2. The main effect of group was significant [$F(3, 449) = 39.04, p < .001$,

$\eta^2_{\text{partial}} = .21$], indicating that the groups reliably differed on the risk factors as a whole. Bonferroni-corrected pairwise comparisons indicated that dually-aggressive women had higher levels of overall risk than partner-only ($p < .05$), parent-only ($p < .01$), and non-aggressive ($p < .001$) women. Both partner-only aggressive women and parent-only aggressive women had higher overall risk than non-aggressive women ($ps < .001$). The two single-domain aggressor groups did not reliably differ from one another in overall risk.

Parallelism—A 3×3 , group $\times$ risk segment mixed model MANOVA was computed. A significant main effect of group indicated that the groups' profiles were not parallel, $F(3, 449) = 9.81, p < .001, \eta^2_{\text{partial}} = .06$, as can be seen in Figure 1, panel 2. A series of simple-effects analyses were computed to test for differences in risk variable M s for each of the four groups. Relative to Scheffe-adjusted F -critical values ($\alpha = .05$), risk M s varied significantly in the partner-only [$F(2, 194) = 8.58$] and parent-only [$F(2, 150) = 24.136$] groups, but not in the non-aggressive [$F(2, 350) = .89$] and dually-aggressive groups [$F(2, 204) = 1.00$]. Bonferroni-corrected pairwise comparisons indicated that partner-only aggressive women had greater partner-specific ($p < .01$) and role-independent ($p < .05$) risk, as compared to parent-specific risk. Their partner-specific and role-independent risk did not reliably differ. Parent-only aggressive women reported greater parent-specific risk than they did either partner-specific or role-independent risk ($ps < .001$). Their partner-specific and role-independent risks did not reliably differ. Finally, partner-only aggressors had greater risk than parent-only aggressors on partner-specific risk factors, $t(172) = 4.36, p < .001$; and parent-only aggressors had greater risk than partner-only aggressors on parent-specific risk factors, $t(172) = 3.84, p < .001$.

Discussion

This study is the first to investigate the question of how a wide variety of known risk factors for parent-to-child and partner physical aggression or abuse (Black et al., 2001; Schumacher, et al., 2001; Stith, Smith, & Penn, 2004) distinguish among people who do not physically aggress, aggress only against their partners or their children, or aggress against both their partners and children. In a large, fairly representative community sample of couples with 3–7 year old children, profile analyses of role-specific and role-independent clusters of variables indicated that the risk profiles for dually aggressive and singly aggressive individuals differ in level and shape from each other and from those of non-aggressive men and women. The risk factors included in the analyses are cognitive, affective, behavioral, background, and demographic variables found in previous research to predict the degree of family aggression that these mothers and fathers perpetrate.

Dual aggressors are high on both parent and partner role-specific risk, which is consistent with the fact that they are aggressive in both roles. Dual aggressors are also high on role-independent risk and, especially for men, report elevations on risk factors of all types compared to both singly aggressive and non-aggressive individuals. Thus, targeting role-independent factors, such as depression or anger expression, might be particularly useful when intervening with dual aggressors. In fact, most of the role-independent factors for partner and parental physical aggression are risk factors for antisocial behavior, crime, and aggression, in general (see Biglan, Brennan, Foster, & Holder, 2004). Thus, it seems that role independent risk factors for aggression toward a partner and aggression toward a child confer a general risk for family aggression and perhaps for all forms of aggression. Because these role-independent factors are not more tightly tied to one relationship than another, it seems reasonable they may set the stage for aggression in the home against anyone who is perceived to provoke the perpetrator. In contrast, single aggressors generally have the most severe risk on the role-specific risk factors that match the type of aggression they perpetrate and have lower levels of risk on the role-specific risk factors pertaining to the other role. Thus, knowing a person's co-occurrence status has clear implications for treatment. Furthermore, these findings regarding the specificity

of relations of role-specific risk factors with aggression may also have important implications for theories of the processes and mechanisms responsible for the etiology and maintenance of family aggression.

Although existing theories of parental and partner aggression do not group risk factors as we have here, hints as to the how these different types of risk factors might confer risk that would therefore underlie one or both forms of aggression can be observed in our results. As discussed above, role-independent risk factors appear particularly relevant to dual aggression. However, partner and parent role-specific risk factors appear relevant to both singly and dually aggressive people. These factors are likely a function of both (a) qualities of the perpetrator and (b) specific contexts and particular interaction partners. Among individuals for whom (a) role-specific factors are primarily a function of their qualities and not contexts or partners or (b) there is a match between the level of dysfunction present across their qualities and both their parent and partner contexts, the level of elevation present in their parent and partner role-specific risk should match. This appears to be the case among dual aggressors and non-aggressors. When parent and partner role-specific risk levels do not match (which is the case for parent- and partner-only aggressors), a greater contribution of contextual influences and some inconsistency across their parent and partner contexts seems implied. This suggests that the ways in which role-specific risk factors relate to aggression differ depending on whether individuals aggress against both their partners and their children or only against their partners or children. Future research will be necessary to determine if this is in fact the case. If it is found that the ways in which role-specific risk factors relate to aggression differ as a function of co-occurrence status, as we suggest here, clearly theories and interventions would need to more consistently incorporate co-occurrence status as a marker of these different underlying processes.

Indeed, co-occurrence status might be a key source of heterogeneity and unexplained variability in findings reported in the family violence literature – an issue that has received a great deal of attention especially with respect to men's partner aggression (e.g., Capaldi & Kim, 2007; Holtzworth-Munroe & Stuart, 1994; Johnson, 2004). Because dual aggressor status is generally not considered in research on parent or partner aggression, both dually and singly aggressive men are probably in many study samples, adding some noise to what we think we know about these forms of aggression. That subgroups of aggressive parents or partners, as a function of co-occurrence of the other form of aggression, have substantially different risk profiles, both in severity and kind, might have a particularly unpredictable influence on the findings of any given study and a varied impact on the literature as a whole. The importance of this possibility is underscored by the fact that the rate of dual aggression appears to be at least 40% (Appel & Holden, 1998). Of course, not all parents are partnered and not all partners have children. Therefore, any given study of either partner or parent aggression, might have sampled predominantly dual aggressors or predominantly single aggressors and the ratios of one to the other might impact results and interpretations without anyone's awareness.

The reader will note that we did not formally hypothesize or analyze comparisons between men and women. In the nascent literatures regarding women's partner aggression and men's parent aggression, similarity across genders has been suggested far more often than differences (e.g., O'Leary et al., 2007; Slep & O'Leary, 2007; Straus & Gelles, 1990). This was largely true in this study, at least as informal perusal of the figure indicates. That men who were parent-only aggressors did not differ, on average, from non-aggressors and that parent-only aggressive women reported significantly higher risk, on average, than non-aggressors appears to be a function of how elevated parent role-specific risk was (i.e., it appears higher among women as compared to men). This may be a function of the nature of the parent role-specific risk factors, which were identified in studies almost exclusively with women, or a function of the fact that women provide a majority of the parenting of young children.

The current study has some limitations, and the results must be viewed accordingly. The sample, although reporting a high rate of aggression including severe aggression, is not a clinical sample; and the results may not generalize to treatment-seeking populations or to individuals involved with the criminal justice or child welfare system. Although the sample was drawn from a representative sampling frame and found to be reasonably representative (Slep et al., 2006), it certainly is not perfectly representative. Furthermore, the results cannot be generalized to specific subgroups such as low income or minority families. With only the exception of reports on partner aggression, which were based on a combination of self- and partner-reports, all other constructs were assessed with self-reports and are subject to the limitations of this method. However, because the hypotheses of this study focus on differential relations and patterns of relations, single-respondent bias cannot explain the results. Importantly, the study was a cross-sectional, correlational one. Therefore, it is impossible to isolate variables that are truly driving aggression from those that might in fact be a consequence of living in a conflictual home. Further, aggression has some instability over time, which likely adds some error to our classification of types of aggressors. Finally, our interest was in perpetrator risk factors. We do not in any way wish to imply that critically important risk factors do not operate at other levels (e.g., the aggressiveness of the partner or child).

Regarding future research, we found that the pertinent types of role-specific risk factors were, with one exception, higher than not only the other type of role-specific factor, but also the role-independent factors among single aggressors. This might suggest that many existing risk screeners, which typically include role-independent risk variables (e.g., Milner, 1986) along with role-specific risk variables, might be more effective at identifying dually aggressive individuals than singly aggressive individuals. It could be that screeners would need to be specifically tailored to be equally effective at identifying all perpetrators of parental aggression, for example, regardless of whether the respondents also perpetrate partner aggression. Finally, the results suggest that incorporating an understanding co-occurring aggression into our theories of etiology and in treatment planning is warranted.

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Figure 1.

Panel 1 Men's average Z scores. Panel 2 Women's average Z scores. No aggr = not aggressive to either the child or the partner; parent only = aggression only to the child; partner only = aggression only to the partner; dually aggr = aggressive to both the child and the partner. Role-independent, parent-specific, and partner-specific refer to the nature of the risk variables.

Table 1

Participant characteristics

Men	Not Aggr (n=212)		Parent Only (n=72)		Partner Only (n=94)		Dually Aggr (n=75)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age (years)	37.6	(5.6)	38.4	(5.9)	36.9	(6.8)	35.7	(6.2)
Education (years)	14.3	(2.3)	14.5	(2.3)	14.2	(2.3)	14.0	(2.5)
Minority	16.6%		22.2%		21.3%		29.3%	
Employed full-time	95.8%		91.7%		91.5%		89.3%	
Employed part-time	1.4%		4.2%		4.3%		1.3%	
Family income (\$)	85.5	(48.4)	75.6	(32.3)	81.7	(38.4)	75.7	(41.2)
Male target child	48.6%		43.1%		48.9%		50.7%	
Child age (years)	5.5	(1.4)	5.7	(1.5)	5.2	(1.5)	5.4	(1.5)
Family size	4.5	(1.1)	4.6	(1.1)	4.5	(1.3)	4.8	(1.4)
Women	Not Aggr (n=176)		Parent Only (n=76)		Partner Only (n=98)		Dually Aggr (n=103)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age (years)	35.8	(4.9)	35.8	(4.6)	34.1	(5.5)	34.2	(4.7)
Education (years)	14.5	(2.3)	14.8	(2.2)	13.7	(2.2)	14.0	(2.1)
Minority	11.1%		27.6%		18.4%		21.4%	
Employed full-time	30.1%		20.9%		28.6%		32.0%	
Employed part-time	38.1%		40.8%		30.6%		41.7%	
Family income (\$)	83.4	(40.8)	81.1	(33.5)	81.0	(58.0)	79.0	(36.9)
Male target child	47.7%		57.9%		37.8%		51.5%	
Child age (years)	5.5	(1.4)	5.7	(1.4)	5.1	(1.4)	5.4	(1.6)
Family size	4.5	(1.1)	4.6	(1.1)	4.5	(1.3)	4.6	(1.3)

Note. Participants' education was scored on a 6-point scale from 10th grade or less through doctoral degrees. Family income in thousands is the sum of husband's and wife's self-reported personal income. Aggr = aggressive.

Table 2

Means and standard deviations of the Z scores

	Men				Women			
	Role-indep		Partner-spec		Role-indep		Partner-spec	
	Mean (sd)	Mean (sd)	Mean (sd)	Mean (sd)	Mean (sd)	Mean (sd)	Mean (sd)	Mean (sd)
Non-aggr	-.11 (.46)	-.10 (.57)	-.21 (.64)	-.22 (.43)	-.26 (.55)	-.27 (.55)		
Parent	-.01 (.50)	.12 (.59)	-.16 (.58)	.00 (.48)	.31 (.59)	-.13 (.48)		
Partner	.02 (.53)	-.13 (.56)	.22 (.78)	.14 (.54)	-.04 (.59)	.24 (.61)		
Dual aggr	.30 (.52)	.32 (.57)	.46 (.67)	.24 (.52)	.25 (.61)	.33 (.73)		

Note. Non-aggr = non-aggressive; Parent = parent-only aggressive; Partner = partner-only aggressive; Dual aggr = dually aggressive; Role-indep = role-independent variable set; Parent-spec = parent-specific variable set; Partner-spec = partner-specific variable set.