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Profiles of Disciplinary Behaviors Among Biological Fathers

Shawna J. Lee¹, Jinseok Kim², Catherine A. Taylor³, and
Brian E. Perron⁴

Abstract

This study assesses fathers' discipline of their 3-year-old child. Data are from 1,238 mother and father participants in the Fragile Families and Child Wellbeing Study. Latent class analysis (LCA) of nonaggressive and aggressive behaviors, as reported by mothers, indicated four distinct paternal disciplinary profiles: low discipline, low aggression, moderate physical aggression, and high physical and psychological aggression. Serious forms of psychological aggression directed toward the child were uncommon but may identify those fathers most in need of intervention. Use of nonaggressive discipline was high and nearly equivalent among the parenting profiles. However, child aggressive behavior increased as the child's exposure to paternal aggression increased, even when aggressive discipline was combined with high levels of nonaggressive discipline. Fathers who exhibited more aggression toward their child had higher levels of alcohol use, used more psychological aggression toward the child's mother, and were more likely to spank their child.

Keywords

community samples, emotional/psychological maltreatment, fathers, latent profile analysis, physical abuse

Research documents the importance of positive father involvement in children's lives. Factors such as paternal supportiveness, warmth, rule setting, and supervision are related to better cognitive and socioemotional development among young children (Cabrerá, Shannon, & Tamis-LeMonda, 2007; Fagan & Iglesias, 1999; Kochanska, Aksan, Prisco, & Adams, 2008) and fewer childhood behavior problems (Amato & Gilbreth, 1999; NICHD Early Child Care Research Network, 2004). Positive father involvement may reduce risk for, and also buffer youth from, behavior problems and delinquent behavior (Amato & Rivera, 1999; Coley, 2003). Paternal presence in the home is associated with lowered levels of child maltreatment (Berger, 2004, 2005) and may decrease risk for unintentional injuries among young children (Schwebel & Brezausek, 2007).

Yet, the benefits of father involvement are attenuated when such involvement exposes the child to substance abuse problems (Eiden, Edwards, & Leonard, 2007; Osborne & Berger, 2009) and parental mental health problems (Mezulis, Shibley Hyde, & Clark, 2004). Furthermore, children exposed to intimate partner aggression are at increased risk for child abuse victimization and a host of other negative ramifications (Eckenrode et al., 2000; McFarlane, Groff, O'Brien, & Watson, 2003; McGuigan & Pratt, 2001; Sternberg, Lamb, Guterman, & Abbott, 2006; Taylor, Guterman, Lee, & Rathouz, 2009; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003). Although positive and supportive father involvement is undoubtedly beneficial to children, fathers who perpetrate violence in the home compromise the well-being of their children.

This study examines the nonaggressive and aggressive parenting behaviors of biological fathers of 3-year-old children. Research examining the paternal role tends to focus on the effects of father absence from the household and the heightened risk for child maltreatment in single-parent households (Guterman & Lee, 2005). Less is known about the parenting behaviors that may present risk for physical child maltreatment among involved fathers, a gap that is problematic, given that male caregivers appear to be disproportionately responsible for severe physical child abuse, including child homicide (Brewster et al., 1998; Chaffin, Kelleher, & Hollenberg, 1996; Dubowitz, 2006; Fujiwara, Barber, Schaechter, & Hemenway, 2009; Stiffman, Schnitzer, Adam, Kruse, & Ewigman, 2002).

By focusing on a range of parenting behaviors, this study addresses several important questions. First, fathers' disciplinary behaviors have rarely been examined jointly and seldom in

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a way that accounts for the co-occurrence of both positive and negative behaviors. This study examines common forms of nonaggressive (e.g., explaining to a child what he or she did was wrong) and physically or psychologically aggressive (e.g., spanking and shouting) behaviors used to discipline young children as well as behaviors that would constitute child abuse (e.g., shaking; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). The differential use of these parenting behaviors has important implications for child well-being. For example, excessive use of harsh discipline and spanking is known to increase risk for antisocial and aggressive behavior in children (Gershoff, 2002; Taylor, Manganello, Lee, & Rice, 2010) and such behaviors constitute a discrete risk factor for child abuse (Straus, 2000; Straus et al., 1998; Straus & Mouradian, 1998; Zolotor, Theodore, Chang, Berkoff, & Runyan, 2008). In contrast, nonaggressive discipline may make it easier for children to respond to parental directives, internalize rules, and inhibit inappropriate behavior (Eiden et al., 2007; Rothbaum & Weisz, 1994). However, most of the aforementioned studies focus on maternal discipline; much less is known about the specific parenting behaviors of fathers.

Additionally, relatively little is known about risk for maltreatment in families when the biological father is residing in the home and married or cohabiting with the child's mother. Somewhat contrary to conventional wisdom, one recent study reports that mothers who were married self-reported elevated risk for physical aggression and spanking of their 3-year-old, in comparison to mothers who were not residing with, or had no contact with, the child's father. The authors of this study suggest that married relationship status may serve as a proxy for other factors, including those related to fathers' contribution to the family, that are unmeasured in most studies (Guterman, Lee, Lee, Waldfogel, & Rathouz, 2009). Using a sample of married or cohabiting fathers, we control for fundamental differences in the nature of father-child relationship, wherein residential fathers are more involved in caring for their child (Carlson & McLanahan, 2010) and therefore have more opportunities to discipline their child than do nonresidential fathers. An implication is that nonresidential and residential fathers may also have different child maltreatment risk profiles. Another important difference in paternal relationships relates to the biological relatedness of the father and child, with evidence that nonbiologically related men in the home increases risk for child maltreatment (Berger, Paxson, & Waldfogel, 2009). In the current study, all men are the biological fathers of the index child.

Still relatively novel in the parenting literature (Roesch, Villodas, & Villodas, 2010), we apply a person-centered analytic approach to the study of paternal disciplinary behaviors, which assumes that in a heterogeneous data set there are distinct latent groups that can be identified using a particular set of analytic approaches, such as latent class analysis (LCA; von Eye & Bogat, 2006). A person-centered analysis can be used to determine which parenting behaviors have the strongest associations with a given class of behavior, for example, by assessing the likelihood that fathers who use high levels of

aggressive parenting also use nonaggressive behaviors. Individuals are assigned to groupings based on the similarity of their parenting behaviors to others in the same class or group and simultaneously based on their degree of difference from individuals in other classes or groups (Muthen and Muthen, 2000). This provides a unique perspective from which to view fathers' parenting behaviors by identifying meaningful subgroup differences on a set of distinct but related behaviors, examining the balance of these behaviors, and how they cluster together. Thus, a person-centered analysis may provide important insight into how to target interventions to fathers based on distinct parenting behavior profiles.

This exploratory study was guided by two primary objectives: (a) to identify unique disciplinary subgroups of fathers, based on maternal report of fathers' use of aggressive and nonaggressive parenting behaviors and (b) to make empirical interpretations, based on validation analyses, and substantive interpretations, based on prior research and theory in relevant literature, about the parenting profiles, to better understand fathers' parenting behaviors (von Eye & Bogat, 2006).

Method

Data Source

This study uses data from the Fragile Families and Child Well-being Study (FFCWS). FFCWS is a birth-cohort study conducted in 20 U.S. cities with populations over 200,000 people that oversampled nonmarital births at baseline (Reichman, Teitler, Garfinkel, & McLanahan, 2001). Baseline data were collected from mothers and fathers at or near the time of an index child's birth ($N = 4,898$). Follow-up core interviews were conducted again with mothers and fathers when the index child was 1 and 3 years of age. An additional add-on In-Home Longitudinal Study of Pre-School Aged Children was conducted with mothers only, subsequent to the core 3-year mother interview. The Institutional Review Boards (IRB) at Columbia University and Princeton University approved all subject recruitment procedures. Verbal and written informed consent was obtained from participants at each interview, and participants were compensated for their involvement in the study. All respondents were informed of the interviewers' obligation to report observations of child abuse. A detailed description of the sampling strategy and related issues can be found in Reichman et al. (2001).

Participants

For the analyses herein, we use a subsample of married or cohabiting biological fathers that were residing in the home at the time of the FFCWS 3-year interviews. Parenting and child behavior problem assessments were collected during the In-Home Study, which interviewed mothers only, when the child was 3 years old. Mothers who had completed the 3-year FFCWS core interview were eligible to participate in the In-Home Study ($n = 4,140$); 79% ($n = 3,288$) completed either the full In-Home survey or a component of it. Due to the structure

of the In-Home interview, mothers were asked questions about the aggressive parenting behavior of the child's father only if the father was living in the home at the time of the 3-year In-Home interview ($n = 1,414$). That is, given that mothers would not have accurate and complete information about the parenting behaviors of nonresidential fathers, it was only possible to assess parenting of fathers who, according to the child's mother, were residing in the home when the child was 3 years old. We omitted from analyses 95 fathers with incomplete information from their 3-year core interview and 81 fathers with incomplete parenting information from the In-Home study (i.e., the mother failed to answer all or part of this portion of the In-Home survey), resulting in a final sample of 1,238 biological, residential fathers.

Analyses comparing the final sample of 1,238 versus the 81 fathers with incomplete (mother-reported) aggressive parenting information indicated no differences in education level, marital status, and age. There were more Hispanic than White fathers in the group with incomplete aggressive parenting information compared to the study final sample, but the chi-square test result should be viewed cautiously as one of the cells' sample size was small ($n < 5$ for "other race" in the group for which fathers' parenting information is not available).

For the validation analyses, missing data ranged from 0 to 9.6% (see valid n in Table 2, changes due to variations in response rates at the baseline, 1-year, and 3-year core interviews). Most variables were self-reported by the father and include time-invariant demographic variables such as race/ethnicity, education level, age at time of child's birth (baseline interview); father spanked the child at age 1 (1-year core interview); and marital status, alcohol use, drug use, father spanked child at age 3, household income, father involvement with the child, parenting stress, parental arguing, and fathers' perceived support from the child's mother (3-year core interview). There are three exceptions to this general rule. Mothers reported the following three variables: their experience of psychological aggression from the child's father (3-year core interview), fathers' discipline of the child (3-year In-Home interview), and the child's aggressive behavior (3-year In-Home interview).

Analytic Strategy

In this study, we follow the criteria for a person-oriented study (von Eye & Bogat, 2006): (a) data are analyzed using LCA; (b) validation analyses are used to determine the external validity of the parenting groups; and (c) parenting profile groupings are interpreted based on prior research and theory. LCA is a person-centered statistical procedure that allows the researcher to assign individuals to one mutually exclusive group based on responses to observed variables of interest. The variables were derived from the Parent-Child Conflict Tactics Scales (Straus et al., 1998). Using Mplus (Version 4.2), we examined the fit of a series of LCA models, starting with a model specifying a single group. Additional groups were added to the model until no significant empirical and conceptual improvements were observed. The empirical fit of the model was determined based

on Bayesian Information Criterion (BIC), with lower values reflecting an improved fit; entropy shows how well the indicators predict subgroup membership, with values closer to 1.0 indicating better prediction; Lo-Mendell-Rubin (2001) likelihood ratio test (LMR-LRT), where a nonsignificant p value indicates a good fit; and likelihood ratio chi-square statistic (L^2 or $-2X(\log \text{likelihood})$) is the difference value between the current class versus one less class, thus a larger value of L^2 indicates a better fit enhancement. The conceptual fit of each model was also considered, based on the LCA results, model diagnostics, and a visual representation of the parenting profiles. After a model was selected based on conceptual plausibility and empirical fit, participants were assigned to a class grouping based on their highest probability of membership as indicated by the LCA model.

Bivariate analyses were conducted, with Bonferroni-corrected post hoc tests (i.e., chi-square and one-way analysis of variance [ANOVA]), to assess between-group parenting profile differences on (a) child aggression, a behavior that is believed to result from parental harsh punishment (Gershoff, 2002; Taylor, Manganello, et al., 2010); (b) father's use of alcohol and drugs (Lee, Perron, Taylor, & Guterman, 2011); and (c) father-to-mother interpersonal aggression (Taylor, Lee, et al., 2010), as well as parenting stress and quality of the parental relationship, which theoretically may be associated with fathers' aggression toward children.

Study Variables for LCA

Disciplinary style indicators. The Parent-Child Conflict Tactics Scales (Straus et al., 1998) assesses nonaggressive and aggressive behaviors directed toward the child. Table 1 presents all 14 items that were analyzed in the LCA model. We use maternal report obtained during the In-Home study to indicate whether the father used each of the 14 behaviors in the past 12 months ($0 = \text{absent}$, $1 = \text{present}$) toward the child at 3 years old. The use of a dichotomous variable is appropriate for the LCA analysis (Roesch et al., 2010) and is recommended for studies of nonclinical populations because of the skewed distribution of some Parent-Child Conflict Tactics Scales items (Straus, 2001).

Descriptive and Validation Analysis Variables

Demographic characteristics. A set of self-reported paternal demographic factors included: age at the time of the child's birth (baseline), marital status (3-year core interview), race/ethnicity (baseline), education (baseline), and a summary of total household income (3-year core interview).

Alcohol use. During the 3-year core interview, fathers indicated the largest number of drinks consumed in any single day during the past 12 months, $0 = \text{no drinks consumed in the past 12 months}$, $1 = 1-3 \text{ drinks consumed in any single day during the past 12 months}$, or $2 = \text{four or more drinks consumed in any single day during the past 12 months}$. Although less stringent than the *Diagnostic and Statistical Manual of Mental*

Table 1. Descriptive Summary of Parent-Child Conflict Tactics Scale Items

Paternal Parenting Behavior Indicator	<i>n</i>	(%)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Explain	1,205	(97.3)	–													
2. Time out	934	(75.4)	<u>.44</u>	–												
3. Shook	24	(1.9)	–.09	<u>.27</u>	–											
4. Hit	174	(14.1)	<u>.19</u>	<u>.20</u>	<u>.48</u>	–										
5. Give something else	1,064	(85.9)	<u>.51</u>	<u>.41</u>	<u>.03</u>	<u>.23</u>	–									
6. Shout, yell	758	(61.2)	<u>.27</u>	<u>.38</u>	<u>.51</u>	<u>.40</u>	<u>.42</u>	–								
7. Spank	658	(53.2)	<u>.40</u>	<u>.38</u>	<u>.48</u>	<u>.53</u>	<u>.31</u>	<u>.60</u>	–							
8. Swore, curse	97	(7.8)	–.11	<u>.24</u>	<u>.51</u>	<u>.43</u>	<u>.10</u>	<u>.69</u>	<u>.40</u>	–						
9. Send away	31	(2.5)	–.04	<u>.08</u>	<u>.63</u>	<u>.38</u>	<u>.09</u>	<u>.39</u>	<u>.20</u>	<u>.53</u>	–					
10. Threat to spank	757	(61.1)	<u>.27</u>	<u>.30</u>	<u>.27</u>	<u>.50</u>	<u>.36</u>	<u>.57</u>	<u>.65</u>	<u>.40</u>	<u>.29</u>	–				
11. Slap	505	(40.8)	<u>.20</u>	<u>.26</u>	<u>.51</u>	<u>.46</u>	<u>.39</u>	<u>.53</u>	<u>.70</u>	<u>.43</u>	<u>.29</u>	<u>.60</u>	–			
12. Take away privilege	793	(64.1)	<u>.47</u>	<u>.63</u>	<u>.24</u>	<u>.28</u>	<u>.48</u>	<u>.38</u>	<u>.33</u>	<u>.12</u>	<u>.26</u>	<u>.36</u>	<u>.33</u>	–		
13. Pinch	29	(2.3)	–.05	<u>.50</u>	<u>.53</u>	<u>.47</u>	<u>.08</u>	<u>.54</u>	<u>.40</u>	<u>.41</u>	<u>.32</u>	<u>.38</u>	<u>.50</u>	<u>.29</u>	–	
14. Call dumb/lazy	21	(1.7)	–.27	<u>.36</u>	<u>.66</u>	<u>.41</u>	–.21	<u>.23</u>	<u>.09</u>	<u>.63</u>	<u>.66</u>	<u>.11</u>	<u>.17</u>	<u>.14</u>	<u>.40</u>	–

Note. Bivariate associations are presented as tetrachoric correlation coefficients. Underlined correlation coefficients are statistically significant ($p < .05$).

Disorders-Revised (third edition; *DSM-III-R*) diagnostic criteria, this measure of alcohol use approximates the levels of heavy drinking days as defined by the National Institute on Alcohol and Alcoholism (NIAAA). Specifically, for men, a heavy drinking day is considered 5 or more drinks in a single day (National Institute on Alcohol Abuse and Alcoholism, 2005).

Drug use. During the 3-year core interview, fathers indicated whether in the past 12 months they had used any drugs, including sedatives, tranquilizers, amphetamines, analgesics, inhalants, marijuana, cocaine, LSD, and heroin, on their own, without a doctor's prescription, in larger amounts than prescribed, or for a longer period than prescribed (0 = *no*, 1 = *yes*).

Paternal spanking. Separately from the Parent-Child Conflict Tactics Scales corporal punishment items administered to mothers during the In-Home Study, during the 1-year and 3-year core interviews fathers self-reported if they had spanked the child in the past month for misbehaving or acting up (0 = *no*, 1 = *yes*). These questions differ from those administered to mothers in that the specific wording indicated spanking in response to "misbehaving or acting up." Additionally, the time frame for the Parent-Child Conflict Tactics Scales questions was the prior 12 months, rather than the prior month as with the paternal self-reported spanking questions.

Psychological aggression toward child's mother. (Lloyd, 1996). Maternal self-report of psychological aggression from the child's father, assessed at the 3-year core interview, including [He] "tries to keep you from seeing or talking with your friends or family; tries to prevent you from going to work or school; withholds/ makes you ask for/ takes your money; and insults or criticizes you." A binary variable (0 = *no*, 1 = *yes*) indicated if the mother had experienced any of these form of psychological aggression from the child's father.

Father involvement with the child. During the 3-year core interview, fathers indicated (0 = *never* to 7 = *every day*) the number of days per week they provided 13 different types of care to the child, including singing songs or nursery rhymes with child, assisting child with eating, and putting child to bed. A mean score indicates overall father involvement ($\alpha = .74$).

Parenting Stress Index-Short Form. (PSI-SF; Abidin, 1995). During the 3-year core interview, fathers indicated their agreement (1 = *strongly agree* to 4 = *strongly disagree*) with four statements such as "Being a parent is harder than I thought it would be" ($\alpha = .64$).

Parental arguing. During the 3-year core interview, fathers indicated (1 = *never* to 5 = *always*), "No matter how well parents get along, they sometimes have arguments. How often do you and (mother) argue about things that are important to you?"

Fathers' perceived support from the child's mother. During the 3-year core interview, fathers indicated their agreement with 5 items ($\alpha = .67$) measuring how often the child's mother expressed support to the father (1 = *often*, 2 = *sometimes*, and 3 = *never*), including "She is fair and willing to compromise when you have a disagreement."

Child aggressive behavior. A shortened version of the Child Behavior Checklist for Ages 1.5-5 Aggression Subscale (CBCL 1.5-5; Achenbach & Rescorla, 2000) was administered to mothers during the In-Home study. Mothers were asked to consider 19 items measuring child aggressive behavior and to indicate how true those statements are of their child (0 = *not true*, 1 = *somewhat or sometimes true*, and 2 = *very true or often true*): [He/she] "is defiant; has demands that must be met immediately; is disobedient; does not seem to feel guilty after misbehaving; is easily frustrated; gets in many fights; hits

others; has angry moods; shows behavior that punishment does not change; screams a lot; is selfish or will not share; is stubborn, sullen, or irritable; has temper tantrums or hot temper; is uncooperative; wants a lot of attention; cannot stand waiting and wants everything now; destroys things belonging to family members or other children; hurts animals or people without meaning to; or physically attacks people" ($\alpha = .87$). A sum score of child aggression was used for analyses. The FFCWS did not use all items from the aggression subscale; therefore, it is not possible to calculate meaningful clinical cut-points (as suggested in Achenbach & Rescorla, 2000) within the current data set.

Results

Descriptive Summary

The final sample ($n = 1,238$) of fathers included in the LCA analysis were racially and socioeconomically diverse. All fathers were married (61.5%) or cohabiting (38.5%) with the child's biological mother. The majority were African American (37.7%), followed by White (30.7%), Hispanic (26.9%), or another race/ethnic group (4.7%). Fathers age at the time of the child's birth ranged from 16 to 61 years, averaging 29.2 years old ($SD = 7.0$). Self-reported household income ranged from 0 to \$999,999 ($M = \$54,284$, $SD = 58,633$, $Mdn = \$40,000$), with two individuals reporting incomes $\geq \$550,000$. Nearly equal percentages of fathers had less than a high school degree (25.0%) or had a Graduate Equivalency Diploma or high school diploma (26.1%); nearly half indicated they had some college or technical school experience or had attained a college degree or higher education degree (48.9%).

Table 1 provides a descriptive summary of the Parent-Child Conflict Tactics Scales items, including the percentage of individuals who endorsed each item and item intercorrelations. The most common parenting behaviors included explaining what was done wrong, giving the child something else to do, and taking away privileges. The least common behaviors included calling the child dumb/lazy, shaking the child, and pinching. Inter-correlations among the items ranged from $|.03|$ to $|.70|$. Nearly all associations were positive but not too high to suggest redundancy in measurement.

Model Fit for the Optimal Number of LCA Classes

LCA fit statistics indicated that the three-class model ($df = 16,322$, $L^2 = 670.4$, entropy = 0.744, BIC = 12,357, LMR-LRT = 234.6, $p < .001$) was a significant improvement over the two-class model ($df = 16,335$, $L^2 = 877.3$, entropy = 0.758, BIC = 12,487, LMR-LRT = 1,405.6, $p < .01$). The insignificant LMR-LRT ($p = .198$) of the four-class model ($df = 16,312$, $L^2 = 678.4$, entropy = 0.760, BIC = 12,336, LMR-LRT = 126.5) seems to favor the three-class model against the four-class model, but the LMR-LRT becomes significant again in the five-class model ($df = 16,296$, $L^2 = 588.5$, entropy = 0.734, BIC = 12,360, LMR-LRT = 82.0, $p < .001$) indicating that the five-class model is preferred.

However, because the LMR-LRT p value may produce inconsistent outcomes, it has been suggested that one should stop increasing the number of classes at the first time the LMR-LRT p value becomes nonsignificant (Nylund, Asparouhov, & Muthen, 2007). Furthermore, changes in the BIC value and entropy statistic indicate that the four-class model provides the best overall fit to the data.

To determine the optimal LCA model among the three models supported by fit statistics, we examined the probability distribution of class membership and the conditional probability of endorsing each Parent-Child Conflict Tactics Scales item, given class membership for three-, four-, and five-class models. Additional considerations provided further support for the four-class model. First, the five-class solution would have little practical application, as one of the classes constituted a very small number of individuals (2.6%). Thus, we prefer the more parsimonious four-class model against the five-class model. Second, when comparing the conditional probability patterns of the three and four-class models, all three subgroups in the three-class model are retained in the four-class model, and the additional class (i.e., high physical and psychological aggression) in the four-class model separated itself from other classes by presenting a relatively higher conditional probability of endorsing the psychological aggression items. In other words, without the fourth class we would have failed to fully appreciate the influence of psychological aggression. The four-class model included the following four groups: low discipline, low aggression, moderate physical aggression, and high physical and psychological aggression.

Descriptions of Fathers' Parenting Behaviors Based on Class Membership

Figure 1 provides a visual representation of the parenting profiles that were obtained from the LCA analysis. The y -axis represents the estimated probability that fathers within a given group used a particular strategy (x -axis) at least once in the past year. For example, there was a 0–1.3% conditional probability that fathers in the low discipline, the low aggression, or moderate physical aggression groups ever called his child "dumb or lazy or some other name like that." In contrast, approximately 26% of fathers in the high physical and psychological aggression group used this behavior. Labels for the different parenting profiles were assigned based on these conditional probabilities, for example, the high physical and psychological aggression name is used to distinguish the group of fathers who used serious psychological aggression from the other three groups of fathers who used very little to no serious psychological aggression.

The low discipline group used the least amount of all forms of discipline. They primarily relied on less punitive behaviors, explaining and giving the child something else to do, with a small amount of shouting and timeout. Although this group was characterized by occasionally threatening to spank their children, they had low conditional probability of actually spanking

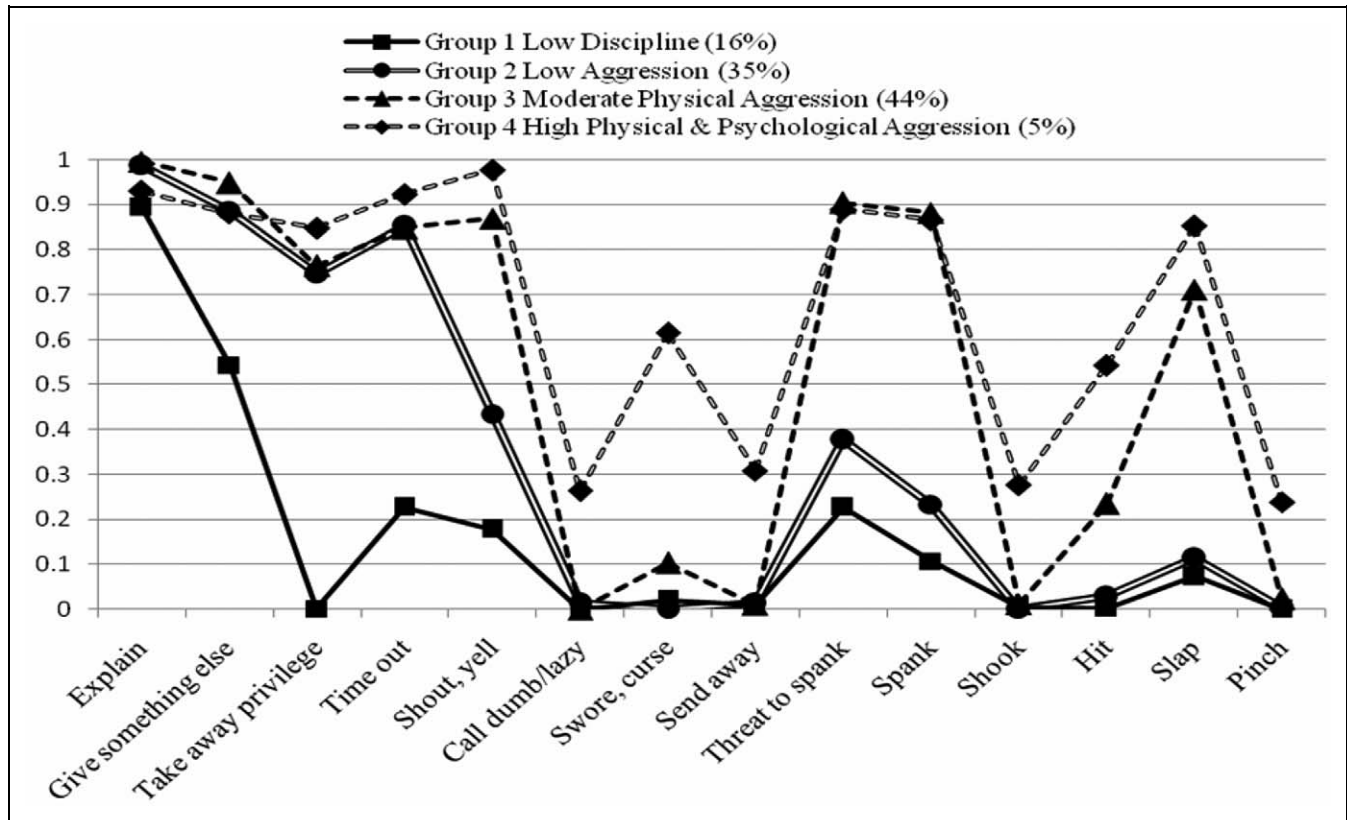


Figure 1. Fathers' probability of engaging in Parent-Child Conflict Tactics Scales behaviors based on class membership. The y-axis indicates the estimated probability (from 0 to 1) of fathers within a given class having indicated one or more times of using the strategy indicated on the x-axis.

the child. Low discipline fathers were also less likely than the other groups to take away privileges.

The low aggression parenting profile group was distinguished from the low discipline group by their greater use of discipline in general. Compared to low discipline fathers, fathers in the low aggression group had higher conditional probability of using timeout or take away privileges and they shouted or yelled more and were moderately more likely to spank or threaten to spank.

Compared to the low discipline and low aggression groups, the moderate physical aggression group had higher conditional probability of shouting or yelling at the child, threatening to spank, spanking, and hitting or slapping the child. Like the low aggression group, the moderate physical aggression group was characterized by high levels of nonaggressive discipline. However, unlike the low discipline and low aggression groups, their nonaggressive discipline was in nearly equal proportion to spanking, threatening to spank, and slapping.

Only a small number of fathers constitute the high physical and psychological aggression parenting profile group. In addition to high levels of physical aggression quite similar to that displayed by the moderate physical aggression group, this group had much higher conditional probability of displaying serious psychological aggression and shaking the child. Similar to fathers in the low aggression and moderate physical aggression groups, they also exhibited high levels of nonaggressive discipline.

Validation of the Paternal Disciplinary Style Groups

In Table 2, we present associations between the parenting profile groups and other measures to provide a context for assessing the model validity. The low aggression, moderate physical aggression, and high physical and psychological aggression groups all had significantly higher levels of alcohol use than the low discipline group, with a nearly 20 percentage point difference in the number of low discipline fathers indicating they had consumed four or more drinks in any single day in the past year compared to high physical and psychological aggression fathers. The low discipline group was approximately half as likely as the high physical and psychological aggression group to have used any drugs in the past year. However, differences in drug use were not statistically significant, perhaps due to lack of power as a result of the overall low percentage of fathers who indicated any drug use in the past year.

Next, we examine subgroup differences in fathers' self-report of whether he had spanked the child in the past month when the child was 1-year-old and 3-years-old, variables that are ideal for validating the LCA results because they represent paternal self-report of behaviors similar to those assessed in the mothers' report of corporal punishment in the Parent-Child Conflict Tactics Scale; however, the questions administered directly to fathers use slightly different wording, a different time frame when referring to the behavior in question and a

Table 2. Study Sample Characteristics and Validation Analyses as a Function of Latent Class Analysis Group Membership

Categorical variable	Valid N	Full Sample N = 1,238		Low Discipline n = 199		Low Aggression n = 446		Moderate Physical Aggression n = 551		High Physical and Psychological Aggression n = 42		χ^2
		%	%	%	%	%	%					
Alcohol use	1,232											18.81**
None		30.1		37.7		30.5		27.4		26.2		
1–3		39.7		43.7		39.5		38.7		35.7		
4 or more		30.2		18.6		30.0		33.9		38.1		
Drug use	1,238	9.1		6.0		9.0		10.0		11.9		3.21
Father spanked child at age 1	1,119	19.1		12.7 ^a		14.4 ^b		25.3 ^{a,b}		19.4		22.75***
Father spanked child at age 3	1,226	45.0		30.1 ^{a,b}		36.6 ^c		56.6 ^{a,c}		52.4 ^b		60.70***
Psychological aggression toward child's mother [†]	1,190	13.5		14.1		10.5 ^a		14.3 ^b		30.8 ^{a,b}		13.78**
Continuous variable (range)		M	SD	M	SD	M	SD	M	SD	M	SD	F
Father involvement with the child (0.53–7) [‡]	1,230	4.49	1.06	4.41	1.05	4.53	1.06	4.48	1.06	4.47	1.14	0.64
Parenting stress (1–4) [‡]	1,230	2.07	0.68	2.04	0.74	2.06	0.67	2.09	0.64	2.20	0.74	0.80
Parental arguing (1–5) [‡]	1,224	2.64	0.78	2.61	0.84	2.61	0.72	2.66	0.78	2.90	0.94	1.88
Fathers' perceived support from the child's mother (1.2–3) [‡]	1,223	2.68	0.34	2.68	0.36	2.69	0.34	2.68	0.34	2.63	0.35	0.53
Child aggressive behavior (0–37) ^{†‡}	1,237	10.8	6.4	8.1	5.9 ^{a,b}	9.4	5.9 ^{c,d}	12.7	6.3 ^{a,c,e}	15.3	6.3 ^{b,d,e}	46.78***

Note. Paired classes with the same superscript are significantly different ($p < .05$). χ^2 was used for analysis of categorical variables; ANOVA was used for continuous variables, with Bonferroni-corrected post hoc tests to assess between-group differences.

[†]These variables are mother-report; all other variables are father-report. [‡]All items were coded such that higher scores indicate higher levels of the construct. * $p < .05$. ** $p < .01$. *** $p < .001$.

different response scale. Results indicate that low discipline and low aggression groups were significantly less likely than fathers in the moderate physical aggression group to have spanked their 1-year-old child in the past month. Compared to the low discipline and the low aggression group, fathers in the moderate physical aggression group had higher rates of spanking their 3-year-old child in the past month and fathers in the high physical and psychological aggression group had higher rates of spanking compared to the low discipline group. The moderate physical aggression group and high physical and psychological aggression groups were not statistically significantly different in their self-reported spanking of the child in the past month at both 1 year of age and 3 years of age. This finding presents further validation for the LCA model because, when examining the spanking presented in the LCA profiles (Figure 1), in this case based on maternal report of the fathers' likelihood of having spanked the 3-year-old child in the past year, spanking did not differentiate the moderate physical aggression and high physical and psychological groups. Instead, the two groups were differentiated based on greater use of serious psychological aggression and shaking among fathers in the high physical and psychological group.

Although fathers in the high physical and psychological aggression group were more likely than fathers in the low aggression and moderate physical aggression groups to use psychological aggression toward the child's mother, there were no significant disciplinary profile differences in parental arguing and the father's perceived support from the child's mother. Furthermore, although the high physical and psychological

aggression group had the highest levels of parenting stress, this difference was also not significant.

Children of fathers in the high physical and psychological aggression group had significantly higher child aggression scores compared to all other groups; these children's aggressive behavior scores were nearly twice that of the low discipline group. Children of fathers in the moderate physical aggression group also had significantly higher aggression scores compared to children of fathers in the low discipline and low aggression groups. Notably, the parenting profile groups did not significantly differ in their level of involvement with the child.

Discussion

Although the use of LCA has increased in other fields of research, it has not been widely used in the study of child maltreatment (Roesch et al., 2010). To better understand the nature of father's nonaggressive and aggressive parenting behaviors, this study uses LCA to derive distinct parenting profiles based on variation in fathers' parenting behaviors as measured by the Parent-Child Conflict Tactics Scales. The LCA results supported a four-class solution, with meaningful subgroup differences identified in fathers' use of aggressive and nonaggressive disciplinary behaviors toward their 3-year-old children.

We found that in this diverse community sample, serious forms of psychological aggression were uncommon. Almost none of the fathers called their child dumb or lazy, swore or

cursed at the child, or threatened to send the child away (Figure 1). Use of serious psychological aggression distinguished the small high physical and psychological aggression subgroup, and the children of fathers in the high physical and psychological aggression parenting profile group had significantly higher levels of aggression than children of fathers from all other groups. This finding is consistent with prior research linking exposure to harsh parental discipline with elevated risk for aggression among 3-year-old children (Taylor, Manganello, et al., 2010) and suggests that children exposed to physical aggression in conjunction with psychological aggression may be at particularly high risk for behavioral problems and perhaps also at higher risk for experiencing child abuse. However, it is also understood that at least a portion of this association is due to child effects (i.e., aggressive discipline is more likely to be used with more aggressive children), and in cross-sectional analyses, we cannot determine the direction of those effects.

Additionally, although the high physical and psychological aggression parenting group was also more likely to use psychological aggression toward the child's mother, differences in parental arguing and the fathers' perceived support from the child's mother were essentially equivalent across all of the parenting profiles. This may indicate that normative forms of parental disagreement are unlikely to differentiate fathers in relation to their disciplinary style, whereas more serious forms of marital discord increase risk for psychological or physical aggression toward the child (Slep & O'Leary, 2001; Taylor et al., 2009; Taylor, Lee, et al., 2010).

Except for fathers in the relatively small low discipline group, the majority of fathers used high levels of nonaggressive discipline, such as using time out or taking away privileges. The low aggression, moderate physical aggression, and high physical and psychological aggression groups were approximately equally likely to engage in nonaggressive discipline (Figure 1). Yet, frequent use of nonaggressive disciplinary practices did not mitigate the negative consequences of physically aggressive parenting. As exposure to paternal physical aggression increased, so did child's levels of aggressive behavior, regardless of whether aggressive discipline was combined with high levels of nonaggressive discipline.

We find that the low discipline fathers were differentiated from the other three parenting profile groups based on their almost exclusive reliance on two forms of discipline—explaining to the child what he or she did was wrong and giving the child something else to do. One explanation for the low discipline group's smaller disciplinary repertoire is that these fathers represent a traditional model of paternity, with limited participation in caring for the child, and therefore less involvement in child discipline. However, there were no significant parenting profile group differences on paternal involvement, which is consistent with other studies wherein we fail to find that father involvement is significantly associated with the harsh parenting behaviors of residential fathers (Lee, Guterman, & Lee, 2008) or spanking among residential and nonresidential fathers (Lee et al., 2011).

An alternative possibility is that the pattern of behaviors demonstrated by the low discipline group is consistent with a parenting style that is characterized by authoritative guidance, warmth, and limited coercive or intrusive discipline, a style that would most likely be associated with positive child outcomes, as demonstrated in this study by the fact that the children of fathers in the low discipline group also had the lowest child aggression scores. This question warrants further research. In the current study, we cannot directly test this hypothesis because the Parent-Child Conflict Tactics Scales does not assess parenting warmth or other aspects of authoritative parenting.

Implications for Intervention

Perhaps because much remains to be known about fathers' use of discipline and how their disciplinary practices might relate to risk for child maltreatment, interventions that target fathers' parenting skills have had mixed success (Fagan & Iglesias, 1999; Fagan & Stevenson, 2002). The LCA approach provides one perspective from which to understand variation in paternal discipline, thus directing researchers toward potential avenues for further research and intervention. For example, an implication of the finding that nearly all of the fathers had high levels of nonaggressive discipline may be to encourage parents and professionals who work with parents to bolster existing positive disciplinary practices, while simultaneously educating parents about the potential negative consequences of harsh discipline for young children, including relatively common behaviors such as spanking (Gershoff, 2002; Taylor, Manganello, et al., 2010).

In addition, psychological aggression toward young children may constitute an important red flag for professional and other service providers, warranting further or more intensive intervention to prevent child abuse. Defining psychological abuse is difficult (Black, Slep, & Heyman, 2001), but building on the conceptualization forwarded by McGuigan and Pratt (2001), psychological abuse refers to ridiculing or threatening to harm a child, behaviors captured by the Parent-Child Conflict Tactics Scale items that were endorsed among the fathers in the high physical and psychological aggression group. Psychological aggression may be a precursor to physical abuse (Black et al., 2001) and may be most problematic in combination with physical and other forms of parental abuse (Felitti et al., 1998). The nature of the psychological aggressive behaviors in this study may be even more alarming when considering that they were directed toward 3-year-old children. The LCA analyses indicate that psychological aggression was uncommon in this sample, yet exposure to paternal psychological abuse, as indicated by having a father in the high physical and psychological aggression group, was associated with high levels of child aggressive behavior.

Another implication of this study relates to the measurement tool used in this study. The customary practice of combining the Parent-Child Conflict Tactics Scales items into a subscale count variable masks unique item variation, and the subscale

scores assume that each type of behavior is equivalent, which is not the case with the Parent-Child Conflict Tactics Scales. In other words, two individuals could have similar subscale scores but exhibit important qualitative differences in their behaviors. Another limitation of combining the Parent-Child Conflict Tactics Scales into a subscale format is the low internal consistency, particularly when used in community samples, because many of the items measure rare events for which a low frequency and skewed distribution is expected (Straus et al., 1998). LCA address these limitations using dichotomous reports of whether the behavior ever occurred in the past year and identifying parenting profile groups based on behavioral patterns across all items as observed in the data.

Study Limitations and Additional Considerations

As with any study, there are limitations to consider. Carlson and McLanahan (2010) discuss how unmarried and married fathers in the FFCWS study differ from each other. Unmarried fathers are younger, have lower incomes, are less well-educated, and are less involved with their children (Carlson & McLanahan, 2010). These factors are also related to the instability of cohabiting unions over the first few years of a child's life (Carlson, McLanahan, & England, 2004). Thus, the findings of this study should not be interpreted as generalizable to the parenting behaviors of nonresidential fathers, to men parenting children to whom they are not biologically related, nor to fathers who do not live in urban areas.

An additional shortcoming is that father self-report of the Parent-Child Conflict Tactics Scales items is not available in the FFCWS. Similar to ongoing debates in the interpersonal violence literature, there is no gold standard measure against which to assess the appropriateness of self-report versus observer reports when considering violence against children or child maltreatment (Vega & O'Leary, 2007). Even self-report measures must be viewed as proxies for actual behavior, particularly when those behaviors are socially undesirable acts such as hitting and shaking a child. Despite this, and a number of other limitations noted by the author of the scale (Straus & Hamby, 1997), the Parent-Child Conflict Tactics Scales is widely used and has been administered to mothers in over 30 countries as a part of the United Nations Children's Fund Multiple Indicator Cluster Surveys.

Studies in the interpersonal violence literature are instructive yet do not wholly resolve issues regarding reporting biases. A often-noted concern is that reliance on self-report may result in underreporting of aggression, and paper-and-pencil measures such as the Conflict Tactics Scales (as compared to clinical interview, for example) may be especially susceptible to such underreporting (Fenton & Rathus, 2010). Referring to the original Conflict Tactics Scale, Straus notes that discrepancies between husbands and wives "often take the form of underreporting by the perpetrator" (Straus, 1990, p. 69), yet this does not address the issue that both parents may be perpetrators of aggression toward the child (Taylor, Lee, et al., 2010). Others have also suggested that women's report of behaviors like

partner violence may be more valid than men's reports (Edleson & Brygger, 1986). Comparison of couples' reports of interpersonal violence indicates that spouses report that their partner committed more aggression than the partners reported about themselves. The authors suggest "that this pattern of disagreement may be the result of a stronger recall of partner negative events or a desire to present oneself as the victim, rather than the aggressor, when reporting relationship violence" (Simpson & Christensen, 2005). Assuming that biases toward underreporting one's own aggression toward a spouse would similarly apply to aggression toward a child, reliance on the mothers' report of paternal aggression toward the child may be more valid than the fathers' evaluation of his behavior.

Perhaps for some of the reasons noted above, maternal report of paternal behaviors is rife in the literature (e.g., Chang, Theodore, Martin, & Runyan, 2008; Guterman et al., 2009; Lee et al., 2008; Mincy, Garfinkel, & Nepomnyaschy, 2005; Osborne & Berger, 2009). Although it would have been preferable to assess for bias by comparing maternal and paternal reports of fathers' physical and psychological aggression directed toward the child, we are unable to conduct this analysis because fathers were not interviewed for the In-Home study. However, in the validation analyses, we include two variables measuring fathers' self-report of spanking, with fathers in the parenting profile groups characterized by higher levels of aggression more likely to indicate they spanked their child at 1 year and 3 years of age.

Finally, although application of LCA represents an innovative approach to the Parent-Child Conflict Tactics Scales, it is important to recognize the limitations of this analytic approach. LCA can detect the unobserved structure of the data only if each of the classes is large enough to be discernable (Thompson, 2007). Thus, it is possible other rare risk groups are present but could not be identified. We may have had limited statistical power to detect between-class differences because of the small n size of the high physical and psychological aggression parenting profile class. Yet, retaining the high physical and psychological aggression group in the final model was necessary, given that this was the only group that demonstrated the importance of paternal psychological aggression. Validation analysis showed associations in the expected directions, although the magnitude of the differences was somewhat small. As with any exploratory study, the results of the LCA model should be considered preliminary and in need of replication to verify the stability of the subclass structure (Roesch et al., 2010).

Conclusion

This study contributes a greater understanding of disciplinary behaviors among involved, biological fathers. The nature of the sample—a large, community-based study of urban fathers—provides a prospective lens through which to examine risk factors for child abuse. By examining residential fathers, this study advances other studies that have primarily focused on father absence or presence from the home and its concordant risk for maternal child abuse and neglect. The person-centered

approach provides an as-yet-unexplored perspective from which to view fathers' nonaggressive and aggressive behaviors towards their 3-year-old child. LCA revealed important qualitative differences in Parent-Child Conflict Tactics Scales aggressive parenting behaviors that could not be captured using a summative score, which suggests the potential usefulness of a person-centered approach when scoring or using the Parent-Child Conflict Tactics Scales in research. In this diverse, community sample, nonaggressive disciplinary practices were common, yet psychological aggression toward 3-year-old children was rare, and may serve as a distinct risk factor for the types of parenting practices that are related to increased risk for physical child abuse.

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- influence maternal risk for child maltreatment. Recent studies examine the influence of acculturation on Hispanic fathers' and mothers' parenting practices, and how parental corporal punishment relates to child well-being.

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