Parent Attitudes and Discipline Practices: Profiles and Correlates in a Nationally Representative Sample

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The responses of a nationally representative sample of 1,000 parents to a survey concerning parent attitudes, disciplinary practices, and other predictors of competent parenting were analyzed. Cluster analysis identified three subgroups based on their profiles of parenting attitudes and discipline. The first was high on physical discipline, neglect, verbal abuse, and attitudes that devalue children. They reported childhood abuse and domestic violence, marital difficulty, and problems managing anger. The second group was high on nonphysical as well as physical discipline, and had a more positive attitude toward children but also had a profile of psychosocial risk. The third group had low scores on all disciplinary practices, low perceived disciplinary efficacy, and a healthy marital and personal history. These groups are different from traditional parenting typologies, and the findings confirm theoretical predictions concerning the correlates of parenting problems and raise new questions concerning the convergence of physically punitive with nonpunitive discipline practices.

What characteristics distinguish parents who have difficulties with child management? Because of the relevance of this question to child abuse prevention, there has been considerable research devoted to understanding the characteristics that identify parents who are at risk of harming their offspring (see Gelles, 1997; Straus, Gelles, & Steinmetz, 1980; Wolfe, McMahon, & Peters, 1997). Based on current conceptualizations of parenting, research has focused on influences from the parent's personal history (such as experiencing abuse as a child or witnessing domestic violence), marital conflict, self-perceptions of inadequacy or inefficacy as a parent, difficulties in emotion management, social isolation, and characteristics of the child (such as age or temperamental difficulty) as contributors to parenting problems (for reviews, see Maccoby & Martin, 1983; Parke & Buriel, 1998; Thompson, 1995).

This research has revealed that child management difficulties arise in families who are beset by constella-

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tions of problems. Consistent with cumulative stress models, current studies indicate that the convergence of multiple risk factors better predicts parenting problems than do single determinants (e.g., Belsky, 1984; Cowan & Cowan, 1992; Simons, Lorenz, Wu, & Conger, 1993). In this view, the impact of any single predictor of difficult parenting is likely to be magnified in conjunction with other risk factors (such as financial stress), or buffered when combined with supportive influences (such as marital harmony) within the family ecology. Consequently, identifying adults who are prone to parenting problems requires a multivariate approach to understanding the constellation of influences that shape their relationships with their offspring.

One multivariate approach to research on parenting problems examines associations between variables that might predict difficult parenting within the entire sample. Such an approach (typically, factor analysis) identifies correlational associations between parenting influences–such as parental beliefs about children, child management practices, marital harmony, and other factors–to determine how they are interrelated. An alternative approach seeks to divide the sample into subgroups of parents who can be meaningfully distinguished in their risk for parenting problems. Using a carefully designed set of variables related to parenting, this approach identifies internally consistent subgroups of parents such that members of each subgroup share a similar profile of parenting beliefs and practices. Cluster-analytic methods are statistical procedures that can delineate homogeneous subgroups within a sample in this manner (Hand, 1981).

The potential benefit of cluster analysis is that, by identifying distinct clusters of parents, the characteristics of members of particular subgroups of special concern, such as those who are at risk for significant parenting problems, can be profiled more effectively. Furthermore, once reliable subgroups are created based on central variables (such as parenting attitudes and practices), it becomes possible to examine whether each subgroup can be further distinguished by other theoretically relevant variables that may be associated with–and thus possibly prognostic of–subgroup membership. Used in this manner, cluster analysis can be part of a broader effort to identify descriptive profiles of parent subgroups who vary in their propensity for having difficulties with child management.

This study enlists data from a uniquely large, nationally representative, Gallup survey of parenting attitudes, discipline practices, and other characteristics to create distinct subgroups of respondents based on their profiles of parental beliefs and practices. The survey was specifically designed to sample a broad range of parental attitudes and disciplinary practices relevant to child management (including variables that might be associated with child maltreatment), as well as influences from the parent's personal history, marital relationship, self-regard, emotion management, demographic background, and characteristics of the child that have been theoretically and empirically associated with child management problems. Our analysis of these data consisted of two steps. First, cluster-analytic methods were used to identify several distinct, homogeneous subgroups from the sample of 1,000 respondents based on a broad battery of parental attitudes and behaviors related to child management. These variables were chosen for the clustering analysis because parental attitudes and discipline practices are central to distinguishing parents who are at risk for child management difficulties.

Second, once these distinct subgroups of parents were identified, we sought to determine whether other variables that were not included in the original clustering analysis, but are possible prognosticators of parent-child problems, would be able to significantly distinguish between the subgroups in expected ways. For the second step, the variables included measures of the parent's personal history, marital relationship, anger management style, and other influences. If the parenting subgroups that were created from the cluster analysis were meaningful, they should be distinguished by these external predictors. In these two analytical steps, we hoped to contribute to efforts to identify the characteristics distinguishing groups of parents who vary significantly in their parenting problems and, even more importantly, in their potential risk for child maltreatment.

Identifying Subgroups of Parents

This investigation began with the selection of variables to be used for creating parental subgroups. Considerable research on parenting indicates that difficulties with child management are manifested both behaviorally and attitudinally; abuse-prone parents act harshly and punitively toward their offspring, and they have attitudes toward their offspring that are authoritarian, suspicious, and punitive (Kolko, 1996; Milner & Dopke, 1997; Straus, 1994). This is consistent with the broader theory concerning attitude-behavior consistency and, more specifically, with studies indicating that abuse-prone parents have networks of social information-processing biases that provide a cognitive foundation for child victimization (for review, see Milner, in press).

Consequently, the cluster analysis was based on a set of 21 variables that assessed parental attitudes toward children and behavioral practices of child management. The attitudinal survey required parents to

indicate the extent of their agreement with a series of nine statements that included attitudes toward physical discipline, beliefs about the value of children, and traditional maxims concerning child rearing (e.g., "Parents who spare the rod will spoil the child"). In addition, parents were asked to indicate the frequency with which they used various discipline methods when their child misbehaved, including nonpunitive approaches, moderate physical discipline, verbal disapproval, severe physical discipline, as well as physical abuse and verbally abusive behavior. On the basis of their responses to the 21 attitudinal and behavioral measures, the sample of 1,000 parents was aggregated, based on cluster-analytic methods, into homogeneous subgroups that were characterized by having a similar profile of beliefs and practices toward children within each subgroup.

External Correlates of Subgroup Membership

Ecologically oriented theories of parenting emphasize that the origins of parenting difficulty do not arise solely with an adult's attitudes toward children and harsh discipline practices. Instead, parenting is complexly constituted by many influences, including the adult's personal history, coping capacities, current family experiences (including the marital relationship), broader family circumstances (such as socioeconomic stresses), and even characteristics of the child (Belsky, 1980, 1984; Gelles, 1997; Thompson, 1998, in press). This is consistent with cumulative stress models guiding current research and intervention into troubled families, and with conceptualizations of normative parenting influences. Consequently, once subgroups of parents were created from cluster analysis, we examined the extent to which the clusters could be significantly distinguished by variables that have been theoretically and empirically linked to parenting problems, and which were assessed in the Gallup survey. These external correlates were not included in the original clustering algorithm; if they were associated with subgroup membership in predicted ways, it would help confirm the validity of the original clustering solution.

One set of variables was concerned with influences from the parent's personal history that might predispose the parent to problems with child management. Specifically, the set of variables was concerned with a childhood history of physical abuse, sexual abuse, or the witnessing of domestic violence. Although the majority of child abuse victims or domestic violence witnesses do not harm their own children (Kaufman & Zigler, 1993; Widom, 1989), these early experiences significantly increase the likelihood of parenting difficulties, partly due to their broader effects on the adult's attitudes, attributions, and other features of psychosocial functioning (Browne & Finkelhor, 1986; Jaffe, Wolfe, & Wilson, 1990; Wolak & Finkelhor, 1998). Abusive and abuse-prone parents are more likely to enlist threat-oriented attributions when interacting with their offspring, attributions that could derive from a personal history of victimization (Milner, in press). Consequently, we expected that parental subgroups characterized by the harshest attitudes and discipline practices would be more likely to indicate a history of childhood victimization or of childhood witnessing of domestic violence.

An adult's difficulties with managing anger can lead to problems in child management (Dix, 1991; Milner & Dopke, 1997). In the Gallup survey, parents were asked how often they acknowledged getting angry and punishing their children when they did not deserve it. Although every parent acts in this manner on occasion, we expected that heightened or prolonged problems with anger management of this kind would be characteristic of parental subgroups who have the harshest attitudes and discipline practices with their offspring.

The quality of the marital relationship can influence the parent-child relationship because marital conflict is associated with parenting problems (e.g., Cummings, 1997; Fauber, Forehand, Thomas, & Wierson, 1990). We therefore expected that parents characterized by the greatest amounts of marital conflict (indexed in the survey by a measure of the frequency of spousal or partner fighting, and of spousal or partner agreement about child discipline) would be in subgroups distinguished by the harshest attitudes and child management practices. The measure concerning spousal agreement is especially important, not only because disputes over children are a salient forum for interspousal conflict, but also because the resulting inconsistency in parental discipline when spouses disagree is likely to heighten problems in parent-child relations.

Parental efficacy is also related to parents' beliefs concerning the effectiveness of the different discipline practices that they use (e.g., Dix, 1991; Goodnow & Collins, 1990; Milner, in press). In this regard, however, predictions are complex. Parents who view specific discipline strategies as effective may be either harshly punitive or more authoritative in style, depending on their preferred practices of child management. On the other hand, parents who view their discipline approaches as generally ineffective may be disengaged, erratic, or highly inconsistent disciplinarians. Consequently, we did not propose specific hypotheses concerning the relations between subgroup membership and parental reports of discipline efficacy; however, we did anticipate that the most punitive discipline practices would be perceived as

the most effective by parents who use these techniques most often.

Broader family conditions can be associated with problems in child management, especially the stresses associated with low income and with single parenting (McLanahan & Sandefur, 1994; Parke & Buriel, 1998). However, socioeconomic variables, when taken alone and without the consideration of moderating influences such as extended-family and social network support and other resources, can be only modestly predictive of the quality of parenting (e.g., Cochran, Larner, Riley, Gunnarsson, & Henderson, 1990; Hernandez, 1997). Consequently, we included in our analysis of external subgroup correlates measures of family income, education, marital status, and family size as indexes of socioeconomic status, without offering differential predictions concerning their relations to subgroup membership. In addition, measures of political ideology and religion were included as indexes of broader beliefs concerning parenting roles and prerogatives, as well as of child responsibilities. However, there is insufficient prior research to frame specific hypotheses concerning relations to child management practices, so these analyses were exploratory. Measures of the parent's age and gender were also included.

Finally, consistent with broader models of the determinants of parenting (e.g., Belsky, 1984; Parke & Buriel, 1998), the association between subgroup membership and child characteristics was examined. Child age was explored because it establishes the nature of parenting responsibilities and demands. For example, younger children require considerable ongoing monitoring by parents, but they do not present the same challenges of oppositional behavior that older children sometimes do. Consequently, the disciplinary requirements of parenting can vary considerably with the child's age. The child's gender was explored as an additional influence on child management problems, because child management problems are more often characteristic of male rather than female offspring, even during the preschool years.

The Study

Taken together, our primary goal was to enlist information from a nationally representative sample of 1,000 parents to examine the organization of child-related attitudes and disciplinary behavior as the basis for creating a set of coherent subgroups of parents who embraced similar beliefs and practices. The use of cluster-analytic methods for this purpose would contribute to a better understanding of the characteristics of parents who may be at risk for problems with child management. To further this goal, and to confirm the clustering solution, we examined the extent to which subgroups differed significantly on a variety of external variables that may be associated with child-rearing problems but were not incorporated into the original clustering algorithm. From theoretical sources, these variables included influences from the parent's personal history, the nature of the marital relationship, perceptions of disciplinary efficacy, anger management, demographic variables that may index broader family stresses and resources, and characteristics of the child.

METHOD

Sample

A Gallup Organization telephone survey (Gallup survey No. 765, conducted in August and September, 1995) was constructed to assess current discipline practices, child-rearing attitudes, and other characteristics of parents across a broad age range of children (birth to age 17). A nationally representative random sample of 1,000 participants (living in telephone households) from across the continental United States responded to the survey. Random-digit dialing was used to contact and screen for households with children under the age of 18. Respondents were asked to participate in a survey of "people's opinions about how to raise children." Among eligible adults, a refusal rate of 19% and an overall response rate of 52% (which takes into account busy telephone numbers or telephones that were never answered) resulted in a sample of 1,000 out of 2,252 potential participants who were initially screened.

Only one parent per household was interviewed. In two-parent households, the computer randomly selected one parent for the interview. Although spouses were not interviewed, there were two comparable forms of the interview: one for single-parent households and one for households in which there was a spouse or partner. There are more single-parent households headed by women; the survey indicated that 65% of the respondents were mothers or mother substitutes, 32% were fathers or father substitutes, and 2% were adults in other caretaker roles. The parent's age ranged from 18 to 72 years, with a mean of 36 years. The sample included minority representation comparable to the broader population, with 12% being Black and 7% being Hispanic. More than a third (34%) of the parents had a college education. Family income ranged from less than $10,000 to greater than $100,000, with a mean of $40,000. More than 70% of the households were coupled (married, remarried, or living together), whereas 20% were divorced or separated. Nearly all (94%) of the target children in the

household were biological children of the target parent (rather than being adopted, a stepchild, or a foster child). In households with more than one child, the computer randomly selected one child as the target of the interview. Children ranged in age from birth to 17 years, with a mean of 8 years, and 49% were female. In all analyses, which were consistent with typical survey practice, data were weighted to reflect the latest U.S. Census statistics with regard to children's age, gender, race, region of the country, and parent's education, with the assumption that the responses of nonsurveyed members of underrepresented groups would be similar to those who were surveyed.

Procedure

The telephone survey was designed as a public service by The Gallup Organization, in cooperation with Murray Strauss and David Finkelhor of the Family Research Laboratory at the University of New Hampshire (Moore, Gallup, & Schussel, 1995). The survey instrument was based on a version of the revised Conflict Tactics Scale called the Parent-Child Conflict Tactics Scale (see Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The interview began by asking the parent some preliminary demographic questions about the family, then the computer randomly selected the target child (when more than one child was in the household) and adult respondent (when more than one adult cared for the child). Other initial questions concerned the age and gender of the child, and the relationship between the respondent and the child.

During the interview, parents were asked 75 questions that covered many topics related to child management. A large majority of questions were used in the analyses that are reported in this study.

Attitudes toward children. On a 4-point scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*), parents rated nine statements describing the best way to raise children, including "It is sometimes necessary to discipline a child with a good, hard spanking," and "As a general rule, children should be seen and not heard" (see Table 1). Higher values indicate greater agreement with the statement.

Discipline practices. Parents indicated on the following scale whether (and how often) they had used each of the 22 discipline approaches when their child misbehaved: 0 = *this has never happened*, 1 = *not in the past year, but it happened before*, 2 = *once in the past year*, 3 = *twice in the past year*, 4 = *3 to 5 times in the past year*, 5 = *6 to 10 times in the past year*, 6 = *11 to 20 times in the past year*, and 7 = *more than 20 times in the past year* (this scale was later collapsed to a range of 0 to 6 by combining *once in the past year* with *twice in the past year*). The discipline alternatives included nonpunitive approaches (e.g., explanations, time-out), moderate physical discipline (spanking, slapping), verbal disapproval (yelling, threatening to spank), severe physical discipline (hitting with a belt or hairbrush, shaking, pinching), physical abuse (choking, beating, scalding), and verbally abusive behavior (swearing, calling the child dumb or lazy) (see Table 1). To ensure the reliability of the results, variables that were endorsed by less than 10% of the sample were dropped from analysis. This resulted in the deletion of 10 variables that indexed the most manifestly abusive parental practices, yielding 12 variables that varied from explanations to hitting on the bottom to screaming at the child (mean values for all 22 variables are listed in Table 1; the variables that were deleted from analysis are also indicated on the table). Higher values indicate greater use of this behavior for child management.

Left a mark. Adults were asked whether their discipline practices had ever left a mark on their child, such as a bruise, lump, sprain, or cut. Responses were scored as *yes* or *no*, and the proportion of respondents indicating *yes* was analyzed.

Neglect. On a scale ranging from 0 to 7 and identical to the rating for discipline practices (later collapsed to 0 to 6 as described previously), parents indicated whether (and how often) they had ever significantly neglected their child's needs in five different circumstances. These included "had to leave your child home alone, even when you thought some adult should be with him or her" and "were not able to make sure your child got to a doctor or hospital when he or she needed it." To increase the reliability of this measure, ratings for each of the five circumstances were summed to create a single index of neglect, and the scores were recoded to indicate neglect as follows: 0 = *never occurred*, 1 = *occurred on one occasion*, or 2 = *occurred on more than one occasion*.

Childhood physical abuse. Four questions in the interview examined whether the adult had been hit, slapped, punched, kicked, or choked by a parent during childhood and adolescence, and how often this occurred. Based on these incidence and frequency data, scores were summed to create an overall index of childhood physical abuse ranging from 0 to 14, with higher scores indicating more frequent abusive incidents.

Childhood sexual abuse. Two questions asked whether the parent experienced unwanted sexual contact with an adult or older child (either a family member or someone outside the family) before the age of 18. Responses to the two questions were combined and

recoded to indicate sexual abuse as follows: 0 = *never occurred* or 1 = *occurred*.

Witnessing partner violence. Two questions focused on whether there were occasions when the adult saw either parent hit or throw something at the other parent during adolescence. Responses for the two questions were combined (because of low frequency) and recoded as follows to indicate whether domestic violence was witnessed: 0 = *never*, 1 = *exclusively from one parent to the other*, or 2 = *mutually between both parents*.

Anger mismanagement. On an 8-point scale identical to the rating for discipline practices, parents indicated whether (and how often) they had ever punished their child when it was undeserved. Because of the low frequency of certain responses, this measure was recoded to indicate unjustified punishment as follows: 0 = *never occurred*, 1 = *occurred once or twice*, or 2 = *occurred more than twice*.

Spousal agreement. On a scale ranging from 1 = *almost never agree* to 5 = *always agree*, adults indicated how often they agreed with their partner on disciplining their child. This question was asked only of the subsample with spouses or partners.

Spousal fighting. Parents were asked whether they had ever pushed, shoved, or hit their partner during a fight, or had ever been treated this way by their partner. The proportion of *yes* responses was analyzed. This question was asked only of the subsample with spouses or partners.

Disciplinary effectiveness. On a scale ranging 1 = *not effective at all* to 4 = *very effective*, adults rated the effectiveness of six discipline approaches with children (age 0 to 6 years), including spanking, reasoning, time-out, and deprivation of privileges. The same ratings were completed with respect to their effectiveness with an adolescent child (age 14 to 15 years). The six ratings each for children and adolescents were summed to create an overall measure of disciplinary efficacy with respect to children of each age group. Higher scores indicated greater self-perceived effectiveness of discipline strategies.

Demographic information. In addition to the age and gender of the child, parents were asked to rate themselves ideologically (as either conservative, moderate, or liberal), indicate the importance of religion to them (distinguished as 1 = *not important*, 2 = *somewhat important*, 3 = *very important*, or 4 = *extremely important*), as well as their age, gender, approximate annual income, educational level (distinguished as 1 = *less than high school*, 2 = *high school graduate*, 3 = *some post–high school education*, or 4 = *college graduate or more*), marital status, and the total number of children in the family. Annual income was recoded as follows: 1 = *under $20,000*, 2 = *above $20,000 but under $50,000*, 3 = *$50,000 or more*.

RESULTS

The design and results of the cluster analysis are presented first, together with analyses that explore how each of the resulting subgroups were distinguished on the attitudinal and behavioral variables that were incorporated into the clustering algorithm. Subsequently, comparisons between the clusters on the external variables that were theoretically predicted to be associated with parenting problems, but were not included in the cluster analysis, were reported to confirm the clustering solution and elaborate the profile of the characteristics yielded for each cluster.

Cluster Analysis

Respondents were clustered using the *quick cluster* procedure of SPSSX, which coalesces cases into subgroups based on the similarity of their score profiles. The variables included in the *quick cluster* analysis consisted of the nine ratings of attitudes toward children and the 12 discipline measures described previously. Based on statistical algorithms and a priori decision rules[1], the cluster analysis yielded a three-group clustering result based on a five-group cluster-analytic solution, with the two remaining groups consisting of a very small number of cases (10 and 4, respectively) that were subsequently omitted from further analysis. The remaining three clusters consisted of (a) Cluster 1, with 628 cases (63% of the sample); (b) Cluster 2, with 135 cases (13% of the sample); and (c) Cluster 3, with 223 cases (22% of the sample).

For descriptive purposes, Table 1 presents mean scores for the total sample and for each of the three clusters on the attitudinal and discipline variables that were incorporated into the cluster analysis. Additional discipline variables that were eliminated from the analysis because they were endorsed by less than 10% of the total sample are presented in the table, although they were not incorporated into the clustering algorithm.

To empirically summarize these results, the attitudinal variables were submitted to a principal components analysis using varimax rotation. Two distinct factors emerged from the scree test and an inspection of eigenvalues (with retained factors that were consistently greater than 1); this accounted for approximately 44% of the variance in parents' attitudes. Eight of the nine variables loaded distinctly (with one exception, the loadings were greater than .50) on one or the other factor. The first factor, accounting for 28% of the variance, was labeled "attitudes toward physical pun-

TABLE 1: Descriptive Statistics on Parental Attitude and Discipline Variables and *F*-Tests Comparing Parental Subgroup Clusters

Variable	*Total*	*Cluster 1* (n = *628*)	*Cluster 2* (n = *135*)	*Cluster 3* (n = *223*)	F *Test*	*Comparisons*
Parent attitudes						
Spanking sometimes necessary	2.46 (.87)	2.43 (.89)	2.26 .80)	2.68 (.81)		
Reward good behavior	1.69 (.61)	1.64 (.63)	1.81 (.56)	1.76 (.55)		
Boys should have fistfights	2.05 (.64)	2.01 (.62)	2.05 (.60)	2.16 (.69)		
Children seen, not heard	1.75 (.66)	1.69 (.64)	1.84 (.69)	1.84 (.71)		
Children should not hit	2.04 (.75)	2.03 (.77)	2.06 (.74)	2.06 (.71)		
OK to slap teenagers	1.96 (.70)	1.91 (.69)	1.97 (.63)	2.12 (.72)		
Should not praise children	1.95 (.81)	1.82 (.78)	2.08 (.73)	2.25 (.86)		
Spare rod and spoil child	2.43 (.79)	2.36 (.78)	2.34 (.68)	2.67 (.84)		
Parents do not discipline enough	2.98 (.63)	2.97 (.63)	2.83 (.61)	3.08 (.64)		
Attitudinal composites						
Belief in physical punishment	7.60 (1.94)	7.51 (1.90)	7.11 (1.94)	8.14 (1.92)	$F(2, 983) = 14.05$, $p < .0001$	1 < 3, 2 < 3
Attitudes that devalue children	9.39 (2.04)	9.13 (1.99)	9.74 (2.10)	9.93 (2.03)	$F(2, 983) = 15.40$, $p < .0001$	1 < 3, 1 < 2
Parent discipline practices						
Explanations	4.85 (1.67)	5.57 (.86)	2.29 (1.98)	4.40 (1.48)		
Time-out	3.37 (2.16)	4.18 (1.86)	0.73 (1.06)	2.71 (1.91)		
Shaking the child	0.28 (.76)	0.27 (.71)	0.02 (.14)	0.48 (1.03)		
Hit on bottom with hard object	0.72 (1.34)	0.80 (1.45)	0.16 (.56)	0.82 (1.28)		
Providing alternative activity	3.37 (2.08)	4.30 (1.62)	2.18 (2.01)	1.57 (1.63)		
Shouting, yelling, screaming	3.71 (1.98)	4.23 (1.72)	0.88 (1.19)	3.97 (1.54)		
Hit with a fist or hard object[a]	0.02 (.19)	0.02 (.22)	0.00 (.00)	0.02 (.16)		
Spanking on bottom with hand	1.80 (1.82)	2.08 (1.91)	0.55 (.98)	1.76 (1.64)		
Grabbing by neck, choking[a]	0.01 (.08)	0.01 (.09)	0.00 (.00)	0.01 (.07)		
Swearing or cursing	0.78 (1.49)	0.76 (1.48)	0.06 (.39)	1.26 (1.76)		
Beat repeatedly as hard as possible[a]	0.01 (.12)	0.00 (.06)	0.00 (.00)	0.03 (.22)		
Threatening to send away[a]	0.16 (.66)	0.18 (.73)	0.00 (.00)	0.19 (.65)		
Burned or scalded[a]	0.00 (.03)	0.00 (.00)	0.00 (.00)	0.01 (.07)		
Threatened to spank or hit	2.21 (2.17)	2.53 (2.23)	0.49 (1.03)	2.35 (2.06)		
Hit with hard object, not on bottom[a]	0.13 (.63)	0.14 (.67)	0.01 (.10)	0.17 (.70)		
Slapping on hand, arm, leg	1.42 (1.76)	1.57 (1.85)	0.36 (.88)	1.64 (1.68)		
Deprivation of privileges	3.09 (2.06)	3.76 (1.93)	0.93 (1.20)	2.54 (1.76)		
Pinching[a]	0.15 (.71)	0.18 (.78)	0.01 (.10)	0.17 (.71)		
Threaten with gun or knife[a]	0.00 (.03)	0.00 (.00)	0.00 (.00)	0.01 (.07)		
Throw or kick down[a]	0.01 (.16)	0.02 (.19)	0.00 (.00)	0.01 (.10)		
Call dumb or lazy	0.50 (1.21)	0.44 (1.17)	0.05 (.26)	0.92 (1.49)		
Slap on face, head, ears[a]	0.14 (.58)	0.12 (.52)	0.01 (.10)	0.25 (.84)		
Discipline composites						
Nonphysical discipline	14.56 (5.73)	17.58 (4.08)	6.12 (3.34)	11.21 (3.38)	$F(2, 983) = 606.80$, $p < .0001$	1 > 2, 1 > 3, 2 < 3
Physical discipline	6.14 (5.25)	6.98 (5.33)	1.56 (2.46)	6.56 (4.83)	$F(2, 983) = 68.63$, $p < .0001$	1 > 2, 2 < 3
Verbal abuse	1.27 (2.19)	1.20 (2.14)	0.11 (.48)	2.18 (2.57)	$F(2, 983) = 41.49$, $p < .0001$	1 > 2, 1 < 3, 2 < 3

NOTE: Mean values are presented in each column; standard deviations are indicated in parentheses.
a. This variable was dropped from analysis due to the low frequency of endorsement (i.e., less than 10% of the sample indicated ever using this behavior with the child).

ishment" because the three variables loading on this factor endorsed physical discipline (i.e., "parents who spare the rod will spoil the child" [factor loading = .77], "it is sometimes necessary to discipline a child with a good, hard spanking" [factor loading = .77], and "most parents don't discipline their children often enough" [factor loading = .64]). The second factor, accounting for 16% of the variance, was labeled "attitudes that devalue children" because the five variables loading on this factor included attitudes that minimize the importance of responsiveness to children and their needs (i.e., "as a general rule, children should be seen and not heard" [factor loading = .62], "you have to be careful not to praise children too much, or it may go to their heads" [factor loading = .60], "when a boy is growing up, it is important for him to have a few fistfights" [factor loading = .57], and negative loadings for "generally speaking, when children do something especially good, they should be rewarded for it" [factor loading = –.61] and "children should never be allowed

to hit each other when they have arguments" [factor loading = –.49]) (for further details, see Jackson et al., 1999).

In a similar manner, the 10 disciplinary-practices variables were submitted to a principal components analysis with varimax rotation. Three factors emerged from an analysis of eigenvalues (with retained factors that were consistently greater than 1) and the scree test; this accounted for 54% of the variance in parental discipline. Ten of the 12 variables loaded distinctly (with one exception, the loadings were greater than .50) on one of the factors. The first factor accounted for 32% of the variance, and it was labeled "nonphysical discipline" because the four variables loading on this factor involved nonphysical and sometimes nonpunitive techniques of child management (i.e., explanations [factor loading = .76], time-out [factor loading = .77], deprivation of privileges [factor loading = .73], and giving the child an alternative activity [factor loading = .48]). The second factor accounted for an additional 12% of the variance in parent discipline, and it was labeled "physical discipline" because the items that loaded significantly on this factor consisted of hitting on the bottom with a hard object (factor loading = .51), spanking on bottom with the hand (factor loading = .72), threatening to spank or hit the child (factor loading = .65), and slapping the child on the arm or leg (factor loading = .80). The third factor accounted for a further 10% of the variance, and it was labeled "verbal abuse" because the two variables loading on this factor involved verbal denigration of the child (i.e., calling the child dumb or lazy [factor loading = .79] and swearing at the child [factor loading = .72]) (see Jackson et al., 1999, for further details).

Composite variables representing each factor were created by summing the scores for the specific variables that loaded distinctly on each factor (items with negative loadings were reversed before summing; reversed scores for these variables appear in Table 1). These composite variables are presented in Table 1. One-way analyses of variance (ANOVAs), when they were significant, were followed by Tukey post hoc pairwise comparisons between clusters that were used to compare mean scores for the three clusters on each composite variable. Not surprisingly (in light of the fact that the variables creating the composites were incorporated into the original clustering solution), the three clusters were significantly different for each composite.

The inspection of the composite scores helps to profile the child-rearing characteristics of the members of each cluster. Cluster 3 members were the highest on each attitudinal composite. They endorsed beliefs in physical punishment and attitudes that devalue children significantly more often than did members of the other two clusters (although they were not significantly different from Cluster 2 on attitudes that devalue children). Cluster 3 parents were also the highest in the verbal abuse composite of discipline practices, and they tended to receive the highest scores on the most physically abusive specific discipline practices. Their child-rearing attitudes and practices were, therefore, rather harsh and punitive. However, members of Cluster 1 obtained the highest mean score on the physical discipline composite, as well as the highest score on the nonphysical discipline composite. In other words, members of this cluster tended to employ, more often than other clusters, discipline practices that were physically coercive, as well as those that were nonphysical and often nonpunitive. They received scores that were significantly lower than members of Cluster 2 and Cluster 3 on the attitudinal composite regarding the devaluing of children. In other words, their attitudes reflected greater value of and respect for children, whereas their discipline practices included multifaceted punitive and nonpunitive strategies. Finally, Cluster 2 scores were the lowest for all three physical discipline composites, as well as the lowest for the attitudinal composite regarding their belief in physical discipline. These individuals endorsed parent discipline practices and attitudes the least often, although their scores on the attitudinal composite concerning the devaluing of children were midway between those of the other two clusters. The parents in this cluster appear to be, in a sense, nondirective parents in their style of child management.

External Correlates

One important assessment of the validity of a cluster-analytic solution is not only whether the resulting clusters are meaningfully distinguished by the variables contributing to the cluster analysis, but also whether they are significantly differentiated by other variables that are not incorporated into the clustering algorithm; these other variables should predictably differentiate the clusters. Table 2 presents the mean scores of the external correlates for each parenting subgroup cluster, as well as the results of one-way ANOVAs by which the mean scores for each cluster are compared on the other variables derived from the survey (degrees of freedom vary based on occasional response declination to certain questions by survey respondents).

The three clusters differed significantly on an index of maladaptive parenting–reports of neglectful behavior–with members of Cluster 1 and Cluster 3 ranking significantly higher than the members of Cluster 2. The clusters did not differ, however, in the proportion of respondents who indicated that their discipline prac-

tices had left a mark on the child, although Cluster 1 and Cluster 3 members tended to score the highest.

On variables indexing the parent's personal history of experiences relating to parenting problems, including self-reports of physical abuse, sexual abuse, and witnessing domestic violence in childhood, significant one-way ANOVAs were followed by pairwise Tukey comparisons to reveal significant differences between the clusters. Members of Cluster 3 reported the highest incidences of childhood physical abuse and being a child witness of domestic violence, although in no case were these scores significantly distinguished from those of Cluster 1, whose members reported the highest rates of sexual abuse. Cluster 2 obtained scores on each measure that were significantly lower than those of the other two clusters (except for the measure of witnessing partner violence, in which they did not differ significantly from Cluster 1).

A similar pattern of results was yielded by an analysis of responses to the question concerning anger mismanagement. Cluster 3 and Cluster 1 each received the highest scores for the undeserved punishment of offspring (although they were not significantly different from each other), whereas Cluster 2 received significantly lower scores. On the measure of spousal agreement, members of Cluster 2 reported significantly higher agreement than did members of Cluster 3. There were no significant group differences on the measure of spousal fighting, although Cluster 1 and Cluster 3 reported the highest frequency.

When compared with the results for teenagers, the variables assessing disciplinary efficacy yielded significant group differences more often for results concerning younger children. However, a consistent pattern of results emerged in the responses for each age. For each variable yielding a significant ANOVA and significant pairwise comparisons, members of Cluster 2 tended to obtain the lowest scores. When comparing mean scores for Cluster 1 and Cluster 3, the only significant pairwise comparison indicated that Cluster 1 obtained higher scores on the efficacy of deprivation of privileges with younger children. In all other instances, the scores of parents in Cluster 1 and Cluster 3 were not significantly different. In sum, members of Cluster 2 consistently reported the lowest efficacy in child management practices.

There were fewer significant group differences in demographic variables. Although the clusters differed significantly in family income, with Cluster 2 parents reporting a significantly higher annual average family income, there were no differences in parent education, which suggested that socioeconomic differences were small. The comparison of the three subgroups in the proportion of families in different income groups confirms this conclusion. Despite their relevance to self-perceptions of parenting roles, there were no significant group differences in the measures of ideology or the importance of religion. The clusters differed significantly on marital status, with Cluster 2 having the highest proportion of respondents who were married for the first time; members of Cluster 1 and Cluster 3 were more likely to be divorced or separated or remarried. There were no group differences in family size. In general, members of Cluster 3 were older than members of Cluster 1 (although there were no differences with Cluster 2 parents), and Cluster 1 had a higher proportion of female respondents.

Finally, there were significant group differences in two child variables. The three clusters differed somewhat in the age of the target child, with Cluster 2 having the youngest (averaging almost 7 years old) and Cluster 3 the oldest (averaging almost 10 years). Cluster 2 had a higher proportion of target children who were daughters.

DISCUSSION

The three clusters yielded by this cluster analysis of a large, nationally representative sample are distinguished by their profiles of responses, not only to the attitudinal and disciplinary practices that were enlisted into the cluster analysis, but also by a variety of external variables that are predictably related to parenting problems, and which help to confirm the original clustering solution.

Members of the third cluster, constituting approximately 22% of the sample of 1,000, are a good fit for the theoretical portrayal of parents who are prone to harsh or abusive parenting practices. They most often reported using verbally abusive means of child management (such as swearing at or demeaning the child), and most often endorsed attitudes that emphasize physical punishment. They scored highest (although not significantly different from Cluster 2 members) in attitudes that devalue children and in physically coercive discipline practices (although not significantly different from Cluster 1). These respondents tended most often to report using the harshest, most abusive practices with their offspring. Along with Cluster 1 parents, they reported behaving neglectfully more often than members of Cluster 2. Cluster 3 included the highest proportion of respondents who admitted to leaving a physical mark on the child (such as a bruise or cut) from their disciplinary encounters. In general, it would be appropriate to consider members of Cluster 3 high-risk parents.

When members of this high-risk parenting cluster were compared with others on external variables asso-

TABLE 2: Descriptive Statistics on External Correlates and *F*-Tests Comparing Parental Subgroup Clusters

Variable	*Total*	*Cluster 1* (n = *628*)	*Cluster 2* (n = *135*)	*Cluster 3* (n = *223*)	F *Test*	*Comparisons*
Neglect	0.52 (.98)	0.53 (.97)	0.29 (.76)	0.66 (1.11)	$F(2, 983) = 6.60$, $p < .002$	1 > 2, 2 < 3
Report of any neglect (in percentages)	27	28	16	32		
Left a mark on the child (in percentages)	6	7	1	7		not significant
Childhood physical abuse	2.67 (3.46)	2.71 (3.45)	1.64 (3.05)	3.19 (3.59)	$F(2, 983) = 8.77$, $p < .0002$	1 > 2, 2 < 3
Childhood sexual abuse	0.23 (.42)	0.25 (.44)	0.12 (.32)	0.22 (.42)	$F(2, 978) = 6.17$, $p < .003$	1 > 2, 2 < 3
Witnessed partner violence	0.32 (.62)	0.33 (.62)	0.20 (.56)	0.36 (.65)	$F(2, 977) = 3.03$, $p < .05$	2 < 3
Report of any witnessing (in percentages)	22	24	13	27		
Anger mismanagement	0.62 (.75)	0.70 (.78)	0.22 (.50)	0.63 (.74)	$F(2, 983) = 23.96$, $p < .0001$	1 > 2, 2 < 3
Occurrence of anger mismanagement (in percentages)	45	50	18	48		
Spousal agreement	3.56 (.97)	3.55 (.95)	3.75 (.86)	3.45 (1.05)	$F(2, 696) = 3.09$, $p < .05$	2 > 3
Causing harm during spousal fighting (in percentages)	6	6	1	7	not significant	
Disciplinary effectiveness						
Spanking, 0 to 6 years	2.37 (1.04)	2.36 (1.03)	2.24 (1.12)	2.48 (1.03)	not significant	
Reasoning, 0 to 6 years	3.09 (.87)	3.09 (.86)	3.10 (.90)	3.08 (.90)	not significant	
Yelling, 0 to 6 years	1.73 (.91)	1.72 (.89)	1.59 (.88)	1.87 (.94)	$F(2, 977) = 4.14$, $p < .02$	2 < 3
Time-out, 0 to 6 years	3.17 (.92)	3.26 (.89)	2.86 (1.02)	3.09 (.92)	$F(2, 973) = 11.45$, $p < .0001$	1 > 2
Deprivation of privileges, 0 to 6 years	3.19 (.88)	3.29 (.85)	2.86 (.89)	3.11 (.92)	$F(2, 972) = 14.51$, $p < .0001$	1 > 2, 1 > 3, 2 < 3
Refuse to talk with them, 0 to 6 years	1.57 (.98)	1.56 (.98)	1.49 (.90)	1.62 (1.06)	not significant	
Discipline efficacy, 0 to 6 years	14.97 (2.75)	15.14 (2.69)	13.98 (2.91)	15.09 (2.70)	$F(2, 983) = 10.40$, $p < .0001$	1 > 2, 2 < 3
Spanking, 14 to 15 years	1.23 (.63)	1.23 (.61)	1.20 (.63)	1.26 (.68)	not significant	
Reasoning, 14 to 15 years	3.40 (.79)	3.41 (.78)	3.51 (.70)	3.31 (.86)	not significant	
Yelling, 14 to 15 years	1.68 (.91)	1.71 (.92)	1.52 (.86)	1.70 (.91)	not significant	
Time-out, 14 to 15 years	2.19 (1.15)	2.24 (1.14)	2.00 (1.10)	2.18 (1.26)	not significant	
Deprivation of privileges, 14 to 15 years	3.48 (.84)	3.55 (.77)	3.18 (1.02)	3.47 (.88)	$F(2, 967) = 10.81$, $p < .0001$	1 > 2, 2 < 3
Refuse to talk with them, 14 to 15 years	1.61 (.95)	1.63 (.97)	1.47 (.79)	1.66 (.97)	not significant	
Discipline efficacy, 14 to 15 years	13.51 (2.77)	13.68 (2.69)	12.82 (2.80)	13.43 (2.92)	$F(2, 970) = 5.47$, $p < .005$	1 > 2
Ideology					not significant	
Conservative (in percentages)	48	45	48	56		
Moderate (in percentages)	29	31	29	26		
Liberal (in percentages)	23	24	23	19		
Importance of religion	2.22 (1.42)	2.25 (1.42)	2.04 (1.36)	2.24 (1.44)	not significant	
Marital status					$\chi^2(4) = 13.58$, $p < .01$	
Married for the first time (in percentages)	63	59	76	66		
Remarried (in percentages)	17	19	10	17		
Divorced or separated (in percentages)	20	22	14	17		
Family income	2.10 (1.18)	2.04 (1.02)	2.43 (1.77)	2.09 (1.12)	$F(2, 942) = 6.06$, $p < .003$	1 < 2, 2 > 3
Under $20,000 (in percentages)	25	25	20	26		
Over $20,000 and over $50,000 (in percentages)	40	49	57	46		
$50,000 or more (in percentages)	26	26	22	28		
Parent education	2.63 (.99)	2.67 (.98)	2.60 (1.04)	2.52 (.97)	not significant	
Family size (number of children)					not significant	
One child (in percentages)	40	39	50	37		
Two children (in percentages)	38	40	29	39		
Three or more children (in percentages)	22	21	21	24		

(continued)

TABLE 2 Continued

Variable	*Total*	*Cluster 1 (n = 628)*	*Cluster 2 (n = 135)*	*Cluster 3 (n = 223)*	F *Test*	*Comparisons*
Parent age	36.06 (8.31)	35.73 (8.09)	35.62 (9.26)	37.26 (8.23)	$F(2, 982) = 3.02$, $p < .05$	1 < 3
Parent gender					$\chi^2(2) = 12.56$, $p < .01$	
Male (in percentages)	34	30	44	37		
Female (in percentages)	66	70	56	63		
Child age	8.34 (5.02)	8.06 (4.59)	6.90 (6.44)	9.99 (4.73)	$F(2, 983) = 19.31$, $p < .0001$	1 > 2, 1 < 3, 2 < 3
Child gender					$\chi^2(2) = 6.99$, $p < .05$	
Male (in percentages)	51	54	42	48		
Female (in percentages)	49	46	58	52		

NOTE: Mean values are presented in columns; standard deviations are indicated in parentheses.

ciated with parenting, group differences confirmed many theoretical predictions concerning the correlates of harsh or abusive parenting (Gelles, 1997; Milner & Dopke, 1997; Straus, 1994). A higher proportion reported experiencing childhood physical abuse or sexual abuse, or reported witnessing physical conflict between their parents, than did Cluster 2. This is consistent with studies indicating that, although children who are treated abusively or grow up in violent homes do not inevitably mistreat their own family members as adults, they are more prone than other individuals to domestic problems of their own (Jaffe et al., 1990; Kaufman & Zigler, 1993). Members of the third cluster had a higher rate of self-reported marital conflict than did Cluster 2 members, suggesting that their child-management problems occurred in the context of other domestic difficulties and limited marital support. Finally, although members of this cluster reported high ratings for the effectiveness of alternative discipline methods (especially by comparison with Cluster 2), their high scores on self-reported problems with anger management–indexing how often they unjustifiably punished their offspring because of anger or frustration–suggest that their regard for disciplinary efficacy may occur in a context of coercive, and sometimes antagonistic, parent-child relations. It is possible that their high regard for the efficacy of various disciplinary practices contributed to the frustration that these parents experienced when their offspring misbehaved. The fact that these parents had the oldest target children suggests that parental frustration may have also derived from the children's need to strive for autonomy and independence (for further perspectives on abuse in relation to children's autonomy, see Pelcovitz, Kaplan, Samit, Krieger, & Cornelius, 1984). Taken together, the profile of characteristics for the third cluster confirms theoretical predictions from developmental and clinical literatures concerning the ways that childhood history, marital discord, and problems in emotion regulation can predispose people to harsh or abusive parenting practices.

However, the profile of characteristics for Cluster 1, which constitutes the majority of the respondent population, provides a reminder that predisposing factors do not necessarily lead to significant parenting difficulties. In most cluster comparisons, members of Cluster 1 were not significantly different from members of Cluster 3 in their reports of childhood physical or sexual abuse, witnessing partner violence, marital conflict, and problems with anger management. However, these parents endorsed attitudes that devalue children the least often, and they scored significantly higher than members of the other two clusters in their self-reported use of nonphysical (and sometimes nonpunitive) forms of discipline, such as explanations and time-out when their offspring misbehaved. To be sure, members of Cluster 1 also scored high (and are comparable to members of Cluster 3) in their use of physical discipline. If the high scores for both nonphysical and physical discipline practices are taken together with their positive attitudinal regard for children and their high ratings of the effectiveness of alternative disciplinary methods (with both children and adolescents), as well as their high scores for problems in anger management, this profile of characteristics portrays these adults as attitudinally conscientious parents who may be, at times, prone to anger and frustration in their parenting role. In contrast to the profile of Cluster 3, however, these adults combine coercive with noncoercive forms of child management in the context of having a more positive regard for children. It might be appropriate to consider parents of Cluster 1 as moderate risk.

Cluster 1's combination of high scores for both nonphysical discipline and physical discipline requires further comment. It is common to regard noncoercive (sometimes nonpunitive) forms of discipline, such as explanations and providing another activity, as alternatives to more coercive, physically punitive forms of discipline like spanking, slapping, or hitting the child.

Traditional typologies of parental discipline practices–such as characterizations of parents as power assertive, love withdrawing, or inductive–contribute to the expectation that punitive and nonpunitive approaches are alternative strategies of child management by distinguishing, in different groups, parents who rely on physically coercive disciplinary approaches from those who use more rational or relational strategies (Hoffman & Saltzstein, 1967; Maccoby & Martin, 1983). Indeed, some parent educators seek to strengthen parents' facility with nonpunitive approaches to child management with the expectation that doing so will reduce the reliance on physically punitive methods. The results of this cluster analysis indicate that many parents may use both practices to a high degree. For Cluster 1, this may derive from a strong perception of the effectiveness of various discipline practices that contributes to their use of a range of alternatives in their efforts to manage child behavior.

Finally, members of Cluster 2 (constituting 13% of the sample) were characterized by having significantly lower scores than the other clusters on measures of physical discipline, nonphysical discipline, and verbal abuse of children. They showed the lowest levels of self-reported neglect of any cluster, and their attitudes toward the value of physical punishment were lower than those of the third cluster. On the other attitudinal composite, these adults were midway between the other clusters in attitudes that devalue children. This parent group therefore appeared to be nondirective, and to enlist a narrow range of child management approaches in their interactions with children. One explanation for this comes from analyses of measures of their reported effectiveness of alternative disciplinary methods. Quite consistently, members of Cluster 2 had the lowest scores in self-reported disciplinary efficacy, suggesting that these adults may have used few disciplinary methods partly because they doubted their efficacy when used with children or adolescents. In a sense, whereas Cluster 1 exemplifies parents who exercise a broad range of strategies for child management, Cluster 2 anchors the other end of the continuum in endorsing a relatively narrow range of interventions. It is possible that parents in Cluster 2 did not regard their parenting role as child management, but as child guidance, in which their task was to promote the healthy development of their offspring without steering the child's behavior in particular directions.

At the same time, members of Cluster 2 exhibited the most positive background characteristics of any of the clusters yielded by the clustering algorithm. They ranked significantly higher than the third cluster on the measure of spousal agreement, and they reported the lowest levels of spousal fighting and problems with anger management. They were most likely to be in intact marriages. These respondents reported little history of childhood physical abuse, sexual abuse, or witnessing partner violence. This cluster was somewhat wealthier than the other clusters, although there were no differences in education, ideology, or religion. Taken together, these findings provide support for the view that, just as a difficult childhood history or significant marital problems can predispose adults to difficulties in parent-child relations (without making such difficulties inevitable), adults with positive marital relationships and few childhood threats may be buffered against the more significant problems that may arise in managing their offspring. It is suitable to consider parents in Cluster 2 a low-risk group for parenting problems.

It is noteworthy that when parents were clustered according to their profiles of parenting attitudes and disciplinary practices, the most significant external correlates of these groupings were theoretically based variables that were related to personal history, personal adjustment, and disciplinary efficacy. By contrast, demographic variables that might be associated with child management problems, such as ideology, religion, parent education, and family size, were not significantly different across the three clusters. There were differences, as noted previously, in family income and marital status that may be associated with the stresses and supports of family life. Furthermore, respondents in Cluster 3 were somewhat older than those who were in Cluster 1, and they tended to have older target children than did the other clusters in this analysis (concerning the latter, it is important to note that this variable refers only to the age of the target child for the survey; in families with more than one child, siblings could be older or younger). Taken as a whole, however, it is apparent that the psychological variables theoretically associated with a heightened propensity for parenting problems were strongly predictive of cluster membership in this study, and demographic variables alone appeared to explain relatively little variance.

It is noteworthy that, although the three clusters yielded by this cluster analysis can be understood generally in terms of prior characterizations of parenting style, these clusters do not closely resemble the typologies that have traditionally guided theoretical portrayals of parenting (Baumrind, 1971; Hoffman & Saltzstein, 1967; Maccoby & Martin, 1983). Members of the third cluster have many characteristics of authoritarian parenting, as do parents in Cluster 1, who ranked highest in the physical discipline composite. In their disciplinary practices, but not in their attitudes, members of the second cluster resemble parents who

are traditionally characterized as permissive. Cluster 1 parents combined high levels of both punitive and nonpunitive disciplinary practices, and thus cannot easily be characterized as relying primarily on either inductions or power assertion as their basic method of child management. This is therefore consistent with current views that emphasize the complex contingencies involved in parents' child management decisions (e.g., Dix, 1991; Grusec & Goodnow, 1994; Maccoby, 1992). The constellations of parenting practices, attitudes, and other correlates yielded by this cluster analysis are more complex and multifaceted than that provided by traditional portrayals of parenting. The characteristics of these clusters pose new research questions concerning the organization and motivational bases of child management strategies, and how they are associated with parents' personal histories, self-perceptions, and emotion regulation.

One of the difficulties of relying on survey responses is that households without access to telephones are excluded, although these likely account for a very small proportion of the population. A more significant concern is the interpretation of self-reported data. Because of this method, there are no independent assessments of parent discipline practices to confirm the self-reports of the adults in this sample. To be sure, the variables indexed in this survey are primarily assessments of parental attitudes, self-perceptions, and reports of personal experiences in childhood (together with various objective demographic indicators), for which self-reported data are well suited. Even so, concern with the possible underreporting of the more severe methods of parent discipline remains, which is one reason for our decision to eliminate parent discipline measures that were endorsed by less than 10% of the total sample. It is important to note, however, that even when these most severe forms of discipline (like beating, burning, scalding, or choking the child) are considered, the rate of child maltreatment self-reported by this sample is more than 16 times the number that is officially reported for victims of child abuse in 1993 (Moore, 1995). Although concerns with the potential underreporting of the more severe forms of child discipline remain, this suggests that parents were not unduly reticent, in the context of an anonymous telephone Gallup survey, to disclose the most severe discipline practices with their offspring.

In sum, the results of this survey suggest that distinct constellations of parent groups exist that differ meaningfully in their propensity for having problems in child management. One cluster fits the profile of abuse-prone parents yielded by the developmental and clinical literature in their high use of physically coercive (sometimes abusive) forms of discipline, belief in physical punishment and attitudes that belittle children, difficulties in managing anger, poor marital relations, and personal history that is characterized by childhood violence. Another cluster, constituting the majority of the sample, shared many of the difficulties of this cluster, but they embraced positive attitudes about children, combined nonpunitive discipline methods with physically punitive means, and seemed to perceive themselves as attitudinally responsible parents with high self-perceived efficacy in discipline practices. The final cluster ranked lowest on most of the attitudinal and discipline composites, reflecting a nondirective, but also nonpunitive, orientation toward child management that was supported by positive marital relations and a more healthy childhood history than the other two clusters. They were, however, significantly lower than the other clusters on self-perceived disciplinary efficacy, and tended to embrace attitudes that devalue children.

These findings suggest somewhat different forms of intervention strategies for parents in the moderate-risk (Cluster 1) and high-risk (Cluster 3) clusters. Parents of the second cluster are already capable of using a variety of discipline strategies with their offspring, do not have attitudes that devalue children, and do not endorse physical punishment; these are significant resources that can be enlisted into parent education and support. For these parents, the most significant challenges to effective parenting may be in coping with life stresses–whether in the form of marital difficulty, problems in the past, or anger management–that can result in the physical coercion of their offspring. By contrast, guidance that is more significant is needed for the high-risk parents of Cluster 3. The guidance may include counseling, parent education, social support, and even cognitive-behavioral treatment strategies to change the composite of attitudinal, behavioral, and ecological influences contributing to a heightened risk of child harm (for illustrations of such strategies, see Lutzker, in press).

It is important to note that none of the three clusters fit a theoretical profile of optimal parenting. Each cluster revealed different constellations of strengths and weaknesses, and the prevalence of self-reported problems with child management is a disturbing feature of these findings. Furthermore, the combination of the frequent usage of nonpunitive forms of discipline with physically coercive discipline methods by the largest cluster calls into question whether these are truly alternative approaches to child management, at least as they are enlisted by most parents in this survey. Finally, the importance of self-perceived disciplinary efficacy to the range of disciplinary methods used by adults in each cluster suggests that parents' self-perceptions are

important to their disciplinary approach. Further exploration of these questions remains for future research.

NOTE

1. *Quick cluster* is a clustering technique that is well suited to the analysis of large samples. The clustering algorithm is a nonhierarchical sequential threshold procedure for identifying cluster centers and associated cases (in this case, equivalent to *k*-means clustering methods), with similarity within and between clusters measured by the squared Euclidean distance in multidimensional space. Nonhierarchical clustering techniques involve an initial specification of one or more cluster centers within multidimensional space, based either empirically or on the researcher's prespecification (we chose empirical specification). The subsequent analytical steps entail the expansion of initial clusters and the modification of cluster centers, as subsequent cases are included in the analysis and assigned to specific clusters. With each new case, the procedure updates the center of that cluster to ensure that the multidimensional space between cluster centers is maximized and that the space within clusters is minimized. Several passes through the data in the course of the clustering algorithm help to ensure the stability of the final clustering solution.

Because cluster analysis is not based on probability statistics, there are no straightforward criteria for identifying the optimal number of clusters in a clustering solution. Therefore, our choice of a clustering result was based on several criteria. First, we preferred a smaller number of clusters to a larger number for theoretical reasons (the research literature has typically characterized parenting in terms of a handful of dimensions or categorizations), as well as for the ease of interpretation. Second, we sought a clustering solution in which the fewest number of cases would be assigned to clusters of very small size, because these would be excluded from subsequent analysis to strengthen the reliability of cluster comparisons. Furthermore, the remaining clusters should be sufficiently large to provide reliable cluster comparisons. Third, cluster profiles were examined for their interpretability in terms of the variables contributing to the cluster solution. We sought clusters that were theoretically coherent and internally consistent in the patterns of variables by which they were discriminated. Finally, we sought a clustering solution that would be validated by external criteria. More specifically, the clusters should be distinguished in meaningful ways by other variables in the survey that were not specifically included in the clustering algorithm.

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