

# Six Dimensions of Parenting: A Motivational Model

Ellen Skinner, Sandy Johnson, and Tatiana Snyder

## SYNOPSIS

**Objective.** A motivational conceptualization provided the basis for identifying 6 core features of parenting style (warmth, rejection, structure, chaos, autonomy support, and coercion) and constructing 2 measures to assess them (1 for parents and 1 for children). **Design.** Self-report data were collected from independent samples of parents ( $N = 1212$ , 645 mothers and 567 fathers) and adolescent children ( $N = 3,752$ ). **Results.** Models of multiple (unipolar) dimensions provided a significantly better fit than traditional models of bipolar dimensions. Moreover, correlations among dimensions suggested that dimensions can be aggregated in several ways. **Conclusion.** The conceptual framework and measures can contribute to future work on parenting, including research designed to map the many constructs that describe parenting, and studies that explore how parenting style shapes child and adolescent outcomes.

## INTRODUCTION

Three themes can be identified in assessments of parenting style over the past 50 years. The first is the centrality of parental warmth and caring to children's development, suggesting that the foundation for caregiving is love and affection (Rohner, 1976). The second theme is parent provision of structure. Referred to in work on discipline and authoritarian parenting, this theme suggests that clear and consistent expectations and limit setting are advantageous to children, especially in terms of their internalization of rules and the development of self-efficacy (Flammer, 1995; Kochanska, 1993; Schneewind, 1995). A third theme is that of autonomy support, suggesting that better developmental outcomes accrue if parents interact with children in ways that do not compromise their freedom of expression or intrinsic motivation (Barber, 1996; Deci & Ryan, 1985; Grolnick & Slowiaczek, 1994).

Each theme can be traced in various forms across decades of research examining how parents relate to their children from preschool age to late adolescence (see Table 1; for reviews, see Darling & Steinberg, 1993; Maccoby & Martin, 1983). A central conceptual argument of this article is that, al-

TABLE 1  
 Comprehensive Historical Overview of the Dimensions Included in Parenting Measures Over the Last 60 Years  
 (In Chronological Order)

Measure	Dimensions	Definitions
Fels Parent Behavior Scales Champney, 1941, as cited in Baldwin, Kalhorn, and Breese, 1945	Democracy in the home	Justification, democracy, and clarity of policy, explanations, approval, understanding versus restrictive, coercive
	Acceptance of child	Acceptance, rapport, affection, approval, effectiveness, child-centeredness versus disciplinary friction
	Indulgence	Protectiveness, babying, child-centered, acceptance, solicitous, duration and intensity of contact
Fels Parent Behavior Scales Roff, 1949	Freedom–arbitrary control	Child free to act versus restrained by autocratic control
	Stimulation–neglect	Child constantly subjected to attention, affection versus neglected, ignored
	Babying–adulting	Everything done for child versus encouraged to do things for himself
	Maladjusted–well-adjusted	Home is erratic, discordant, tense versus harmonious, relaxed, pleasant
	Approving–deprecating	Child typically praised versus blamed, disapproved
	Rational–nonrational	Attitude toward child is logical, intellectual versus expedient, emotional
	Training–free growth	Pushes child for rapid development by training versus makes no effort to accelerate development
	Socialized–individualized	Home is friendly, sociable versus reclusive, isolated
Parent Attitude Survey Shoben, 1949	Ignoring	A child should be seen and not heard.
	Possessive	Children should be allowed to do as they please.
	Dominating	Children need some of the natural meanness taken out of them.
Fels Parent Behavior Scales Lorr and Jenkins, 1953	Dependence-encouraging	Babying, child-centeredness of home, solicitousness, protectiveness, intensity and duration of contact, acceptance
	Democracy of child training	Democracy and clarity of policy, explanations, understanding child's problems; low coerciveness of suggestion, restrictiveness, emotionality, criticism, disciplinary friction
	Organization and effectiveness of control	Strict orderliness, enforcement, severity of penalties, pushing, coordination of household; chaotic disorder

Fels Parent Behavior Scales Baldwin, 1955	Warmth Possessiveness Democracy Intellectuality Restrictiveness Severity Interference Adjustment Activeness	Child-centered, approval, acceptance, affection, rapport Babying, protectiveness, solicitousness Justification and democracy of policy Acceleration, explanations, understanding Restrictive regulations, coercive suggestions Readiness of reinforcement, severity of punishment Readiness of suggestions, quality of criticism Adjustment, effective policies versus disciplinary friction, discord Activeness, coordination, sociability of home, clarity of policy, duration of contact, emotionality
Interview and Rating Scales Milton, 1957, as cited in Sears, Maccoby, and Levin, 1957	Permissiveness-strictness Warmth of relationship Responsible child-training orientation Aggressiveness and punitiveness	Restrictive, demanding, strict obedience, physical punishment versus permissiveness for aggression and sexual behavior (e.g., nudity) Affection, time spent, responsiveness, praise, reasoning Restrictive, demanding, high standards, praise, tangible rewards High demand and allow aggression to peers, physical punishment, low demand and allow aggression to parents
Three Data Sets Schaefer, 1959	Autonomy versus control Love versus hostility (Acceptance vs. rejection)	Autonomy versus maternal anxiety, intrusiveness concern about health, achievement demand, excessive contact, fostering dependency, emotional involvement Positive evaluation, equalitarianism, affection versus ignoring, punitive, child is burden, strict, use of fear, punishment, irritability
Parental Role Patterns Questionnaire Slater, 1962	Emotional supportiveness and warmth (Warmth vs. coldness) Inhibitory demands and discipline (Strictness vs. permissiveness) (Tolerance vs. intolerance) (Involvement vs. detachment)	Parent seen as helpful, rewarding, nurturant, affectionate, affiliative versus cold and emotionally depriving Parents seen as strict, authoritarian, puritanical, demanding, aggressive, punitive versus permissive and indulgent

(continued)

TABLE 1 (Continued)

Measure	Dimensions	Definitions
Becker, Peterson, Luria, Shoemaker, and Hellmer, 1962	Warmth versus hostility Permissiveness versus restrictiveness	Objective (nonemotional), praise, reasoning versus nonacceptance, critical, hostile, disapproving, arbitrary Lax, permits aggression to parents, noncoercive versus pressure for conformity, high standards, strict, demanding, rewards
A Parent-Child Relations Questionnaire Roe and Siegelman, 1963	Loving Protecting Demanding Rejecting Neglecting Casual	Warm, attentive, praise, encourage independence, reasons Indulgent, affectionate, intrusive Strict obedience, punitive, restrictive Cold, hostile, derogating No attention or affection, cold Mildly attentive and affectionate, easygoing, self-absorbed
Rosen, 1964	Parental acceptance and support	My father is too busy to pay much attention to me. (-) When I have something to say, my mother listens.
Children's Report of Parental Behavior Inventory (CRPBI) Schaefer, 1965 Table 1, p. 415 Schluderman and Schluderman, 1970 replicated factors	Autonomy Autonomy and love Love Love and control Control Control and hostility Hostility Hostility and autonomy	Extreme autonomy, lax discipline Moderate autonomy, encourage sociability, encourage independent thinking, equalitarian treatment Positive evaluation, sharing, affection, emotional support Intellectual stimulation, child-centeredness, possessiveness, protectiveness Intrusiveness, suppression of aggression, control through guilt, parental direction Strictness, punishment, nagging Irritability, negative evaluation, rejection Neglect, ignoring
CRPBI Schaefer, 1965, as cited in Schluderman and Schluderman, 1970	Acceptance versus rejection Firm control versus lax control Autonomy versus psychological control	

The Parent Behavior Form Worell and Worell, 1974		Encourages me to fool around with new ideas Likes me to assert my own ideas with her Doesn't show that she loves me Doesn't bother to enforce rules
Parental Acceptance-Rejection Questionnaire Rohner, 1976	Warmth/affection Aggression/hostility Neglect/indifference Rejection (undifferentiated)	Says nice things about me Nags or scolds me when I am bad Totally ignores me Does not really like me
Mother-Father-Peer Scale Epstein, 1983	Acceptance versus rejection	Parental love, acceptance, and appreciation ("My mother loves being with me.")
Self-report Measure of Family Functioning Bloom, 1985	Autonomy supporting Over-controlling Undercontrolled	Democratic, expressive Authoritarian, enmeshment Laissez-faire, external locus of control
Barnes, Farrell, and Cairns, 1986	Control (coercive) Control (undifferentiated)	Slaps or hits, yells or screams, takes away privileges Tells you how he/she expects you to act in the future Completely ignores you for a while
	Parental support	Parental praise, reliance for guidance, physical affection, joint activities, decision-making, future plans, discuss personal problems, knowledge of parental expectations
Dornbusch, Ritter, Liederman, Roberts, and Fraleigh, 1987	Authoritarian index (8 items)	Tell not to argue, will know better when grown up, parents are correct and not to be questioned; bad grades: get upset, reduce allowance, ground; good grades: do even better, other grades be as good
	Permissive index (8 items)	Hard work at school not important (four subjects), don't care bad grades, don't care good grades, no rules TV, not involved in education: does not attend programs, help homework, or check homework
	Authoritative index (9 items)	Parents look at both sides, admit youth sometimes knows more, talk politics, everyone helps decisions, poor grades: take freedom, try harder, offer help

(continued)

TABLE 1 (Continued)

Measure	Dimensions	Definitions
Social Provisions Scale-Parent Version Cutrona and Russell, 1987	Guidance Reliable alliance Attachment Social integration Reassurance of worth Opportunity to provide nurturance	Advice and information Tangible assistance Caring Similarity of interests and concerns Positive evaluation of skills and abilities Providing support to others
Grolnick and Wellborn, 1988 Grolnick and Ryan, 1989 Parenting Context Questionnaire	Autonomy support Involvement Structure	Values autonomy, autonomy-oriented techniques, nondirectiveness Parental knowledge, time spent, enjoyment Rules and information, consistency
Steinberg, Elmen, and Mounts, 1989 CRPBI- Three dimensions	Acceptance Psychological autonomy Behavioral control	Reverse-coded child has complete freedom to decide in 17 family areas
Children's Perceptions of Parents Scale Grolnick, Ryan, and Deci, 1991 Forced choice measure	Autonomy support Involvement	Some mothers are always telling their children what to do, but other mothers like their children to decide for themselves what to do. Some fathers don't have enough time to talk to their children about their problems, but other fathers always have time to talk to their children about their problems.
Parental Authority Questionnaire Buri, 1991	Permissive (10 items) Authoritarian (10 items) Authoritative (10 items)	"My mother/father has always felt that what children need is to be free to make up their own minds and to do what they want to do, even if this does not agree with what their parents might want." "As I was growing up, my mother/father did not allow me to question any decision he/she had made "My mother/father has always encouraged verbal give and take whenever I have felt that family rules and restrictions were unreasonable."

Parenting style index Lamborn, Mounts, Steinberg, and Dornbusch, 1991	Acceptance/ involvement  Strictness/supervision	Extent to which adolescent perceives parents as loving, responsive, and involved ("I can count on her to help me out if I have some sort of problem.") Parental monitoring and limit setting ("How much do your parents try to know about where you go at night?")
Steinberg, Lamborn, Dornbusch, and Darling, 1992	Acceptance/ involvement Strictness/supervision Autonomy granting	Extent to which parents employed noncoercive, democratic discipline and encouraged the child to express individuality within the family ("How often do your parents tell you that their ideas are correct and that you should not question them?" (-))
Supportive Parenting Scale Simons, Whitbeck, Conger, and Melby, 1992	Parent report	How often do you talk with your seventh grader about what is going on in his/her life?
Hardy, Power, and Jaedike, 1993	Control Structure Support Autonomy granting	Amount of control, restrictive attitude, control, protectiveness Organization, consistency Cohesiveness, adaptability, nurturance Over-involvement (-), autonomy granting
Parenting Practices Brown et al., 1993	Monitoring	How much their parents really know about who their friends are, where they were at night, etc.
Turner, Irwin, Tschann, and Millstein, 1993	Acceptance versus rejection (from Epstein, 1983) Autonomy support	Parental love, acceptance, and appreciation ("My mother loves being with me.")  Independence support versus overprotection
The Parenting Scale Arnold, O'Leary, Wolfe, and Acker, 1993	Laxness  Overreactivity  Verbosity	If my child gets upset, I back down and give in. I stick to what I said. (-) Things build up and I do things I don't mean to. Things don't get out of hand. (-) I make my child tell me why he/she did it. I say "no" or take some other action. (-)

(continued)

TABLE 1 (Continued)

Measure	Dimensions	Definitions
Colorado Self-Report of Family Functioning Inventory (CSRFFI) Barber, Olsen, & Shagel, 1994	Psychological control	Family members find it hard to get away from each other. Parents make all the important decisions in our family. There is strict punishment for breaking the rules in our family.
	Behavioral control	There are very few rules in our family. Members of our family can get away with almost anything.
Inventory of Parental Influences (IPI) Campbell, 1994	Parental support	My mother is pleased if I do my best.
	Parental pressure	I'm afraid to go home with a failing grade.
Parent Involvement Grolnick and Slowiaczek, 1994	Dedication of resources to the child in a particular domain.	Behavioral involvement (Parent-School Interaction Questionnaires) Cognitive-intellectual involvement Personal involvement
Paulson, 1994	Demandingness	I would describe my mother as a strict parent.
	Responsiveness	My mother expects me to tell her when I think a rule is unfair.
	Parental Involvement	My mother usually goes to parent-teacher conferences.
Confusion, Hubbub, and Order Scale Matheny, Wachs, Ludwig, and Phillips, 1995	Environmental confusion	It's a real zoo in our home.
	Parent behaviors	The atmosphere in our home is calm. (-)
		You can't hear yourself think in our home. We almost always seem to be rushed.
Parent-Child Intimacy Scale (1982) Delaney, 1996	Closeness	How much does your mom/dad accept you no matter what you do?
Perceptions of Parental Reciprocity Scale McMaster and Wintre, 1996	Parental reciprocity	Parents don't share their opinions with you, they tell you what to do.

Psychological Control Scale–Youth Self-Report (PCS-YSR) Barber, 1996	Psychological control	Often interrupts me Brings up my past mistakes when he/she criticizes me Often changes his/her moods when with me Tells me that I am not a good or loyal member of the family
Barber and Olsen, 1997	Connection	Makes me feel better after talking over my worries with him/her (from CRPBI)
Herman, Dornbusch, Herron, Herting, 1997	Regulation Connection	Monitoring, household organization, locus of decision-making Loving, responsive, involved (My parents often spend time just talking with me.) (from Steinberg et al., 1991)
	Psychological autonomy	Parents employed noncoercive democratic discipline and encouraged the adolescent to express individuality within the family (How often do your parents tell you that their ideas are correct and that you should not question them?)
Otto and Atkinson, 1997	Regulation	After-school supervision Parental regulation Monitoring school work Time watching TV
Child Puppet Interview–Parent Scale Sessa, Avenevoli, Steinberg, and Morris, 2001 Bipolar by forced choice	Hostility/psychological control  Warmth and responsiveness	Anger and negative affect (My mom [does not] make[s] me cry.) Coercive actions that inhibit the development of emotional independence Expression of love and enjoyment (My mom [does not] laugh[s] at my jokes.) Sensitivity to child and flexible parenting Rules, routines, organization (At dinnertime my mom [does not] make[s] me sit at the table.)
	Structure/ demandingness	Expectations for age-appropriate behavior
Pomerantz and Eaton, 2001	Intrusive support	Checked over homework when children did not request it. Helped with homework when children did not request it.
Preschool Parenting Measure (PPM) Sessa, Avenevoli, Steinberg, and Morris, 2001	Positive affect Hostility (unipolar) Structure (bipolar)  Responsiveness (unipolar)	(When my child and I play together, we laugh a lot.) Anger and negative affect (I snap at my child when he/she gets on my nerves.) Rules, routines, organization (There is a set schedule in my house for which day of the week we do shopping, etc.) Expression of love and enjoyment (I make my child feel that what she does is important.)

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Note. Labels of dimensions that appear in bold correspond to one of the six core dimensions included in this study, namely, warmth, rejection, structure, chaos, autonomy support, or coercion. Example items are in parenthesis. (-) = items were reverse coded to tap the corresponding construct.

though the number of specific parent practices may be virtually unlimited, consensus is emerging in the field that these themes reflect a relatively small subset of dimensions that are critical to the quality of the emotional climate of parent – child interactions.

Parenting dimensions, defined as the features, the qualities, the descriptive scheme used to capture the nature of parenting, represent one set of building blocks on which the study of parenting is built. If they are identified, researchers in the area can work toward consensus on operational definitions, ensure that assessments are comprehensive, and use them in combination to create parenting typologies or types (e.g., authoritative or indulgent). The accomplishment of these tasks will, in turn, promote comparability across studies and facilitate the accumulation of knowledge about parenting. Hence, a key task for researchers has been to identify core dimensions of parenting and to elaborate and clarify their defining features.

This study focused on six core features of parenting style and used a motivational model to integrate and organize them. These six features were the basis for two assessments of parenting style, parent and child report, for use with children from preschool age to late adolescence. We conducted two studies to examine the structure of these measures. The key empirical question was whether parenting can best be represented by a series of bipolar dimensions (e.g., warmth vs. rejection) or by multiple (unipolar) dimensions (e.g., warmth and rejection). It is typically assumed in current conceptualizations and measures of parenting that dimensions are bipolar; such models are simpler and more parsimonious. However, if constructs are actually multidimensional, then some of the richness and complexity of parenting or parenting types may not be captured by traditional conceptualizations and assessments.

### Core Dimensions of Parenting

Over the past several decades, parenting researchers have repeatedly suggested that three dimensions can be considered as a set of core features of parenting style. These are warmth versus rejection, structure versus chaos, and autonomy support versus coercion. As can be seen in the historical overview in Table 1, these dimensions have appeared in assessments of parenting for children from preschool age to late adolescence and have been tapped using a variety of methods, most notably parent- and child-report questionnaires, but also including open-ended interviews, rating scales, and observations in vivo and in the laboratory.

Indeed, these very three features of parenting, referred to as Acceptance versus Rejection, Firm Control versus Lax Control, and Autonomy versus

Psychological Control, were suggested as organizing dimensions for the Children's Report of Parental Behavior Inventory by Schaefer four decades ago (Schaefer, 1965; Schluderman & Schluderman, 1970). This measure can be considered the "parent" or "grandparent" of many parenting assessments used today, in that current measures often rely on subscales or items from this inventory.

Parenting dimensions similar to these three have also been identified in recent work (e.g., Frank, Avery, & Lamam, 1988). A special issue of the *Journal of Adolescent Research* is organized around "three central dimensions of socialization important to healthy child development: connection with significant others, regulation of behavior, and the facilitation of psychological autonomy" (Barber, 1997, p. 5). One way in which connection has been discussed is "in terms of supportive, warm, nurturing or loving relationships between children and their parents" (Barber, 1997, p. 6). Adequate regulation of adolescents can be "measured in terms of supervision, monitoring, rule-setting, and other forms of behavioral control" (Barber, 1997, p. 6). And autonomy refers to "the extent to which socialization practices facilitate and do not intrude on the child's development of an independent sense of identity, efficacy, and worth" (Barber, 1997, p. 7).

Figure 1 summarizes the definitions of the six core parenting constructs used in this study and lists analogous constructs from other conceptualizations. (Definitions of these closely related constructs can be found in Table 1.) Each of these dimensions is described more fully in the following sections, focusing especially on research (sometimes outside the area of parenting *per se*) that continues to expand and clarify their defining features.

**Warmth and rejection.** Warmth is the single most important and ubiquitous dimension of caregiving, prominent in almost all conceptualizations of parenting (Rohner, 1976, 1986; see Table 1). Often labeled acceptance, warmth refers to the expression of affection, love, appreciation, kindness, and regard; it includes emotional availability, support, and genuine caring. Expressions of warmth and involvement are especially salient when a child seeks comfort, but they can also be found in parent-child interactions focusing on teaching or discipline as well.

The conceptual opposite of warmth is rejection or hostility. Parents are rejecting when they actively dislike their children. Expressions of rejection include aversion, hostility, harshness, overreactivity, irritability, and explosiveness; they also include overt communication of negative feelings for the child, such as criticism, derision, and disapproval. Often referred to as hostility, parental rejection can be expressed in reaction to child bids for

Dimension	Definition	Related Constructs	
<b>Warmth</b>	Expression of love, affection, caring, and enjoyment. Appreciation, emotional availability. "Love: Positive evaluation, sharing, expression of affection, emotional support" (Schaefer, 1965, p. 415).	Approving Acceptance Love Support Supportive control	Positive involvement Closeness Connection Child-centered
<b>Rejection</b>	Active dislike, aversion, and hostility. Harsh, over-reactive, irritable, critical, disapproving. "Hostility: Irritability, negative evaluation, rejection" (Schaefer, 1965, p. 415).	Deprecating Hostility Harsh Disapproval Negativity Cold Derogation	Critical Over-reactivity Aversion Irritability Dislike Irritable explosive discipline
<b>Structure</b>	Provision of information about pathways to reach desired outcomes. Predictable, consistent. Clear expectations, firm maturity demands. "[E]xtent to which parents provide clear and consistent guidelines, expectations, and rules for child behavior" (Grolnick & Ryan, 1989, p. 144)	Demandingness- Firm control Behavioral control Contingent responsiveness Behavior contingency Directive Assertive control	Strictness Supervision Organization Regulation Rule-setting Regularity of routine Household organization
<b>Chaos</b>	Interferes with or obscures the pathways from means to ends Noncontingent, inconsistent, erratic, unpredictable, arbitrary, or, undependable.	Permissiveness Non-directive Lax control, Laxness Unpredictable Undependable Non-contingent	Erratic Casual Under-controlled Laissez faire Inconsistent discipline
<b>Autonomy Support</b>	Allow freedom of expression and action. Encourage child to attend to, accept, and value genuine preferences and opinions. "[D]egree to which parents value and use techniques which encourage independent problem-solving, choice, and participation in decisions" (Grolnick & Ryan, 1989, p. 144)	Psychological autonomy Freedom Responsiveness Democratic	Permissiveness Non-directive Autonomy-granting
<b>Coercion</b>	Restrictive overcontrolling intrusive autocratic style Strict obedience is demanded "[E]xternally dictating outcomes, and motivating ... through punitive disciplinary techniques, pressure, or controlling rewards" (Grolnick & Ryan, 1989, p. 144)	Arbitrary control Demandingness- Restrictiveness Autocratic Psychological control Controllingness Inflexible rigid discipline	Intrusive control Intrusive support Strict control Over-restrictive Over-controlling Power assertion Intrusiveness

FIGURE 1  
Six Core Dimensions of Parenting Style, Their Definitions, and Comparable Constructs.

help and attention, or it can be initiated by the parent, independent of the child’s behavior.

Structure and chaos. When it first appeared in the parenting literature in discussions of discipline and control, structure referred to the provision of clear expectations for mature behavior combined with consistent and appropriate limit setting. Also described as firm control, structure was a

defining feature of parenting that was authoritative in discipline and communication (Baumrind, 1967, 1971).

Independent lines of work in learned helplessness (Seligman, 1975) and infant cognition (Watson, 1966, 1979) converged on the notion of contingency, which became central to discussions of parental influences on children's perceived control (for a review, see Gunnar, 1980). This work has broadened the definition of structure to refer to the extent to which social and physical contexts provide individuals with information about the pathways to achieving desired and avoiding undesired outcomes, and provide support and guidance for following those pathways (Connell & Wellborn, 1991; Grolnick & Ryan, 1989; Skinner, 1991, 1995). In work on families, this construct is sometimes referred to as organization. In parenting, it has also been studied as a defining feature of restrictiveness, demandingness, and assertive control.

Most descriptions of the kinds of parenting that do not provide structure focus on the lack of consistent discipline (e.g., lax control). However, work on perceived control suggests that an important component of lack of structure is noncontingency (Abramson, Seligman, & Teasdale, 1978). Hence, the construct of lax control can be broadened, so that the conceptual opposite of structure is chaos (Skinner & Wellborn, 1994, 1997). Chaos goes beyond lack of structure to refer to parenting behaviors that are noncontingent, inconsistent, erratic, unpredictable, undependable, arbitrary, or, in general, interfere with or obscure the pathways from means to ends. In work on micro-environments, chaos is considered a kind of environmental confusion, which includes disorganization and hubbub (Matheny, Wachs, Ludwig, & Phillips, 1995).

Autonomy support and coercion. The third theme in research on parenting styles has been the importance of parental provision of autonomy support. This dimension was first elaborated by pointing out the harmful consequences of its conceptual opposite, coercion. Also referred to as psychological control, coercive parenting describes a restrictive overcontrolling intrusive autocratic style in which strict obedience is demanded. A key feature of authoritarian parenting (Baumrind, 1967, 1971), coercion has been linked to both internalizing and externalizing problems in adolescence (Barber, 1996).

Definitions of parental autonomy support, or autonomy granting, originally focused on the absence of psychological control or coercion (Barber, 1996). However, research on self-determination and autonomy has elaborated and clarified this concept (Deci & Ryan, 1985; Grolnick & Ryan, 1989, 1992; Grolnick, Ryan, & Deci, 1991; Ryan, 1982; Skinner & Edge, 2002b; Skinner & Wellborn, 1994). Support for autonomy extends beyond allow-

ing children freedom of choice and expression to communicating genuine respect and deference and encouraging children to actively discover, explore, and articulate their own views, goals, and preferences. Autonomy support characterizes interactions in which children are expected to express their views and opinions and in which these are given weight in planning and problem solving.

### Relations Among the Dimensions of Parenting

Some of the most interesting work on parenting attempts to distinguish these dimensions from each other (and from related constructs) and to provide justification for these dimensions as core constructs of parenting.

Distinguishing warmth. The dimensions of warmth and rejection can be differentiated from two sets of closely related constructs. On the one hand, they can be distinguished from involvement and neglect, which typically refer to the amount of commitment to and engagement in the parenting role (as indexed by time spent, knowledge, and participation in parenting activities, e.g., Grolnick & Slowiaczek, 1994). These quantitative indicators are usually considered facilitators of the effects of parenting style, in which neglect (also referred to as diminished, inactive, or indifferent parenting) has been found to be problematic, but the effects of high involvement depend on how the parent is involved (Maccoby & Martin, 1983).

On the other hand, warmth and rejection can also be distinguished from descriptions of the overall quality of parenting as good or bad, reflected in terms such as supportive versus nonsupportive parenting (see Table 1). Labels like positive or high-quality parenting typically include parenting that is not only warm but also high in structure and autonomy support. In a similar vein, descriptions of negative or harsh parenting typically include not only rejection but also parenting that is chaotic and coercive.

Distinguishing structure from autonomy support. Work on parenting dimensions has differentiated the constructs of structure and chaos from those of autonomy support and coercion (Grolnick & Ryan, 1989; Maccoby & Martin, 1983; Pomerantz & Ruble, 1998; Ryan, 1982). Early work on the dimensions of parenting posited two primary axes along which child-rearing behaviors could be distinguished: one representing love versus hostility (or acceptance vs. rejection) and one marked by restrictiveness versus permissiveness (see Maccoby & Martin, 1983, for a review). This second axis had one pole defined by firm parent demands for maturity and obedience, high standards, strictness, and punitiveness; at the other pole was indulgence, lax discipline, protectiveness, and freedom granting.

From this perspective, a moderate amount of restrictiveness was optimal, leading to expectations of curvilinear relations between assessments of restrictiveness and child outcomes.

However, as psychological control was differentiated from behavioral control (Barber, 1996), and assertive or firm control was differentiated from directive or intrusive control (Weiss & Schwarz, 1996), it became clear that two different dimensions could be distinguished. One referred to high, consistent, clear, fair demands (structure); the other referred to arbitrary, punitive, controlling insistence on strict obedience (coercion). The opposite of structure is not freedom, it is chaos (inconsistency, unpredictability, lax discipline); and the opposite of coercion is not chaos, it is autonomy granting and support for individuality (autonomy support; Ryan, 1982). High support for autonomy does not necessarily imply chaotic parenting, and high structure does not automatically involve coercion. An optimal parenting style (e.g., authoritative) is one that combines high structure and high autonomy support.

We note that terminology has been a source of conceptual confusion. Specifically, as can be seen in Table 1, the term control is used in many different and contradictory ways in descriptions of parenting (Pomerantz & Ruble, 1998). Sometimes it refers to practices of discipline (control techniques), sometimes to authoritarian parenting (overcontrolling), sometimes to structure (assertive control, firm control), sometimes to chaos (lax control), sometimes to coercion (psychological control, controlling), and sometimes even to autonomy support (supportive control). Given the history of the term control in this and other areas (see Skinner, 1996, for a review), we have chosen not to use it at all in describing dimensions of parenting.

### The Motivational Model

A theoretical framework for positing these three as core dimensions can be found in the Self-system Model of Motivational Development (Connell & Wellborn, 1991; Deci & Ryan, 1985; Grolnick & Ryan, 1992). At the most general level, the motivational model posits that children are intrinsically motivated by three basic psychological needs: Children need to experience themselves as belonging (related), as effective (competent), and as authentic (autonomous; Connell & Wellborn, 1991; Deci & Ryan, 1985; Skinner & Wellborn, 1994). When parents interact with children in ways that allow them to experience themselves as related, competent, and autonomous, children engage more constructively with parents and are more willing to be seriously socialized.

Integrating work on attachment, perceived control, and self-determination, the motivational model holds that parental warmth is critical to children's experiences of belonging, that parental provision of structure is the basis for experiences of competence, and that parental autonomy support is necessary for children to express their autonomy. In contrast, the model stipulates that parental rejection undermines a child's sense of relatedness, that chaotic parenting interferes with a child's sense of efficacy, and that parental coercion prevents children from developing psychological autonomy.

The motivational model also explains why these features of parenting style should be critical in shaping children's development — because they have an impact on children's receptive compliance (Maccoby & Martin, 1983) or openness to socialization (Darling & Steinberg, 1993; Kochanska, 1997). The key notion is that interacting with parents who support children's fundamental psychological needs serves an energetic function. Children are motivated to constructively engage with parents, to cooperate with the parental agenda, and to internalize the behaviors and values promulgated by parents. In other words, they are ready to be socialized. In contrast, children who interact with parents who are hostile, chaotic, and coercive become disaffected from parent – child interactions, and can be sullen, submissive, oppositional, or apathetic. In other words, they resist socialization.

Because of their centrality in facilitating children's motivation and in predicting their engagement, these three dimensions of social contexts have been a frequent target of research. Warmth/involvement, structure, and autonomy support from parents and teachers have been shown to predict the development of children's self-system processes and their trajectories of engagement in many domains all across childhood (e.g., Grolnick & Ryan, 1989; Grolnick et al., 1991; Skinner & Belmont, 1993; Skinner & Edge, 2002a; Skinner, Wellborn, & Connell, 1990; Skinner, Zimmer-Gembeck, & Connell, 1998).

### This Study

This study examined two assessments of parenting style that included the core dimensions of warmth, rejection, structure, chaos, autonomy support, and coercion. The key issue addressed in this study was the dimensionality underlying these assessments. It is typically assumed that parenting dimensions are bipolar, that is, parents who are high on one feature (e.g., warmth) are also low on its opposite (i.e., rejection). Thus, dimensions are described as warmth versus rejection. Support for the assumption of a bipolar structure comes from research showing that opposite

poles have functionally opposite effects. For example, autonomy support promotes self-regulation, whereas coercion undermines it (e.g., Grolnick & Ryan, 1982).

Surprisingly, however, a review of research on parenting measures provides little empirical support for the common assumption of bipolarity. Factor analyses of early assessments of parenting typically combined interviews and ratings of childrearing behaviors, attitudes, and values (e.g., Becker, Peterson, Luria, Shoemaker, & Hellmer, 1962; Champney, 1941; Milton, 1957; Slater, 1962) or involved factor analysis of correlations among multiple scales (Lorr & Jenkins, 1953; Roff, 1949; Schaefer, 1959). Analyses of later scales, which occasionally do include factor analysis of multiple dimensions, have proven to be likewise inconclusive. Sometimes, they included only one pole of a proposed dimension; for example, items assessing psychological control (i.e., coercion) were used as an indicator of autonomy support (Herman, Dornbusch, Herron, & Herting, 1997). Or they included only a few items of the other pole, which made it difficult to detect multidimensionality (e.g., Hasan & Power, 2002). In fact, in factor analyses of multiple dimensions, dimensions rarely proved to be bipolar. For example, responsiveness and hostility have been found to be distinct dimensions (Sessa, Avenevoli, Steinberg, & Morris, 2001). The most common bipolar assessments (e.g., The Preschool Parenting Measure or the Parenting Context Questionnaire) are bipolar only by virtue of their forced-choice answer format (Grolnick & Wellborn, 1988; Sessa et al., 2001).

**Multiple dimensions.** We considered the possibility that the six features of parenting, instead of being considered opposite poles of three dimensions, might each be a single dimension in its own right. This would mean that parents who are high on one parenting dimension (e.g., warmth) are not necessarily low on its conceptual opposite (i.e., rejection). Although at first glance it seems that a parent cannot be both warm and rejecting, the fact that parenting style is expressed in literally thousands of parenting interactions means that such combinations are possible, at least in principle. It would also mean that parents can be low on both of these dimensions, which may reflect good enough parenting, as suggested by Baumrind (1991), or may reflect low involvement in the parenting role. In assessments that score dimensions as bipolar, parents who are high on both and parents who are low on both would fall at the midrange. It may be important to distinguish parents who are volatile (high and high) from those who are uninvolved (low and low), because they are not likely to have the same effects on children's development.

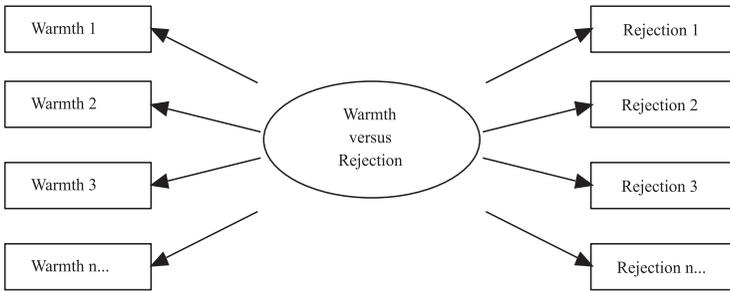
To examine their dimensionality, we used two assessments of parenting style that included item sets tapping all six features. We used independent

samples of families to examine parent-report (mothers and fathers) and child-report (adolescent) versions. In the parent-report version, each parent was asked to report on his or her own interactions with the target child; in the child-report version, adolescents were asked to report on their "parents" as an aggregate. Replication of the findings with two different item sets, three different reporters, and two independent samples strengthens our conclusions.

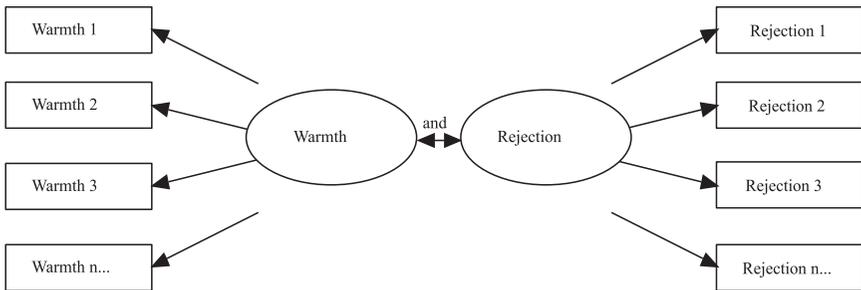
**Multiple models.** We used confirmatory structural analyses to test and compare several conceptually plausible models of the dimensionality underlying each pair of features of parenting. The first model reflected traditional views of parenting dimensions and portrayed each pair as represented by a single bipolar dimension (e.g., warmth vs. rejection). The second model reflected the notion that, because parenting includes thousands of interactions, each pair of conceptual opposites can be better represented as two (unipolar) dimensions (e.g., warmth and rejection). These two models are depicted conceptually in Figure 2, using warmth and rejection as examples.

We also considered an additional possibility, based on methodological discussions of the assessment of bipolar constructs from outside the area of parenting (self-concept, Marsh & Hocevar, 1985; affect, Green, Goldman, & Salovey, 1993; and loneliness, Russell, 1996; we thank an anonymous reviewer for pointing out this possibility). These researchers found the influence of systematic errors of measurement, corresponding to whether items are positively (e.g., positive affect) or negatively (e.g., negative affect) worded. They reported that the structure of responses to assessments of bipolar constructs can be better represented by three factors: a general bipolar factor reflecting the construct and two method of assessment factors, one for positive and one for negative items. Such methods factors could explain why bipolar constructs can appear to be multidimensional.

Hence, we also compared bipolar and multidimensional (unipolar) models that included methods factors. The third model we examined posited three factors: a general bipolar factor reflecting the construct (e.g., warmth vs. rejection) and two method of assessment factors corresponding to the positively worded (i.e., warmth) and the negatively worded (i.e., rejection) items. The fourth model posited four factors: two construct factors and two method factors. These two models are depicted conceptually in Figure 3. Based on the models that best fit each of the three pairs of features, we also compared more complex models that included all six features. Finally, we examined correlations between the six dimensions of parenting and multiple child and adolescent outcomes. This infor-



Model 1. A Single Bipolar Construct

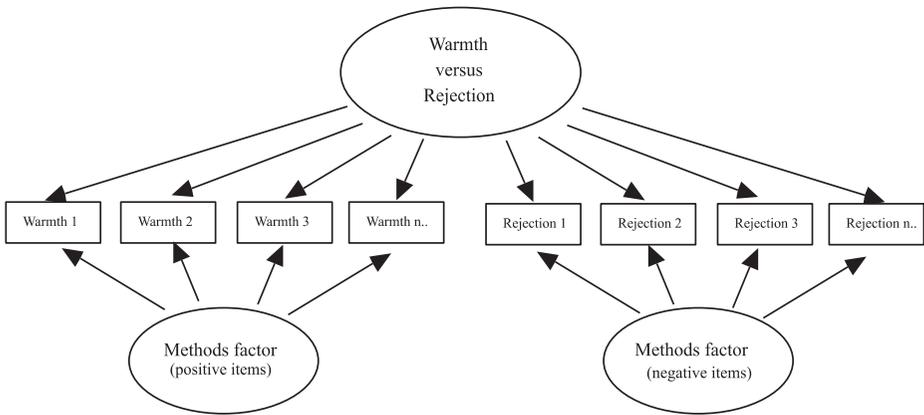


Model 2. Multiple (Unipolar) Constructs

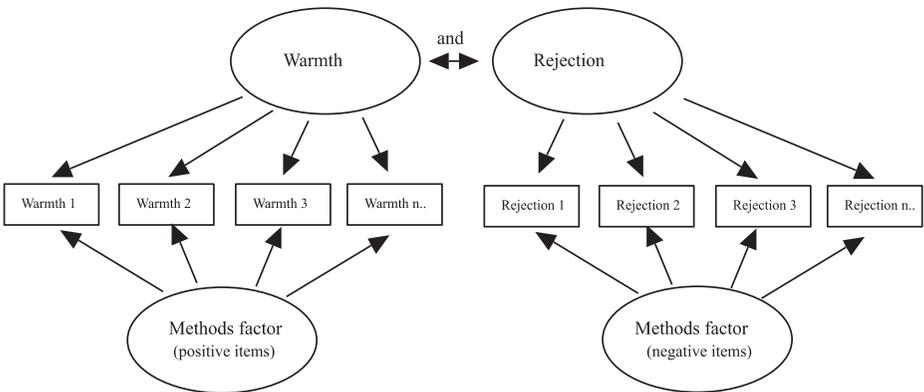
FIGURE 2  
Conceptual Models of a Bipolar Construct and Multiple (Unipolar) Constructs.

mation is included to determine whether the features of parenting captured by the assessments are related in meaningful ways to important child outcomes.

If, as predicted, multidimensional models are a better fit to the data than bipolar models, this would have several important implications for the measurement of parenting. It would indicate that comprehensive assessments should include markers of each dimension and not just one or the other pole of a given dimension. It would also suggest that the use of bipolar scales could be reconsidered, and that previous analyses be reexamined to determine if parenting that is high on both poles has effects on children different from parenting that is low on both poles. Furthermore, the creation of parenting typologies can take into account all six dimensions, be-



**Model 3. A Single Bipolar Construct and Two Methods Factors**



**Model 4. Multiple (Unipolar) Constructs and Two Methods Factors**

**FIGURE 3**  
 Conceptual Models of a Bipolar Construct with Two Methods Factors and Multiple (Unipolar) Constructs with Two Methods Factors.

cause they likely contribute to different profiles of parenting. Most important, analyses of the consequences of parenting would be able to consider the unique effects of and interactions between dimensions reflecting corresponding poles. Likewise, exploration of the predictors of parenting could examine whether the six dimensions of parenting have differential antecedents.

## METHODS

Two studies used different item pools and independent samples to analyze the dimensionality of a set of parent features: warmth, rejection, structure, chaos, autonomy support, and coercion. All samples included at least 500 participants. Because we expected it would be necessary to delete some items to achieve a good fit of the models to the data, we used a derivation subsample for model fitting, and then additional subsamples for replication. In all subsamples, a ratio of at least 10 participants per item was maintained. Confirmatory analyses were conducted via structural equation modeling using Analysis of Moment Structure (Arbuckle, 2003).

Initial item pools included multiple items assessing each dimension of parenting, using a 4-point response format: 1 (not at all true), 2 (not very true), 3 (sort of true), and 4 (very true). High scores on each item indicated more of the particular feature of parenting. The original item pools, the final item sets, and suggested additional items are presented in Appendix A for the parent report and Appendix B for the child report measures. The child-report measure was constructed after the parent-report measure and benefited from investigation of earlier versions (Skinner, Wellborn, & Regan, 1986).

Analyses consisting of several steps were used to compare models of bipolar dimensions with models of multiple (unipolar) dimensions. In the first step, designed to identify a set of unidimensional and internally consistent items for each of the six constructs, the unidimensionality of each item set tapping a single dimension was assessed separately, using six confirmatory analyses of a one-factor model. Any items that did not load on these single factors were deleted. When items were too few to be used in a confirmatory analysis (i.e., fewer than four), we calculated internal consistencies using Cronbach's alpha, and deleted any items from the set that reduced the alpha coefficient.

Second, for each pair of features (i.e., warmth and rejection, structure and chaos, autonomy support and coercion) we used confirmatory analyses to compare one-factor, two-factor, three-factor, and four-factor models.

Due to the large sample sizes, we expected the chi-square tests of these models to be significant. Thus, to make judgments about model fit, multiple measures of goodness of fit were examined.<sup>1</sup> Of greatest interest were comparisons of models of bipolar and multiple (unipolar) dimensions. Because the first two models (one- and two-factor models, see Figure 2) were nested and the last two models (three- and four-factor models, see Figure 3) were nested (Bodner & Perrin, 2004), we were able to directly test whether the multidimensional (unipolar) models were a significantly better fit to the data than the traditional bipolar models. The goal of Step 2 was to identify the best fitting model for each pair of corresponding features.

When analyses showed that the same models were a better fit for each of the three pairs of features, we conducted analyses using all six features together. Hence, in the third step, for all six features together, confirmatory analyses of three-(bipolar) factor and six-(unipolar) factor models were conducted and compared. Because the results of these analyses replicated the findings from the analyses on each pair of dimensions separately, only the results from these latter analyses are presented in detail. (Because of their complexity, we did not test models of all six features that included methods factors.)

In the fourth step, designed to maximize discrimination among positive and among negative factors, items that crossloaded on multiple factors were removed. It should be emphasized that no item was removed that affected bipolarity in target dimensions. An item was removed only if (1) it crossloaded on multiple positive or multiple negative factors (e.g., if a structure item crossloaded on the factor marked by warmth items, or a co-

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<sup>1</sup>Model – sample discrepancy measures reflect the difference between the sample covariances and predicted covariances: CMIN/DF (minimum discrepancy divided by degrees of freedom; more commonly known as  $\chi^2/DF$ ) has a desirable ratio of less than 3:1; the goodness-of-fit index (GFI, a measure of the discrepancy between predicted and observed covariances) has a desirable value  $>.85$ ; the adjusted GFI (AGFI, adjusted for degree of freedom) has a desirable value  $>.90$ ; and the RMSEA (square root of the average squared amount by which the sample correlations differ from their estimates under the model) has a desirable value  $< .05$ . Comparisons to baseline model are computed relative to the independence model, which assumes that there is no relationship between the measured variables: the NFI (normed fit index, based on the ratio of the model to the independence model) and the RFI (relative fit index, which adjusts the NFI for degrees of freedom), and have desirable values  $> .90$ . Two indexes are useful for comparing alternative models: the parsimonious comparative fit index, computed by adjusting the comparative fit index by degrees of freedom, with higher values indicating better fit; and the expected cross-validation index, which estimates the extent to which the solution obtained from the current sample would generalize to the population, with smaller values better. The Hoelter measure, which indicates the smallest sample size for which the null hypothesis would not be rejected when  $p < .05$  level, have a desirable value  $>$

ercion item crossloaded on the factor marked by rejection items), or (2) it crossloaded positively on both positive and negative factors (e.g., a structure item crossloaded positively on the factor marked by coercion items).

In the last step, designed to determine whether the pattern of findings could be replicated, we examined the fit between the final (reduced) item sets and the three- versus six-factor models using confirmatory analyses on the replication samples, calculating the multiple indicators of fit described in footnote 1. Because findings from the derivation and replication samples were almost identical, results from the subsamples are discussed together. Descriptive statistics for the resultant dimensions, including means, standard deviations, and internal consistency reliabilities, were calculated. For dimensions in which reliabilities were low and that were marked by few (two or three) items, additional possible items are suggested; these were needed only for the parent-report measure (see Appendix A). The correlations between the resultant dimensions and a set of child outcomes from each data set were calculated and presented as supplementary information about the utility of the six features captured by the assessments.

## STUDY 1: PARENT REPORT OF PARENTING STYLE

### Method

#### Participants

The study was based on data from a larger 4-year longitudinal project. The participants consisted of 849 students in Grades 3 to 5 (mean age = 9.73 years,  $SD = 1.32$  years), 645 of their mothers (76%), and 567 of their fathers (67%). Data from both parents were available for 477 students (56%). The age of the students ranged from 8 to 11 years old and they were approximately equally divided by sex. Students' socioeconomic status was lower middle to middle class, as defined by parents' occupation and educational attainment. All participants were from a rural – suburban school district in upstate New York. The participants were predominantly European American, and the most prominent minority group was Latin American (fewer than 3%).

#### Procedure

Parents were contacted through the school. The parent questionnaire was sent home with students, and parents were instructed to respond to their questionnaires at home at their convenience. Mothers and fathers were asked to respond to the questionnaires individually, with reference to

the target child in the study. Children returned the questionnaires to school.

### Parent Report Measure of Parenting

Dimensions of parenting were measured using a 25-item scale adapted from the Parents as Social Context Questionnaire (Skinner et al., 1986; see Appendix A). Items were selected to tap three bipolar parenting dimensions (warmth vs. rejection, structure vs. chaos, and autonomy support vs. coercion). However, because items tapped both poles of each dimension, the items could also be separated into sets that tapped each of the six unipolar dimensions. The number of items in each set ranged from two (for autonomy support) to six (for warmth). It should be noted that having only two items to mark a parenting dimension made it impossible to examine the unidimensionality of that item set.

### Child Outcome Measures

**Sense of relatedness.** Children's perceptions of belongingness or relatedness to mothers and fathers were tapped by eight items describing the extent to which the child felt close and important to the respective parent (Furrer & Skinner, 2003). For four items, the stem was "When I am with my mother;" for four items it was "When I am with my father." Each scale contained the same items for each parent: "I feel accepted," "I feel like someone special," "I feel unimportant," and "I feel ignored." Responses were provided using a 4-point scale ranging from 1 (not at all true) to 4 (very true). Negative items were reverse-coded and items were averaged to form relatedness scores for each parent, ranging from 1 to 4, with higher scores indicating more relatedness to the respective parent. Internal consistency reliabilities were .75 and .76 for relatedness to mothers and fathers, respectively.

**Perceived academic control.** Children's perceptions of control in the academic domain were assessed using the Control Beliefs subscale from the Student Perceptions of Control Questionnaire (Skinner et al., 1990) This scale consists of six items tapping children's generalized expectancies about the extent to which they can achieve success and avoid failure in school (e.g., "If I decide to learn something hard, I can." and "I can't do well in school, even if I want to.") Responses were provided using a 4-point response scale ranging from 1 (not at all true) to 4 (very true). Negative items were reverse-coded and items were averaged to form scores

ranging from 1 to 4, with higher scores indicating more perceived control. Internal consistency reliability for the six-item scale was .73.

**Autonomy.** Children's perceived autonomy in the academic domain was assessed using the Intrinsic subscale from the Self-regulatory Style Questionnaire (Ryan & Connell, 1989). These items tap the extent to which children participate in academic activities (like homework) because of the intrinsically motivating properties of the activities (e.g., "Why do I do my homework? Because it's fun."). Internal consistency reliability for the five-item scale was .85.

**Children's engagement and disaffection in school.** Children reported their own behavioral and emotional engagement and disaffection in the classroom using an assessment that included 14 items tapping their effort, attention, persistence, and emotional involvement while initiating and sustaining learning activities (Wellborn, 1991). Examples of behavior items include "I participate when we discuss new material." and "In class I just act like I'm working." Examples of emotion items include "When we start something new at school, I feel interested." and "When working on classwork, I feel mad." Responses were provided using a 4-point response scale ranging from 1 (not at all true) to 4 (very true). Negative items were reverse-coded and items were averaged to form scores ranging from 1 to 4, with higher scores indicating more engagement and less disaffection. Internal consistency reliability for the 14-item scale was .89.

## Results

The derivation and replication subsamples were composed of randomly selected halves of the samples of mothers and fathers who participated (derivation subsamples = 323 mothers and 283 fathers; replication subsamples = 322 mothers and 284 fathers). All analyses were conducted separately for mothers and fathers.

### Testing Unidimensionality of the Six Item Sets (Derivation Samples)

The results of the first step, in which single-factor models were fit to designated item sets, are presented in Table 2. As can be seen, all of the item sets tested showed a good fit to a single-factor model. However, one of the warmth items ("I feel good about the relationship I have with my child") showed a low factor loading for fathers and was deleted from subsequent analyses for both parents. In addition, in the internal consistency analyses

TABLE 2  
Fit of Single-Factor Models for Six Dimensions of Parent-Report  
of Parenting (Derivation Sample)

Dimension		Number of Items	M	SD	$\chi^2$ (df, n), p level	CFI
Warmth	Mothers	5	3.22	.37	9.82(5,323), p<.01	.99
	Fathers	5	2.95	.46	27.65(5,283), p<.01	.96
Rejection	Mothers	5	1.86	.54	33.09(5,323), p<.01	.96
	Fathers	5	1.87	.54	34.61(5,283), p<.01	.95
Structure	Mothers	2	3.66	.42	—	—
	Fathers	2	3.57	.50	—	—
Chaos	Mothers	4	1.74	.52	2.78(2,323), p=.25	1.00
	Fathers	4	1.85	.54	.24(2,283), p=.89	1.00
Autonomy support	Mothers	2	3.60	.44	—	—
	Fathers	2	3.38	.56	—	—
Coercion	Mothers	5	2.10	.58	32.75(5,323), p<.01	.96
	Fathers	5	2.09	.58	22.89(5,283), p<.01	.96

Note. ns = 323, and 283, respectively, for mothers and fathers in the derivation sub-sample. In the cells with dashes, the single-factor model could not be evaluated due to fewer than four indicators. CFI = comparative fit index.

for the structure items, one item (“When I punish my child, I always explain why”) was deleted due to low item-total correlations. As a result only two items each were available as markers for structure and autonomy support.

### Comparing the Fit of Models With Bipolar and Multiple (Unipolar) Dimensions (Replication Sample)

The next set of analyses tested and compared a model of one bipolar factor with a model of two factors for each pair of features (see Figure 2 for the example of Warmth and Rejection). In each case, two factors were a significantly better fit to the data than one bipolar factor: (1) for Warmth and Rejection,  $\chi^2(1, N = 323) = 49.93$  for mothers and  $\chi^2(1, 283) = 7.09$  for fathers; (2) for Structure and Chaos,  $\chi^2(1, N = 323) = 41.22$  for mothers and  $\chi^2(1, 283) = 43.62$  for fathers; and (3) for Autonomy Support and Coercion,  $\chi^2(1, N = 323) = 63.23$  for mothers and  $\chi^2(1, 283) = 48.16$  for fathers; all  $p < .001$ .

The next set of analyses tested and compared models that included the two measurement factors, that is, a three-factor model (one general bipolar factor and two methods factors) and a four-factor model (two construct factors and two methods factors; see Figure 3 for the example of Warmth and Rejection). For each pair of features, the models depicting two con-

struct factors were a significantly better fit than the models depicting a bipolar construct factor.

### Comparing the Fit of Models of Three Bipolar Versus Six Unipolar Dimensions (Derivation and Replication Samples)

Because all pairs of features were best fit by the same models, the next set of analyses tested and compared models that included all six features, specifically a model depicting three bipolar dimensions and a model depicting six unipolar dimensions (see Figures 4 and 5). The results of these analyses are presented in Table 3 for both the derivation and replication subsamples. The comparison of the six- versus three-factor models re-

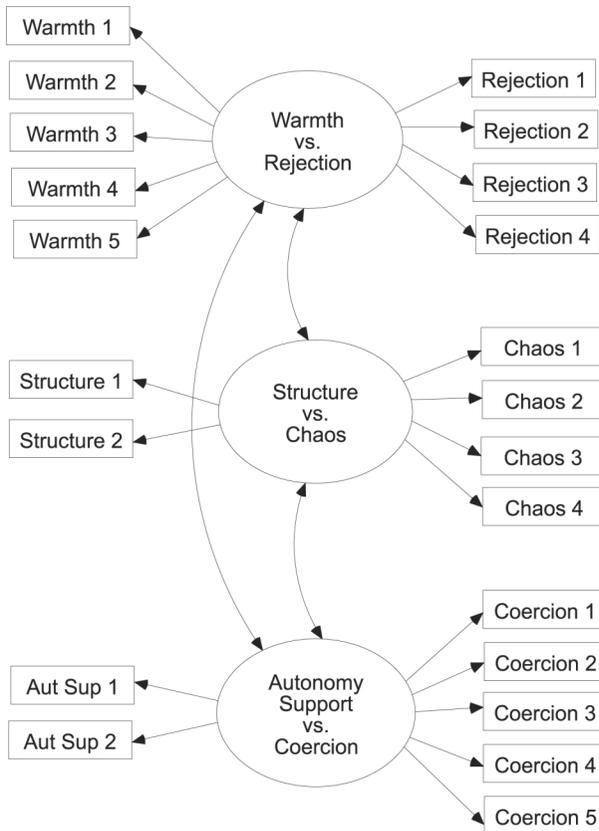


FIGURE 4

Model of Three Bipolar Factors for the Parent Report of Parenting Dimensions.

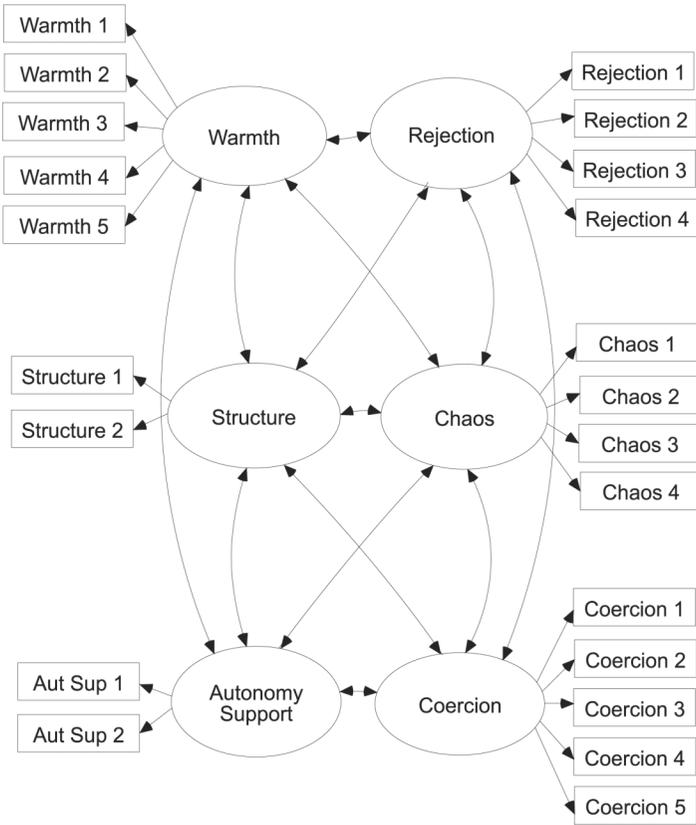


FIGURE 5  
Model of Six Unipolar Factors for the Parent Report of Parenting Dimensions.

vealed that, in all cases, the six-factor model was a significantly better fit to the data than the three-factor model: For mothers,  $\chi^2(12, N = 323) = 180.79$ ,  $p < .001$  for the derivation subsample and  $\chi^2(12, N = 322) = 212.90$ ,  $p < .001$  for the replication subsample; and for fathers,  $\chi^2(12, N = 283) = 288.30$ ,  $p < .001$ , for the derivation subsample, and  $\chi^2(12, N = 284) = 180.37$ ,  $p < .001$ , for the replication subsample.

As expected, however, both the three-factor and the six-factor models had significant chi-square values. The other indexes suggested that the six-factor models were a satisfactory fit to the data, with all indexes suggesting a better fit than the three-factor models. The six-factor models had GFIs and AGFIs that exceeded or approached the recommended levels of .85 and .90, respectively; CMIN/DFs that were less than 3; RMSEA values

TABLE 3  
 Comparison of Three-Factor and Six-Factor Models of Parent-Report  
 of Parenting for the Derivation and Replication Samples

Goodness-of-Fit Measures	Derivation Sample				Replication Sample			
	Mothers		Fathers		Mothers		Fathers	
	Three-Factor Model	Six-Factor Model	Three-Factor Model	Six-Factor Model	Three-Factor Model	Six-Factor Model	Three-Factor Model	Six-Factor Model
$\chi^2$	604.6	423.81	717.06	425.76	619.71	406.81	584.20	403.93
df	227	215	227	215	227	215	227	215
p	.00	.00	.00	.00	.00	.00	.00	.00
CMIN/DF	2.66	1.97	3.16	1.98	2.73	1.89	2.57	1.88
GFI	.85	.90	.79	.88	.85	.90	.84	.89
AGFI	.82	.87	.75	.85	.82	.87	.80	.86
RMSEA	.07	.05	.09	.06	.07	.05	.07	.06
NFI	.67	.77	.64	.80	.75	.84	.71	.80
RFI	.63	.73	.60	.74	.72	.81	.68	.76
PCFI	.68	.74	.65	.75	.74	.78	.72	.76
ECVI	2.18	1.69	2.89	1.94	2.24	1.65	2.41	1.86
Hoelter's Critical N	141	191	104	166	137	198	128	176

Note. n = 323 and 283 respectively, for mothers and fathers in the derivation sub-sample; n = 322 and 284 respectively, for mothers and fathers in the replication sub-sample. CMIN/DF = minimum discrepancy divided by degrees of freedom, GFI = goodness of fit index, AGFI = adjusted

at or only slightly above .05; and Hoelter values that approached 200. This pattern of results was found for both mothers and fathers.

In the six-factor models, all critical ratios associated with regression weights had absolute values higher than 2, revealing that measured variables loaded significantly on corresponding latent variables. Factor loadings, which indicate the strength of the relations between each measured variable and corresponding latent variables for the six-factor models, are reported in Table 4. Squared multiple correlations (SMC) in mothers and fathers models (reported in Table 4) ranged from .10 to .66, indicating the proportion of variance in each measured variable accounted for by the latent variables. SMC values less than .10 indicate the small proportion of variance in the measured variables explained by the latent variables.

The zero-order correlations among the three and six dimensions of parenting are presented in Tables 5 and 6, respectively. Correlations among the three dimensions were moderate for both mothers and fathers, ranging from .46 to .61. Correlations among the six dimensions were low to moderate in magnitude, ranging from .07 to .64. The three negative aspects of parenting (rejection, chaos, and coercion) showed a pattern of relatively high intercorrelations, ranging from .47 to .64, for both mothers and fathers. In contrast, correlations among the factors representing positive aspects of parenting (warmth, structure, and autonomy support) were low to moderate for both mothers and fathers, ranging from .15 to .48.

Of greatest interest were the correlations between the positive and negative features of corresponding poles. Only one pair of dimensions showed the high negative correlations that would be characteristic of a bipolar dimension. Warmth and Rejection were moderately negatively correlated for both mothers and fathers (ranging from  $-.47$  to  $-.60$ ). In contrast, for both mothers and fathers, the correlation between Structure and Chaos was lower (ranging from  $-.31$  to  $-.37$ ), and the correlation between Autonomy support and Coercion was low (ranging from  $-.15$  to  $-.20$ ). It should be noted that these low correlations could also reflect the low reliabilities of structure and autonomy support, which were assessed using only two items each.

#### Descriptive Statistics and Validity Information for the Dimensions From the Final Model

Table 7 presents the means, standard deviations, and internal consistency reliabilities (Cronbach's alphas) for the six parenting dimensions, separately for mothers and fathers, for the replication subsamples. As can be seen, on average, mothers and fathers perceived themselves as high on warmth, structure, and autonomy support, and low on rejection, chaos,

TABLE 4  
 Factor Loadings and Squared Multiple Correlations (SMC) for the Six-Factor Model of Parent-Report of Parenting  
 for the Replication and Derivation Samples

Dimension/Item	Replication Sample				Derivation Sample			
	Mothers		Fathers		Mothers		Fathers	
	Factor Loading	SMC	Factor Loading	SMC	Factor Loading	SMC	Factor Loading	SMC
Warmth								
I know a lot of what goes on for my child.	.45	.20	.65	.42	.53	.28	.55	.30
I really know how my child feels about things.	.44	.19	.44	.19	.46	.21	.56	.31
I do special things with my child.	.70	.48	.61	.37	.47	.22	.64	.41
I set aside time to talk to my child about what is important to him/her.	.68	.47	.60	.36	.61	.37	.72	.52
I can always find time for my child.	.44	.20	.55	.30	.36	.13	.53	.28
Rejection								
I don't understand my child very well.	.76	.58	.68	.46	.69	.47	.66	.44
Sometimes my child is hard to like.	.53	.28	.44	.20	.47	.22	.49	.24
At times, the demands that my child makes feel like a burden.	.63	.39	.57	.32	.50	.25	.52	.27
My child needs more than I have time to give him/her.	.66	.44	.60	.35	.51	.26	.62	.38
Sometimes I feel like I can't be there for my child when he/she needs me.	.52	.27	.43	.18	.31	.10	.45	.20
Structure								
I make it clear what will happen if my child does not follow our rules.	.59	.35	.50	.25	.58	.34	.61	.37
I make it clear to my child what I expect from him/her.	.76	.58	.95	.90	.62	.38	.71	.51

(continued)

TABLE 4 (Continued)

Dimension/Item	Replication Sample				Derivation Sample			
	Mothers		Fathers		Mothers		Fathers	
	Factor Loading	SMC	Factor Loading	SMC	Factor Loading	SMC	Factor Loading	SMC
Chaos								
I let my child get away with things I really shouldn't allow.	.61	.37	.60	.35	.57	.33	.48	.23
When my child gets in trouble, my reaction is not very predictable.	.61	.38	.44	.19	.46	.21	.49	.24
My child doesn't seem to know what I expect from him/her.	.74	.54	.72	.52	.62	.39	.72	.52
I change the rules a lot at home.	.59	.35	.61	.37	.51	.26	.78	.23
Autonomy support								
I encourage my child to express his/her feelings even when they're hard to hear.	.74	.55	.71	.50	.72	.52	.56	.32
I encourage my child to express his/her opinions even when I don't agree with them.	.60	.36	.64	.41	.60	.36	.68	.46
Coercion								
My child fights me at every turn.	.81	.66	.75	.56	.68	.46	.77	.59
To get my child to do something, I have to yell at him/her.	.74	.54	.71	.50	.72	.52	.72	.52
I can't afford to let my child decide too many things on his or her own.	.66	.44	.58	.33	.51	.26	.56	.31
I sometimes feel that I have to push my child to do things.	.60	.36	.53	.28	.53	.28	.51	.26
I find myself getting into power struggles with my child.	.69	.48	.54	.29	.63	.39	.68	.46

Note.  $n = 323$  and  $283$  respectively, for mothers and fathers in the derivation sub-sample;  $n = 322$  mothers and  $284$  respectively, for mothers and fathers in the replication sub-sample.

TABLE 5  
Correlations Among Three Dimensions of Parent-Report of Parenting  
for Mothers and Fathers for the Derivation and Replication Samples

	Warmth Versus Rejection	Structure Versus Chaos	Autonomy Support Versus Coercion
Warmth versus rejection	—	.51 (.54)	.61 (.60)
Structure versus chaos	.48 (.54)	—	.46 (.43)
Autonomy support versus coercion	.48 (.60)	.47 (.53)	—

Note. ns = 323 and 283, respectively, for mothers and fathers in the derivation sub-sample; ns = 322 and 284, respectively, for mothers and fathers in the replication sub-sample. Correlations for mothers are below the diagonal; for fathers above. Correlations in parentheses are from the replication subsample. All correlations are significant at  $p < .001$ .

TABLE 6  
Correlations Among Six Dimensions of Parent Report of Parenting  
for Mothers and Fathers for the Derivation and Replication Samples

Dimension	Warmth	Rejection	Structure	Chaos	Autonomy Support	Coercion
Warmth	—	-.47 (-.60)	.23 (.26)	-.39 (-.41)	.48 (.38)	-.31 (-.38)
Rejection	-.53 (-.52)	—	-.16 (-.27)	.62 (.60)	-.20 (-.32)	.61 (.63)
Structure	.23 (.28)	-.13 (-.25)	—	-.31 (-.36)	.23 (.15)	-.07 (-.15)
Chaos	-.36 (-.41)	.57 (.57)	-.33 (-.37)	—	-.26 (-.22)	.55 (.60)
Autonomy support	.29 (.33)	-.14 (-.23)	.24 (.17)	-.20 (-.25)	—	-.15 (-.30)
Coercion	-.33 (-.38)	.47 (.61)	-.12 (-.19)	.54 (.64)	-.16 (-.20)	—

Note. ns = 323 and 283, respectively, for mothers and fathers in the derivation sub-sample; ns = 322 and 284, respectively, for mothers and fathers in the replication sub-sample. Correlations for mothers are below the diagonal; for fathers above. Correlations in parentheses are from the replication subsample. Correlations greater than .12 are significant at  $p < .01$ .

and coercion. For positive dimensions, warmth had the lowest mean for both mothers and fathers. For negative dimensions, coercion had the highest mean for both mothers and fathers.

Internal consistency reliabilities were satisfactory ( $\geq .70$ ) for maternal rejection, chaos, and coercion and for paternal coercion and warmth. The internal consistency reliabilities were moderate (between .65–.69) for maternal warmth and for paternal chaos and rejection. For the other two dimensions (which were marked by only two items), the reliabilities were low, between .61 and .64. For subsequent versions of the scale, additional

TABLE 7  
Means, Standard Deviations, and Internal Consistency Reliabilities  
of Dimensions of Parent Report of Parenting for Mothers and Fathers  
(Replication Sample)

	Number of Items	Mothers			Fathers		
		M	SD	$\alpha$	M	SD	$\alpha$
Warmth	5	3.21	.41	.66	2.97	.45	.70
Rejection	5	1.78	.59	.74	1.89	.53	.67
Structure	2	3.62	.47	.61	3.55	.50	.64
Chaos	4	1.74	.58	.73	1.80	.54	.67
Autonomy support	2	3.59	.49	.61	3.36	.59	.62
Coercion	5	2.13	.67	.82	2.08	.58	.74

Note.  $n = 322$  for mothers;  $n = 284$  for fathers. Scale means could range from 1 (not at all true for me) to 4 (very true for me).

items would be needed to improve internal consistency reliability. These are suggested in Appendix A.

Correlations between the six dimensions of parenting and selected child outcomes (as reported by the child or the child's teacher) are presented in Table 8. As expected, different features of mothers' and fathers' reports of their parenting predicted children's sense of relatedness to mother and father, perceived academic competence, autonomy orientation, and (teacher-reported) engagement in the classroom. Parental warmth and rejection were the highest (positive and negative) predictors of children's sense of relatedness to mothers and fathers. Children's perceived academic competence was most closely related to parental structure, chaos, and rejection as well as maternal warmth. Children's sense of autonomy was marginally related to parental autonomy support and chaos and to paternal coercion. Children's classroom engagement showed significant correlations to all six features of parenting. These correlations provide initial support for the utility of the parent-report assessment of these six dimensions of parenting.

## STUDY 2: ADOLESCENT REPORT OF PARENTING STYLE

### Method

#### Participants

This study was part of a larger project on adolescent risk and protective factors (Johnson, 2004). Fifty-four middle schools and high schools were

TABLE 8  
Correlations Between Six Dimensions of Parent Report of Parenting  
for Mothers and Fathers and Selected Child Outcomes

Child Outcomes	Parental Warmth	Parental Rejection	Parental Structure	Parental Chaos	Parental Autonomy Support	Parental Coercion
Mother						
Sense of relatedness to mother	.24**	-.26**	-.02	-.16**	.09	-.17**
Perceived control	.16**	-.18**	.15*	-.17**	.08	-.10*
Autonomy orientation	.11*	-.06	.05	-.09*	.16*	-.05
Engagement in school	.19**	-.21**	.15*	-.18**	.09*	-.15*
Father						
Sense of relatedness to father	.14**	-.20**	.02	-.06	.08	-.11
Perceived control	.01	-.13**	.18*	-.19*	-.01	-.08
Autonomy orientation	.04	-.11*	.06	-.18*	.16*	-.14**
Engagement in school	.11*	-.25**	.09*	-.20**	.10*	-.21**

Note.  $n = 645$  and  $567$  respectively, for mothers and fathers.

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

randomly selected from five regions of Oregon and were recruited with assistance from the Oregon Office of Alcohol and Drug Abuse to participate in a survey of Oregon public school youth. The sample included 3,744 students in Grades 8 through 12, approximately evenly divided by males (47%) and females (53%). The mean age of children was 13.8 years for Grade 8 ( $n = 1,078$ ), 14.8 years for Grade 9 ( $n = 1,083$ ), 15.8 years for Grade 10 ( $n = 721$ ), 16.8 years for Grade 11 ( $n = 719$ ), and 17.7 years for Grade 12 ( $n = 133$ ).

In terms of demographics, the dominant ethnic group was European American (78%), followed by Latin American (6.4%), Asian American (6%), Native American (5%), African American (2.7%), and other (1.9%). Fifty-five percent of adolescents reported belonging to two-parent families, 21% to single-parent families, 19% to blended two-parent families, and 5% to other kinds of families (foster families, families headed by grandparents, aunt, etc.). In terms of highest level of parental education, 17% of the children's parents had completed graduate or professional school; 16% had graduated from college; 21% had attended some college; 22% had completed high school; and 8% had attended some high school.

## Procedure

Adolescents were contacted through their schools. Each participant completed the parenting assessment as part of a larger packet of instruments. Surveys, which were conducted during social studies classes, were administered by employees of a local research and evaluation firm. Teachers were present during the administration, but questionnaires were distributed and collected by staff who remained in the classroom to respond to student questions. Students were assured that school personnel would not see their responses. Students who did not wish to participate were provided with alternative activities by their teachers.

## Child Report of Parenting Measure

Parenting dimensions were assessed using an item pool that contained 48 items, with 8 items tapping each of the six dimensions (see Appendix B). Many of the items had appeared in prior versions of this assessment (Skinner, Wellborn, & Regan, 1986).

## Child Outcome Measures

Academic competence. Self-reported grades and perceived academic competence were standardized and summed to create the academic competence score. The correlation between perceived academic competence and self-reported grades was .48. Reliability for academic competence using the sum of the standardized scores was .76.

To assess self-reported grades, students were asked to select the category that represented their usual grades: mostly Fs, mostly Fs and Ds, mostly Ds, mostly Cs and Ds, mostly Cs, mostly Cs and Bs, mostly Bs, mostly Bs and As, mostly As. A numerical scale of self-reported grades was constructed ranging from 0 (mostly Fs) to 4.0 (mostly As). Mean self-reported grades across all respondents was 2.9. Evidence from other research indicates that self-reported grades provide a reasonable surrogate for official grade point averages. For example, Dornbusch, Ritter, Leiderman, Roberts, and Fraleigh (1987) reported a high correlation between self-reported and school-recorded grades ( $r = .79$ ). There was, however, a slight tendency for students with mean grades below a C to slightly overstate their grades.

Perceived academic competence was measured using the Scholastic Competence subscale from Harter's (1988) Self-Perception Profile for Adolescents. This subscale taps students' perceptions of their academic ability, how well they are doing at classwork, and how intelligent they feel. The in-

ternal consistency reliabilities for the five items included in the subscale, each measured on a 4-point scale, was .77.

**Commitment to school.** The four items included in the Oregon Public School Drug Use Survey (Arthur, Hawkins, Catalano, & Pollard, 1997) to measure lack of school commitment (e.g., "How often do you feel that the school work you are assigned is meaningful and important?") were reverse-coded and used to measure school commitment. Reliability for this subscale was .81.

**Social competence.** The Social Acceptance subscale from Harter's (1988) Self-Perception Profile for Adolescents was used to measure social competence. This five-item subscale focuses on the adolescents' perceptions of acceptance by peers, feelings of popularity, and feelings that they are easy to like. Reliability for the social competence subscale was .80.

**Self-worth.** The five-item global self-worth subscale from the Self-Perception Profile (Harter, 1988) was used to measure self-worth. This subscale measures the extent to which adolescents like themselves and are happy with their lives. Reliability for the five-item subscale was .83.

**Mastery.** Pearlin's measure of mastery (Pearlin, Lieberman, Menaghan, & Mullan, 1981) was used to measure adolescents' perceptions of personal control. Items were scored so that higher numbers indicate greater mastery. Mean mastery scores were calculated for those students who answered at least six of the seven mastery items. Reliability for the mastery scale was .76.

**Overall competence.** A measure of overall competence was created by standardizing and calculating a mean score on the following subscales: self-reported grades, perceived academic competence, social competence, commitment to school, global self-worth, and mastery. Overall competence has been used as a surrogate for successful adolescent functioning. Reliability for the overall competence score was .76.

**Substance use.** Students were asked on how many occasions (if any) during the past 12 months they had used illicit substances such as alcoholic beverages, marijuana, LSD and other psychedelics, methamphetamines, cocaine or crack, heroin, tranquilizers, quaaludes, or barbiturates; sniffed glue, breathed the contents of an aerosol spray can; or inhaled other gases or sprays to get high. The response options were coded as follows: 0 (0 occasions), 1 (1–2 occasions), 2 (3–5 occasions), 3 (6–9 occasions), 4 (10–19 oc-

casions), 5 (20–39 occasions), 6 (40 or more occasions). A substance use score was calculated by standardizing and summing the responses (0–6) for each drug item. The responses for individual items were standardized so as to increase the weight given to infrequent responses. Because more dangerous substances such as heroin had a relatively low frequency of use, they also had a lower standard deviation than more frequently used substances. The overall effect of standardizing was to give greater weight to responses indicating use of more dangerous substances.

**Problem behaviors.** Students reported the number of times (if any) in the past 12 months that they had engaged in 10 problem behaviors (driving a vehicle after drinking alcohol or using illegal drugs, riding in a vehicle with a teenage driver who had been drinking or using illegal drugs, being drunk or high at school, carrying a handgun, taking a handgun to school, selling illegal drugs, stealing something worth over \$5, stealing or trying to steal a motor vehicle, attacking someone with the idea of seriously hurting him or her, and being in a fight using a weapon). Response options were as follows: 0 (0 occasions), 1 (1–2 occasions), 2 (3–5 occasions), 3 (6–9 occasions), 4 (10–19 occasions), 5 (20–39 occasions), 6 (40 or more occasions). A problem behavior score was calculated by standardizing and summing the responses (0–6) for each problem behavior category. As with substance use, more serious problem behaviors had lower frequencies and thus received greater weight through standardizing.

**Overall problem behaviors.** For some analyses, measures of substance use and problem behaviors were combined (summed) to indicate overall problem behaviors. The correlation between substance use and problem behaviors was high,  $r = .78$ .

## Results

The derivation and two replication subsamples were composed of a stratified randomly selected third of students completing the questionnaires (derivation subsample  $n = 1,247$ ; replication subsample  $n_s = 1,274$  and  $1,223$ ). Each third had a similar composition of students in terms of grade and sex.

### Testing Unidimensionality of the Six Item Sets (Derivation Sample)

In the first step, single-factor models were fit to designated eight-item sets, and items that did not load on their designated factors at the level of .55 or above were removed. This resulted in the removal of eight items: one

from the set tapping Warmth (“My parents can tell how I’m feeling without asking.”); one from Structure (“My parents expect me to follow family rules.”); three from the set marking Chaos (“When I do something wrong, I never know how my parents will react.” “A lot of times, I don’t know where my parents are,” and “I never know what my parents will do next.”); one item from Autonomy Support (“When my parents ask me to do something, they explain why.”); and two from Coercion (“The only reason my parents give is ‘Because I said so’” and “I’m not allowed to disagree with my parents.”). Single-factor models were fit to the remaining items in each set. As can be seen in Table 9, all of the item sets showed a good fit to a single-factor model.

### Comparing the Fit of Models With Bipolar and Multiple (Unipolar) Dimensions (Replication Sample)

The next set of analyses tested and compared a model of one bipolar factor with a model of two factors for each pair of features (see Figure 2 for the example of Warmth and Rejection). In each case, two factors were a significantly better fit to the data than one bipolar factor: (1) for Warmth and Rejection,  $\chi^2(1, N = 1247) = 1,082.45$ ; (2) for Structure and Chaos,  $\chi^2(1, N = 1247) = 357.97$ ; and (3) for Autonomy Support and Coercion,  $\chi^2(1, N = 1247) = 1,206.56$ ; all  $p < .001$ .

The next set of analyses tested and compared models that included the two measurement factors, that is, a three-factor model (one general bipolar factor and two methods factors) and a four-factor model (two construct factors and two methods factors; see Figure 3 for the example of Warmth and Rejection). For each pair of features, the models depicting two-construct factors were a significantly better fit than the models depicting a bipolar construct factor.

TABLE 9  
Fit of the Single-Factor Models for Six Dimensions of Adolescent Report of Parenting (Derivation Sample)

	Number of Items	M	SD	$\chi^2$ (df, n)	CFI
Warmth	7	3.31	.68	96.57 (14,1247)	.98
Rejection	8	1.75	.90	139.33 (20,1247)	.97
Structure	7	3.01	.66	195.06 (14,1247)	.95
Chaos	5	1.98	.71	106.90 (5,1247)	.95
Autonomy support	7	3.17	.67	86.29 (14,1247)	.98
Coercion	6	2.26	.74	57.436 (9,1247)	.98

Note.  $n = 1,247$  for the derivation sub-sample. CFI = comparative fit index.  
 $p < .0001$ .

### Maximizing the Discrimination Among Positive and Among Negative Dimensions (Derivation Sample)

The next set of analyses was designed to maximize the discrimination among the positive (warmth, structure, and autonomy support) and among the negative (rejection, chaos, and coercion) dimensions. This was accomplished by reducing the number of items marking each dimension to four, using as a basis for item deletion the extent to which a positive item crossloaded on other positive factors or to which a negative item crossloaded on other negative factors. Table 10 shows the fit of the multi-item six-factor model compared to the reduced four-item model. As can be seen, according to most of the indicators, the reduced model showed a satisfactory fit to the data: GFI and AGFI were above .90, RMSEA was .05, RFI was greater than .90, and the Hoelter value was greater than 200. However, the CMIN/DF was 4.22, which is greater than the recommended value of 3, and the NFI was .81, which is less than the recommended value of .90.

### Examining the Fit of the Three- and Six-factor Models (Derivation and Replication Samples)

The next set of analyses tested and compared a model with three bipolar dimensions to a model with six unipolar dimensions (see Figures 6 and 7). The results of these analyses are presented in Table 10 for both the derivation and replication subsamples. The comparison of the six- versus three-factor models revealed that in all cases, the six-factor model was a significantly better fit to the data than the three-factor model: For the derivation subsample,  $\chi^2(12, N = 1247) = 3,634.60, p < .001$ ; the replication-1 subsample,  $\chi^2(12, N = 1274) = 2,673.86, p < .001$ ; and the replication-2 subsample,  $\chi^2(12, N = 1223) = 2960.90, p < .001$ .

As expected, both the three-factor and the six-factor models had significant chi-squares. However, the other indexes suggested that the 6-factor models were a satisfactory fit to the data, with all indexes suggesting a better fit than that of the 3-factor models. The six-factor (four-item) models had GFIs and AGFIs greater than .90, CMIN/DF ratios that were at or just slightly above 5, RMSEA values of .06 or less, and Hoelter values that exceeded 200.

In the six-factor model, all critical ratios associated with regression weights had absolute values higher than 2, revealing that measured variables loaded significantly on corresponding latent variables. Factor loadings, which indicated the strength of the relations between each measured variable and corresponding latent variables for the six-factor model (see Table 11), ranged from .60 to .85. Squared multiple correlations in the

TABLE 10  
 Comparison of Three-Factor and Six-Factor Models of Adolescent Report of Parenting With Multiple-Items  
 and Reduced-Items for the Derivation Sample and Two Replication Samples

Goodness-of-Fit Measures Items	Three-Factor Model Multiple Items	Six-Factor Model Multiple Items	Six-Factor Model Four Items	Three-Factor Model Eight Items	Six-Factor Model Four Items	Three-Factor Model Eight Items	Six-Factor Model Four Items
Subsample	Derivation <sup>a</sup>	Derivation <sup>a</sup>	Derivation <sup>a</sup>	Replication 1 <sup>b</sup>	Replication 1 <sup>b</sup>	Replication 2 <sup>c</sup>	Replication 2 <sup>c</sup>
$\chi^2$	7,126.34	3,491.74	1,001.00	3,987.25	1,313.39	4,172.43	1,211.53
df	737	725	237	249	237	249	237
p	.000	.000	.000	.000	.000	.000	.000
CMIN/df	9.67	4.82	4.22	16.01	5.54	16.76	5.11
GFI	.62	.86	.93	.67	.91	.63	.92
AGFI	.58	.84	.92	.60	.89	.55	.90
RMSEA	.08	.06	.05	.11	.06	.11	.06
NFI	.77	.89	.81	.77	.93	.74	.92
RFI	.76	.88	.93	.75	.91	.71	.91
PCFI	.74	.84	.82	.71	.81	.68	.81
ECVI	5.85	2.96	.90	3.21	1.13	3.50	1.10
Hoelter's Critical N	141	282	341	92	266	84	277

Note. CMIN/DF = minimum discrepancy divided by degrees of freedom, GFI = goodness of fit index, AGFI = adjusted goodness of fit index, RMSEA = root mean square error of approximation, NFI = normed fit index, RFI = relative fit index, PCFI = parsimonious comparative fit index, ECVI = expected cross-validation index.

<sup>a</sup>n = 1,247. <sup>b</sup>n = 1,274. <sup>c</sup>n = 1,223.

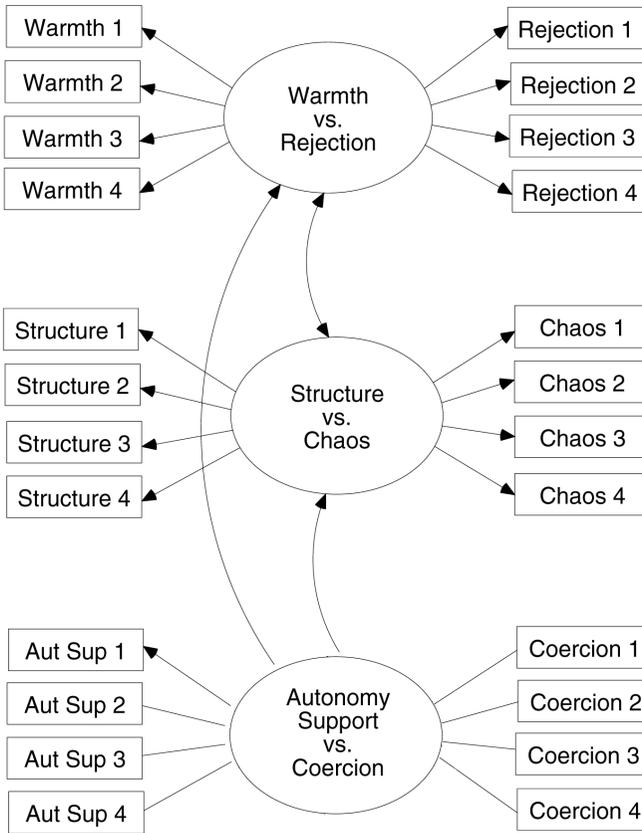


FIGURE 6  
Model of Three Bipolar Factors for the Child Report of Parenting Dimensions.

model ranged from .33 to .72, indicating the proportion of variance in each measured variable accounted for by the latent variables.

The zero-order correlations among the three and six dimensions of parenting are presented in Tables 12 and 13, respectively. Correlations among the three dimensions were moderate, ranging from .42 to .59. Correlations among the six dimensions were moderate to high in magnitude, ranging from .42 to .79. The three positive aspects of parenting (warmth, structure, and autonomy support) showed the highest pattern of inter-correlations, ranging from .71 to .79.

Of greatest interest were the correlations between the positive and negative features of corresponding poles. As with the parent-report scales,

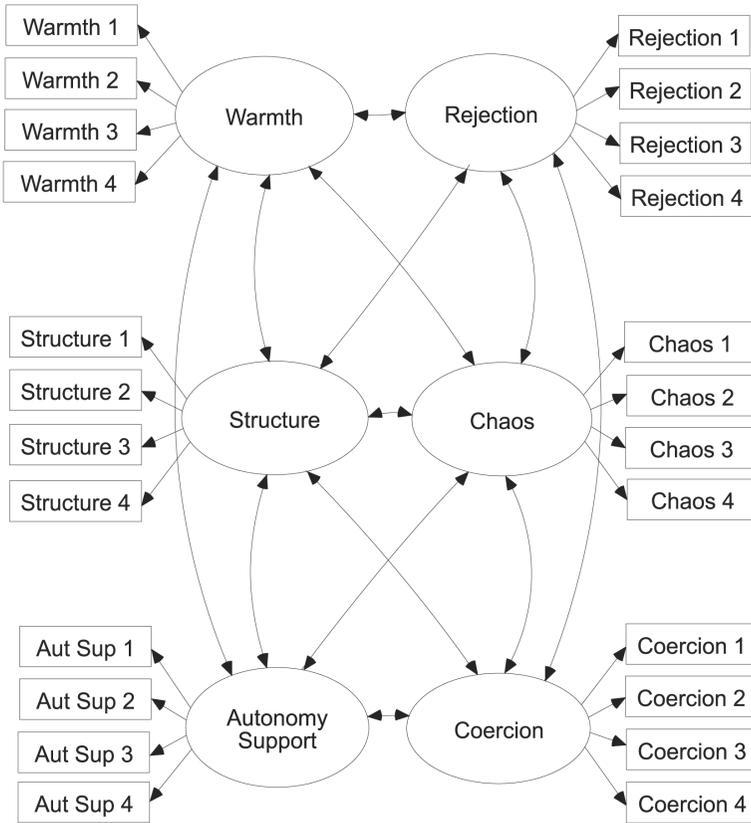


FIGURE 7  
Model of Six Unipolar Factors for the Child-Report of Parenting Dimensions.

warmth and rejection showed the highest negative correlation (ranging from  $-.60$  to  $-.67$ ). However, the correlations between the other two corresponding poles were also relatively high (correlations between structure and chaos ranged from  $-.43$  to  $-.52$ ; and between autonomy support and coercion ranged from  $-.49$  to  $-.58$ ). It should be noted that the negative correlations between the noncorresponding positive and negative aspects of parenting were also high (e.g., between autonomy support and rejection).

TABLE 11  
 Factor Loadings and Squared Multiple Correlations (SMC) for the Six-Dimension (4-Item) Model for the Derivation Sample  
 and Two Replication Samples

Dimension/Item	Derivation Sample		Replication Sample 1		Replication Sample 2	
	Factor Loading	SMC	Factor Loading	SMC	Factor Loading	SMC
Warmth						
My parents let me know they love me.	.82	.66	.76	.58	.76	.58
My parents enjoy being with me.	.85	.72	.82	.67	.83	.69
My parents are always glad to see me.	.81	.66	.76	.58	.78	.61
My parents think I'm special.	.77	.60	.75	.56	.73	.53
Rejection						
Sometimes I wonder if my parents like me.	.76	.58	.76	.58	.75	.57
My parents think I'm always in the way.	.68	.47	.69	.48	.70	.50
My parents make me feel like I'm not wanted.	.74	.55	.77	.58	.72	.52
Nothing I do is good enough for my parents.	.79	.62	.79	.63	.77	.59
Structure						
When I want to do something, my parents show me how.	.67	.45	.64	.42	.57	.33
When I want to understand how something works, my parents explain it to me.	.76	.58	.76	.58	.75	.57
If I ever have a problem, my parents help me to figure out what to do about it.	.73	.53	.69	.47	.76	.57
My parents explain the reasons for our family rules.	.70	.49	.68	.46	.70	.50

Chaos						
When my parents make a promise, I don't know if they will keep it.	.63	.40	.65	.43	.66	.43
When my parents say they will do something, sometimes they don't really do it.	.64	.41	.60	.36	.60	.36
My parents get mad at me with no warning.	.75	.57	.75	.56	.77	.59
My parents punish me for no reason.	.72	.52	.73	.53	.69	.48
Autonomy support						
My parents trust me.	.69	.48	.73	.54	.68	.47
My parents accept me for myself.	.81	.66	.81	.66	.79	.63
My parents encourage me to be true to myself.	.74	.55	.75	.56	.73	.53
My parents try to understand my point of view.	.76	.58	.76	.57	.73	.53
Coercion						
My parents are always telling me what to do.	.70	.48	.72	.52	.68	.47
My parents boss me.	.79	.63	.83	.69	.76	.58
My parents think there is only one right way to do things—their way.	.77	.59	.80	.64	.76	.58
My parents say "no" to everything.	.75	.56	.75	.56	.72	.51

---

Note. n = 1247 for the derivation subsample, 1274 for replication sample 1, and 1223 for replication sample 2.

TABLE 12  
Correlations Among Three Dimensions of Adolescent Report of Parenting  
for the Derivation and Two Replication Samples

	Warmth Versus Rejection	Structure Versus Chaos	Autonomy Support Versus Coercion
Warmth versus rejection	—	.46 (.52)	.46 (.42)
Structure versus chaos	.48	—	.53 (.47)
Autonomy support versus coercion	.49	.59	—

Note. Each dimension is marked by eight items. Correlations for the derivation subsample ( $n = 1,247$ ) are below the diagonal. Correlations for replication subsamples 1 ( $n = 1,274$ ) and 2 ( $n = 1,223$ ) are above; correlations for replication sample 2 are in parentheses. All correlations significant at  $p < .001$

TABLE 13  
Correlations Among Six Dimensions of Adolescent Report of Parenting  
for the Derivation Sample and Two Replication Samples

	Warmth	Rejection	Structure	Chaos	Autonomy Support	Coercion
Warmth	—	-.66 (-.60)	.71 (.71)	-.52 (-.48)	.77 (.78)	-.42 (-.39)
Rejection	-.67	—	-.54 (-.47)	.74 (.73)	-.67 (-.62)	.66 (.65)
Structure	.76	-.56	—	-.50 (-.43)	.71 (.74)	-.4 (-.33)
Chaos	-.55	.72	-.52	—	-.56 (-.51)	.70 (.68)
Autonomy support	.79	-.65	.76	-.56	—	-.56 (-.49)
Coercion	-.48	.65	-.46	.68	-.58	—

Note. Each dimension is marked by four items. Correlations for the derivation subsample ( $n = 1,247$ ) are below the diagonal. Correlations for replication subsamples 1 ( $n = 1,274$ ) and 2 ( $n = 1,223$ ) are above; correlations for replication sample 2 are in parentheses. All correlations significant at  $p < .001$ .

### Descriptive Statistics and Validity Information for the Dimensions From the Final Model

The descriptive statistics for the four-item scales are presented in Table 14, along with internal consistency reliabilities for the derivation and both replication subsamples. Among the positive dimensions, Warmth had the highest mean; among the negative dimensions, Rejection had the lowest. Variances were similar, and there was no evidence of floor or ceiling effects. Most important, despite the small number of items, the internal-consistency reliabilities for all scales were satisfactory, ranging from .78 to .88.

TABLE 14  
Means, Standard Deviations, and Internal Consistency Reliabilities  
of Adolescent Report of Parenting Dimensions for Six (4-Item) Dimensions  
for the Derivation and Two Replication Samples

	Derivation Sample			Replication Sample 1			Replication Sample 2		
	M	SD	$\alpha$	M	SD	$\alpha$	M	SD	$\alpha$
Warmth	3.35	.72	.88	3.35	.68	.85	3.37	.68	.85
Rejection	1.68	.75	.83	1.74	.77	.84	1.70	.75	.82
Structure	3.01	.73	.80	2.98	.79	.79	3.01	.70	.79
Chaos	2.00	.73	.78	2.06	.74	.78	2.03	.73	.78
Autonomy support	3.23	.72	.84	3.19	.74	.85	3.20	.72	.82
Coercion	2.15	.80	.84	2.20	.82	.85	2.18	.77	.82

Note.  $n = 1,47$  for the derivation sample;  $n = 1,274$  for replication sample 1;  $n = 1,223$  for replication sample 2. Scale means range from 1 (not at all true) to 4 (very true).

TABLE 15  
Correlations Between Six Dimensions of Adolescent Report of Parenting  
and Selected Adolescent Outcomes (Replication Sample Two)

Adolescent Outcomes	Warmth	Rejection	Structure	Chaos	Autonomy Support	Coercion
Academic competence	.28	-.30	.24	-.28	.30	-.20
Commitment to school	.34	-.25	.37	-.26	.35	-.21
Social competence	.26	-.30	.20	-.23	.27	-.19
Mastery	.41	-.50	.40	-.44	.47	-.41
Self-worth	.35	-.44	.36	-.35	.42	-.31
Overall competence	.46	-.51	.44	-.45	.51	-.38
Substance use	-.28	.23	-.22	.18	-.24	.11
Problem behaviors	-.22	.21	-.19	.15	-.21	.11
Overall problem behaviors	-.26	.23	-.22	.17	-.24	.12

Note.  $n = 1,223$ . All correlations are significant,  $p < .01$ .

The correlations between the six dimensions of adolescent report of parenting and selected adolescent outcomes appear in Table 15. As expected, the positive features of parenting correlate positively with adolescents' reports of positive academic outcomes such as academic competence, commitment to school, social competence, mastery, and self-worth; they correlate negatively with adolescent substance use and problem behaviors. Likewise, the negative features of parenting correlate negatively with adolescents' positive academic outcomes and positively with adolescent reports of substance use and problem behavior. These correlations

provide initial support for the validity of the adolescent-report assessment of these six dimensions of parenting.

## DISCUSSION

A motivational model, positing six core features of parenting, was used as the basis for examining the dimensionality of two assessments of parenting. Structural analyses indicated that, compared to three bipolar dimensions, six dimensions better reflect the dimensionality underlying parent and child report of warmth, rejection, structure, chaos, autonomy support, and coercion. This pattern held true for each pair of conceptually opposite features examined separately. The comparison of models that included methods factors demonstrated that the multidimensionality of parenting constructs is not a methodological artifact of the positivity and negativity of the items. The conclusion that parenting constructs are multidimensional (and not bipolar) was bolstered by findings from two different item sets and two independent derivation and replication samples, as well as from three reporters: mothers, fathers, and adolescents.

The patterns of correlations among the dimensions provided justification for many of the ways researchers have aggregated them. Combining items from the conceptually opposite poles of the same dimension (and reverse-coding the negative items) can be justified from the negative correlations between these features of parenting. However, such calculations result in the middle range of scores being awarded to two kinds of parents: those who are low on both positive and negative features and those who are high on both. This could be a problem, because theoretically, there is no reason to believe that parenting that is low on both poles (perhaps characterized as uninvolved) would have the same effects on children as parenting that is high on both (perhaps characterized as volatile).

Findings from these studies also provided support for the practice of combining the good or the bad features of parenting. The correlations among warmth, structure, and autonomy support (especially high in the child-report measure), suggested that authoritative or supportive parenting, which combines all three, might be captured by aggregating these three scales. In a similar vein, the correlations among rejection, chaos, and coercion (especially high in the parent report of parenting), suggested that harsh or unsupportive parenting might be captured by aggregating assessments of these three features.

Finally, the general finding that the six features can be distinguished provides justification for some of the typologies suggested by parenting researchers in recent years (e.g., Baumrind, 1991; Weiss & Schwarz, 1996). If autonomy support (supportive control) can be distinguished from structure (assertive control) and coercion (directive control), then different combinations of these features can be used to characterize different types of parenting. For example, parents who are high on autonomy support and low on structure (sometimes labeled nondirective) can be distinguished from parents who are high on autonomy support and medium on structure (sometimes labeled democratic). Of course, typologies could demarcate parenting styles even more clearly if they incorporated all six dimensions. For example, nondirective parents might be high on autonomy support and also high on chaos (instead of just low on structure).

### Limitations of the Studies

Any firm conclusions about the structure of parenting dimensions require replications and refinements of the findings from this research, using additional items sets, independent samples, different age groups, and multiple reporters. At present, many researchers have access to item sets that contain markers of all six of the dimensions discussed in this article, collected in samples large enough to examine their structural properties. The empirical procedures and theoretical rationale used in these studies might provide a guide for analysis of some of these data.

A specific limitation of the parent-report study (Study 1) is that reports from mothers and fathers cannot be considered independent, because they may have consulted with each other as they filled out their reports at home. An additional limitation of Study 1, and one likely to hinder other researchers as well, is that our early assumptions about the bipolarity of the dimensions led us to include fewer parent-report items tapping the positive and negative poles separately than would be ideal to test their dimensionality. So, for example, conclusions from our analyses of parent reports were limited by the fact that two of the positive dimensions (structure and autonomy support) were marked by only two items. Hence, it might have been their low reliability, rather than their multidimensionality, that prevented them from correlating highly (negatively) with their putatively opposite poles. Future studies would benefit from the inclusion of sufficient items (at least four) to mark each feature.

A specific limitation of the child-report study (Study 2) was the use of items that refer to "my parents," instead of items that tap parenting provided by mothers and fathers separately. It is possible that the structure

found for child-report items using an aggregate reference to the parenting unit could differ from that found for reports about mothering and fathering (or any other caregiving) separately. This is an important empirical question for future studies.

Two general limitations can also be noted. First, the samples in both studies are restricted in ethnicity and age. Although representative of their larger communities, the samples did not include sufficient African American, Latin American, or Asian American children or families to allow conclusions to be drawn about the structure of assessments of parenting style for those groups. With regard to age, the parent-report assessment was examined only for parents whose children were in elementary school; alternative structures may be a better representation for parents with older or younger children. Likewise, the child-report assessment was examined only for adolescents (ages 13–18); developmental differences may be found in the structure of parenting for children at younger ages (e.g., Pomerantz & Eaton, 2000).

Second, we note that, for both parent and child reports, it was easier to produce item sets that were unidimensional and reliable, than it was to produce item sets that discriminated among the positive and among the negative features of parenting. Several items were deleted, not because they did not load on their designated factor, but because they also cross-loaded on other similar factors. For example, the parent-report item “When I punish my child, I always explain why” was a good indicator of structure (i.e., consistent discipline practices), but it also included an element of autonomy support (i.e., providing rationales for disciplinary actions), so it had to be deleted. Hence, in subsequent studies, researchers should take care to generate or select items that not only tap the specified target dimension, but that do not also tap other dimensions.

### Future Research

These studies have identified six dimensions of parenting that can serve as central constructs in future work on the antecedents, correlates, and consequences of parenting style. Moreover, they suggest lines of research aimed specifically at examining the structure of additional core constructs of parenting.

Mapping key features of parenting. An important line of future research would be studies designed to clarify the key constructs of parenting. Although we maintain that the six aspects we assessed are featured prominently in work on parenting, they by no means exhaust the entire range of possibilities. Terms such as monitoring, induction, sensitivity,

nurturance, love withdrawal, negativity, and mutual responsiveness abound (see Tables 1 and 2 for examples), with new constructs appearing frequently.

Up to now, different features of parenting have largely been studied by separate traditions, but our studies suggest that the structure of the six core dimensions may provide an organizing framework for research designed to sort them out. Some of these features will turn out to be synonyms for one of the core dimensions, as suggested by Figure 1. For example, acceptance, approval, closeness, love, and connection may all be analogous to warmth. Some of these terms may turn out to be components of one of the core features. For example, contingency, firm maturity demands, consistency, and organization may all turn out to be components of structure. Some of these terms may turn out to be combinations of some of these core features. For example, inductive discipline may involve high structure combined with high autonomy support. Or sensitivity may involve both high warmth and high structure (contingency). Some of these terms may combine all the core features. For example, authoritative parents tend to be high on all the good features and low on all the bad, harsh parents the reverse, and neglectful parents low on everything.

Finally, yet other of these terms may refer to constructs outside of the measurement space defined by the six core dimensions. For example, in our own work, we have explored the connection between the six features of parenting and the parental practice of monitoring or attention to and tracking of children's whereabouts (Brown, Mounts, Lamborn, & Steinberg, 1993; Otto & Atkinson, 1997). We originally hypothesized that monitoring would be a facet of structure, but our structural analyses indicated that, as currently assessed, it was not — it was better represented as a distinguishable dimension of parenting (Johnson, 2004). We now hypothesize that monitoring may be a component of parent involvement (Maccoby & Martin, 1983).

In fact, when considering the many dimensions of parenting described in previous research (see Table 1), involvement and neglect are common enough themes that we consider them likely candidates for additional scrutiny (Baldwin, 1955; Slater, 1962). Hence, a priority for us has been to construct parent and child assessments of parent involvement (engagement, participation, investment, supervision) and neglect (disaffection, disinterest, ignoring, inactive, unavailable, diminished, indifference) to determine whether they represent features of parenting distinguishable from the six core dimensions (Kindermann & Newton-Curtis, 2003). Similar analyses of assessments of other features of parenting (e.g., sensitivity, induction, love withdrawal) might make it easier to integrate findings from diverse literatures on the effects of parenting. Eventually it might

even be possible to create a standard set of assessments that can be used singly or in combination to tap a broad range of parenting styles.

The function of parenting style. The primary contribution of these studies to subsequent research is to identify six constructs that can be used as building blocks in future theoretical and empirical work on parent – child relationships. Future studies should probably include markers of all six constructs or else provide rationales for why only selected features of parenting were considered. Moreover, based on the findings that these six features are better represented as multiple dimensions, researchers may also decide to (re)examine parents who are awarded moderate scores on dimensions calculated in a bipolar manner. As mentioned previously, such scoring strategies result in two potentially different kinds of parents receiving moderate scores: those are who are low on both the positive and negative features of parenting, and those who are high on both. It is important to determine empirically whether these two kinds of parents have the same impact on children.

These studies also suggest that the same six dimensions can be used to characterize parenting style whether it is reported by adolescents, mothers, or fathers, at least in these predominantly European American working- and middle-class samples. It should be noted that similarity in structure between mothers and fathers in their reports of parenting does not imply that their reports are highly correlated with each other or that mothers and fathers would have similar effects on child outcomes. However, it does allow research comparing and contrasting the effects of different caregivers to use similar sets of constructs to capture parenting style.

Future work on the antecedents and outcomes of parenting can benefit from assessments that include all six features of parenting, including the creation of parenting typologies or profiles that rely on all six dimensions (Johnson, 2004). Interesting next steps include studies that examine whether child outcomes are differentially shaped by the different features of parenting and that explore the potentially unique effects and interactions of the corresponding positive and negative features of parenting. Studies examining the contribution of parenting to children's development could investigate whether parenting style actually functions as an amplifier of the effects of parenting practices, as hypothesized by Darling and Steinberg (1993) a decade ago. A key target in this research is likely to be children's openness to socialization. Research aimed at understanding the conditions that shape parenting style could consider that potential antecedents might have differential effects on different target features. For example, time pressure might lead parents to be more structured (organized) but also to be more coercive. Or heightened evaluation might elicit more

controlling behavior (coercion) but not have an impact on a parent's warmth (Grolnick, Gurland, DeCoursey, & Jacob, 2002).

## CONCLUSIONS

Two studies of the dimensionality underlying six important and potentially core features of parenting style indicated that six dimensions and not three bipolar dimensions best represent their structures. These six features, hypothesized by other theorists to be core as well, are part of a motivational model designed to explain how parents can support or undermine their children's openness to socialization. The specific results of these studies have important implications for the measurement of parenting style. The general framework may help organize future studies aimed at mapping the many constructs used to describe parenting in the field today, and help guide work investigating the antecedents of parenting style as well as research exploring how parenting style contributes to children's development.

## AFFILIATIONS AND ADDRESSES

Ellen A. Skinner, Psychology Department, Portland State University, P. O. Box 751, Portland, OR 97207-0751. E-mail: [Skinnere@pdx.edu](mailto:Skinnere@pdx.edu). Sandy Johnson and Tatiana Snyder are also at Portland State University.

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APPENDIX A  
PARENTS AS SOCIAL CONTEXT QUESTIONNAIRE  
(PARENT-REPORT)

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Warmth

- W1. I know a lot about what goes on for my child.
- W2. I really know how my child feels about things.
- W3. I do special things with my child.
- W4. I set aside time to talk to my child about what is important to him/her.
- W5. I can always find time for my child.
- \*W6. I feel good about the relationship I have with my child.  
I let my child know I love him/her.

Rejection

- R1. I don't understand my child very well.
- R2. Sometimes my child is hard to like.
- R3. At times, the demands that my child makes feel like a burden.
- R4. My child needs more than I have time to give him/her.
- R5. Sometimes I feel like I can't be there for my child when he/she needs me.

Structure

- S1. I make it clear what will happen if my child does not follow our rules.
- S2. I make it clear to my child what I expect from him/her.
- \*S3. When I punish my child, I always explain why.  
When I tell my child I'll do something, I do it.  
If my child has a problem, I help him/her figure out what to do about it.  
I expect my child to follow our family rules.

Chaos

- Ch1. I let my child get away with things I really shouldn't allow.
- Ch2. When my child gets in trouble, my reaction is not very predictable.
- Ch3. My child doesn't seem to know what I expect from him/her.
- Ch4. I change the rules a lot at home.  
I can get mad at my child with no warning.

Autonomy Support

- A1. I encourage my child to express his/her feelings even when they're hard to hear.
- A2. I encourage my child to express his/her opinions even when I don't agree with them.  
I trust my child.  
I encourage my child to be true to her/himself.  
I expect my child to say what he/she really thinks.

Coercion

- Co1. My child fights me at every turn.
- Co2. To get my child to do something, I have to yell at him/her.
- Co3. I can't afford to let my child decide too many things on his or her own.
- Co4. I sometimes feel that I have to push my child to do things.
- Co5. I find myself getting into power struggles with my child.

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Note. Adapted from an earlier version of Parents as Social Context Questionnaire (Skinner, Regan, & Wellborn, 1986). Responses ranged from 1 (not at all true) to 4 (very true). \*Indicates that these items were dropped from the final version. Unnumbered items were added to subsequent versions to increase reliability.

APPENDIX B  
PARENTS AS SOCIAL CONTEXT QUESTIONNAIRE  
(ADOLESCENT REPORT)

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Warmth

- W1. My parents let me know they love me.
- W2. My parents enjoy being with me.
- W3. My parents are always glad to see me.
- W4. My parents think I'm special.
- \*W5. My parents can tell how I'm feeling without asking.
- \*\*W6. My parents are happy with me just the way I am.
- \*\*W7. My parents understand me very well.
- \*\*W8. My parents are glad I am their child.

Rejection

- R1. Sometimes I wonder if my parents like me.
- R2. My parents think I'm always in the way.
- R3. My parents make me feel like I'm not wanted.
- R4. Nothing I do is good enough for my parents.
- \*R5. When I am upset, my parents don't care.
- \*R6. My parents don't say much about the good things I do, but they are always talking about the bad.
- \*\*R7. My parents do not really love me.
- \*\*R8. My parents pick on me for every little thing.

Structure

- S1. When I want to do something, my parents show me how.
- S2. When I want to understand how something works, my parents explain it to me.
- S3. If I ever have a problem, my parents help me to figure out what to do about it.
- S4. My parents explain the reasons for our family rules.
- \*S5. My parents expect me to follow our family rules.
- \*\*S6. My parents show me how to do things for myself.
- \*\*S7. My parents keep their promises.
- \*\*S8. When my parents tell me they'll do something, I know they will do it.

Chaos

- Ch1. When my parents make a promise, I don't know if they will keep it.
- Ch2. When my parents say they will do something, sometimes they don't really do it.
- Ch3. My parents keep changing the rules on me.
- Ch4. My parents get mad at me with no warning.
- \*Ch5. When I do something wrong, I never know how my parents will react.
- \*\*Ch6. My parents punish me for no reason.
- \*Ch7. A lot of times, I don't know where my parents are.
- \*Ch8. I never know what my parents will do next.

Autonomy Support

- A1. My parents trust me.
- A2. My parents accept me for myself.
- A3. My parents let me do the things I think are important.
- A4. My parents try to understand my point of view.
- \*A5. When my parents ask me to do something, they explain why.

(continued)

## APPENDIX B (Continued)

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- \*\*A6. My parents encourage me to be true to myself.  
\*\*A7. My parents expect me to say what I think.  
\*\*A8. My parents want to know what I think about how we should do things.

## Coercion

- Co1. My parents are always telling me what to do.  
Co2. My parents boss me.  
Co3. My parents think there is only one right way to do things—their way.  
Co4. My parents say “no” to everything.  
\*Co5. The only reason my parents give is “Because I said so.”  
\*Co6. I’m not allowed to disagree with my parents.  
\*\*Co7. My parents try to control everything I do.  
\*\*Co8. My parents think that they know best about everything.
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Note. Adapted from an earlier version of Parents as Social Context Questionnaire (Skinner, Regan, & Wellborn, 1986). Responses ranged from Not at all true (1) to Very true (4). An asterisk indicates items that were dropped from the final version due to low factor loadings. A double asterisk indicates items that were dropped due to maximize among positive or among negative factors.

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