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Parental Support, Psychological Control, and Behavioral Control:

Assessing Relevance Across Time, Method, and Culture

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Introduction

The fundamental goals of the research reported in this monograph were to provide more precision and more definitiveness to understanding the role of parents in the development of their children. The greater precision was achieved by testing a conceptual framework that asserted unique or specialized associations between relevant parenting dimensions and key domains of child functioning. The hypothesized pathways of this framework were derived from the substantial empirical and theoretical literatures demonstrating links between parenting and child development. These literatures were interpreted to be compelling enough to recommend a move toward greater precision in understanding these associations, as well as to recommend the specific hypothesized pathways of the model.

The increased definitiveness was achieved by systematically testing the model parameters in a variety of ways. Thus, the validity of the findings of the study was based on evidence of patterns of findings across multiple different types of tests, analytical strategies, and samples. Specifically, the model was tested: (1) cross-sectionally on three consecutive waves of data from the same sample of children as they progressed through the years of pubertal development and school transitions; (2) for key sample subgroups based on age, sex of child, sex of parent, and religious affiliation of the family; (3) for linear, non-linear and interactive properties of the hypothesized pathways; (4) using standard structural equation modeling that seeks to identify the unique contribution of predictive variables once controlling for shared variance among independent and dependent constructs; (4) also using dominance analysis which specifically includes both the shared and non-shared variance among predictors in determining the overall predominance of one parenting construct over the others in predicting each criterion variable; (5)

longitudinally, looking at both simple change over time and residual change over time, the latter controlling for prior levels of both parenting and child variables and assessing child effects on the parenting variables, and (6) in cross-sectional data in 11 nations/ethnic groups that varied strategically by language, level of economic development, individualistic versus collectivist cultural orientations, political stability, religious affiliation, and family size.

Before proceeding to describe the model and its hypothesized pathways, it is important to ground the selection of the model's variables. Several criteria were used in choosing the aspects of parenting and child functioning to be tested. Because a major goal of the study was to provide specificity and confidence in associations among already recognized constructs, the most important of these selection criteria – particularly for the choice of the parenting variables – was to assure that the selection was justified as a adequate representation of the voluminous work that has been conducted over the past three-quarters of a century on the parent-child relationship. At the outset this task seems daunting given the sheer quantity of studies and the inevitable conceptual incompatibility that emerges when scholars from many different disciplines study the same interpersonal dyads but use different terminology and conceive or operationalize parenting at different levels of abstraction or generality.

Fortunately, however, navigating this conceptual and empirical terrain is rendered much easier both because many past scholars have sought to identify central or general aspects of the "gross anatomy" (Becker, 1964) of parenting and because there has been substantial consensus across time and method in the molar dimensions they have found.

Since the beginning of empirical efforts to understand the parent-child relationship, scholars have consistently organized, theoretically and empirically, the variety of behaviors parents engage in with their children into parenting frameworks. Although not comprehensive in covering all aspects of parenting that might be related to a child's development, these frameworks have contained a limited number of aspects of parenting that have been intended to capture much of the essence of what parents do that matters in interaction with their children. These frameworks of the "gross anatomy" of parenting (Becker, 1964: 172) – variously referred to as syndromes, dimensions, molar dimensions, factors, clusters, styles, or typologies, etc., depending on the level of generality used in conceptualizing the framework– have almost invariably invoked two fundamental components of parenting: (1) a supportive component, defined by an assortment of affective, nurturant types of parental behavior, and (2) a controlling component, defined by a range of regulating, disciplinary behaviors, which, in some frameworks, has been further organized by whether or not the regulation is exercised with sensitivity or responsiveness to the self or autonomy of the child being controlled. A brief, chronological sketch will help illustrate this commonality in understanding parenting.

One of the earliest parenting frameworks emerged from Baldwin's (1947) analysis of . . . . .. He discerned three syndromes: control, democracy, and activity. . . . . .In reviewing the literature then available, Becker's (1964) in turn favored three aspects he labeled "love versus hostility", "restrictiveness versus permissiveness", and "anxious emotional involvement versus calm detachment". Close both in time and conceptualization to Becker's assessment, Schaefer (1965a, 1965b) cluster analyzed extensive lists of psychologists' rating of parenting behavior and

identified three dimensions he labeled “acceptance versus rejection”, “psychological control versus psychological autonomy”, and “firm control versus lax control”.

Building on the conceptualizations of both Becker and Schaefer, in the 1960s, Baumrind began interviewing parents and analyzing videotaped control sequences in which either parent or child attempted to influence the other. Her early reports (e.g., Baumrind & Black, 1967) identified 6-8 (depending on the specific parent-child dyad being studied) “clusters” of parenting she labeled “warmth” . . . . . These and other clusters of parenting behaviors later defined the

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In the 1960s, Earl Schaefer published two articles describing his methodical attempt to dimensionalize parental behaviors (Schaefer, 1965a, 1965b). His Children’s Report of Parent Behavior Inventory (CRPBI) was one of the earliest formalized frameworks for understanding parenting and it has become one of the most durable models and set of measures. Schaefer’s circumplex analysis of children’s reports of numerous discrete components of parent behavior resulted in three dimensions: (1) Acceptance versus Rejection, (2) Psychological Autonomy versus Psychological Control, and (3) Firm Control versus Lax Control. Factor analysis indicated that the Acceptance versus Rejection factor consisted of parenting characterized at the positive pole by sharing, expression of affection, positive evaluation, etc., and at the negative pole by ignoring, neglect and rejection. The defining scales included all of the scales that were defined to measure a dimension of Love versus Hostility. Schaefer (1965b) noted that the negative pole loadings indicated that the factor revealed a more detached, less-involved type of hostility.

Scales that exclusively defined the Psychological Autonomy versus Psychological Control factor were intrusiveness, parental direction, and control through guilt, with the

following scales also loading significantly – but with cross-loadings on the other two central factors: possessiveness, protectiveness, nagging, negative evaluation, strictness and punishment. Schaefer (1965b: 555) justified the label for this factor by noting that "the defining scales describe covert, psychological methods of controlling the child's activities and behaviors that would not permit the child to develop as an individual apart from the parent." Given the exclusive loading of psychologically controlling scales on this factor, it is not clear why Schaefer chose to introduce the label for this factor with the construct of psychological autonomy instead of psychological control, except, perhaps, to suggest that the intrusive and constraining control that made up the factor in effect violated such autonomy.

The Firm Control versus Lax Control dimension was defined by scales measuring lax discipline and extreme autonomy at one pole and punishment and strictness at the opposite pole. Schaefer (1965b: 555) offered that this dimension "indicates the degree to which the parent makes rules and regulations, sets limits to the child's activities, and enforces these rules and limits."

The CRPBI, which was introduced and refined in these publications, became, and remains, one of the most frequently used child and adolescent self-report measures of parenting. The original CRPBI had 260 items. It has been shortened subsequently several times, with the most recent and shortest version containing just 30 items, 10 devoted to each of the three original dimensions (Schludermann & Schludermann, 1988, personal communication; to our knowledge there is no published reference for this version).

These central dimensions of parenting have been studied regularly since the 1960s (either by way of the CRPBI or other instruments and methodologies), by Schaefer, his colleagues, and

many other scholars (e.g. . . . .). Although attention to these (or other) dimensions of parenting declined for a few decades in favor of typological approaches to parenting (e.g., Baumrind, 1967, 1971, 1991), interest in distinguishing dimensions of parenting behavior has re-emerged (e.g., Barber, 1996, 1997; Gray & Steinberg, 1999; Steinberg, 1990; Steinberg, Elmen, & Mounts, 1989; see Darling & Steinberg, 1993 for a review of dimensional and typological approaches to parenting).

This re-emergence has occurred in part as a way of more precisely understanding the authoritative parenting typology which is widely considered to be composed of these same dimensions of parenting (e.g., Avenevoli, ... ; Baumrind, 1967, 1971, 1991; Dornbusch . . . ; Steinberg . . .;). With the exception of academic performance for which authoritative parenting has been found not to be predictive for some U.S. ethnic groups, (see Chao, 2001, for a review), authoritative parenting has been found to have ubiquitous associations with child and adolescent development (e.g., Avenevoli, ... ;). The re-emergence in these basic dimensions of parenting has been characterized, in particular, by a dramatic increase in the specific study of psychological control since 1990 (see Barber, 2002a, for a review).

In short, these three dimensions of perceived parental behavior popularized in the 1960s remain today as central dimensions of parenting. As others have, we use slightly different labels in this study than Schaefer's original rendering. We use parental support because acceptance appears to be just one of several parallel conceptualizations (e.g., nurturance, warmth, affection, etc.) of a broader construct of perceived or observed parental behaviors that appear, individually and collectively, to support child and adolescent psychosocial development (see Rollins & Thomas, 1979 for a detailed justification of this labeling). We use psychological control and

behavioral control because these labels better communicate the meaningful distinction between parental control of the child's/adolescent's psychological world and control of child/adolescent behavior apparent in Schaefer's original work (Schaefer, 1965a, 1965b) and in more recent work (e.g., Barber, 1992, 1996, 2002b; Steinberg, 1990; Steinberg et al., 1989).

Literatures documenting the correlates of these dimensions of parenting are rich and accessible (e.g., Barber & Harmon, 2002 ; Darling & Steinberg, 1993; Maccoby & Martin, 1983; Martin, 1974; Rohner, 1986; Peterson & Hann, 1999; Peterson & Rollins, 1987; Rollins & Thomas, 1979). Thus, there is no need to thoroughly review them here. Instead, this study addressed three areas where the long-standing literature base can be refined and advanced. First, despite an abundance of evidence of significant child and adolescent correlates of these dimensions of parenting, theorizing about the dimensions has not included an attempt to specify their effects on children or adolescents. Thus, it has not been clear if these dimensions of parenting have essentially redundant effects (i.e., related to the same areas of child development) or unique/specialized effects (i.e., each dimension correlated with specific areas of development). The conceptual framework tested in the present study will be outlined in detail in Chapter 2 of this monograph. In essence, it advances a theoretical model of specialized effects that linked (a) parental support to adolescent social competence, (b) parental psychological control to adolescent mental health (deficits), and (c) parental behavioral control to adolescent conformity. Although interpersonal relations between parents and their children are clearly more complex – even when just considering these six elements of the relation – than the three proposed specialized paths, the framework is a reasonable starting place for more clearly

understanding how and why experience with a parent along these commonly studied dimensions is either facilitative, inhibitive, or unrelated, to child development.

The Conceptual Framework

The work on these three dimensions of parenting has adequately demonstrated that the three variables are independent enough to consider separately, at least from an empirical standpoint (e.g, factor analytic independence, correlations not high enough to infer lack of independence, etc.). Another evidence for the utility of distinguishing these forms of parenting (i.e., not aggregating them) would be a demonstration that the parenting dimensions had distinct associations with specific forms of child or adolescent functioning. Some brief speculations about how such specialized effects might look have been advanced – either for the full set of three parenting behaviors (Barber, 1997; Steinberg, 1990), or for the two control variables (Barber, 1996; Barber et al., 1994) – but these notions have not been thoroughly tested.

Building on that work, we advanced here an introductory attempt to theorize about the potentially specialized associations of these parenting dimensions with specific forms of adolescent psychosocial functioning. The goal was to test the independent (i.e., unique effects above and beyond common or shared effects) value of these parenting dimensions, the results of which should, once validated on this and other data sets and methodologies, assist in advancing theory and assist in programming, policy, and intervention efforts. At the outset, we acknowledge that a fully specialized model (e.g., each parenting dimension only related to one adolescent characteristic) is simplistic based on the reality that there are reciprocal relationships among parenting behaviors. Yet, for scientific purposes, it is useful to begin with concrete, specific hypotheses that can be revised with the benefit of systematic analyses.

The initial theoretical model we tested in this study is depicted in Figure 1. Essentially, it posited unique relationships as follows: (a) parental supportive behavior would be uniquely related (positively) to youth interpersonal competence, as measured specifically by the extent to which youth initiate interactions and relationships with peers and adults; (b) parental psychological control would have a specific association (positively) with lower levels of mental health, in this case measured by youth reports of depression; and (c) parental behavioral control will be uniquely (negatively) related to non-conformity, in this case measured by youth antisocial behavior. These hypothesized links are briefly explained and justified below.

-----insert Figure 1 about here-----

A specialized model like this — which asserts that a given parenting variable is related either exclusively or predominantly to a specific form of child functioning in contrast to other forms of functioning — is difficult to justify with existing empirical work. This is so because few studies have adequately accounted for the covariation both among parenting variables and among outcome variables. As an example, there is plenty of empirical evidence to show that parental behavioral control is predictive of (protective against) youth antisocial behavior. However, there are also many studies that show that parental support is negatively related to antisocial behavior, a finding that is contrary to the specialized association between parental support and social initiative advanced here. Yet without adequately modeling the covariation between parental behavioral control and support, one does not know if the link between support and antisocial behavior actually reflects substantive, unique associations between these constructs, or whether the link reflects the overlap between support and behavioral control that is

not partialed out. The same logic applies to the dependent variables, at least two of which, antisocial behavior and depression, are typically highly correlated.

It is difficult also to justify a specialized model with empirical work stemming from typological approaches to parenting. Because parenting dimensions are combined in that approach, it is not possible to determine any independent effectiveness of the typology's components. Thus, successful testing of specialized models like this depends importantly on adequate model specification, which includes the simultaneous, but not aggregated, inclusion of all of the model variables.

Parental Support and Social Initiative in Children

We are aware of no research that calls into question the well-documented, ubiquitous association between parental supportive behaviors and numerous forms of child and adolescent functioning. When measured out of the context of other parenting variables, support can be found to be related to a broad array of positive conditions in children (e.g., cognitive development, creativity, conformity, internal locus of control, moral behavior, self-esteem, instrumental social competence, etc.; see Maccoby & Martin, 1983, and Rollins & Thomas, 1979 for reviews). There is also evidence for the cross-cultural salience of this association (e.g., see Rohner, 1986). The question remains, however, are there specific forms of child or adolescent functioning for which parental support is most influential? When tested in the context of specific forms of parental control, we hypothesized that the effects of support would be more precisely defined, and that, specifically, support would be associated particularly with interpersonal confidence and competence.

An important source of justification for the social consequences of parental support comes from work on parent-child attachment (e.g., Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; Sroufe & Fleeson, 1986). Securely attached children — who are distinguished from other children primarily on the basis of the level of parental support they experience — are different from non-securely attached children most notably in the level and quality of their sociability. That research has demonstrated that, compared to other children, securely attached children have more friends, are more empathic, more popular, inclined to approach others and respond to them with more positive affect, and to be more self-confident and more cooperative.

This link between parental support and sociability in children can be justified by at least three (not mutually exclusive) theoretical standpoints. First, most closely related to the attachment findings is the notion of internal working models advanced by attachment theorists, whereby relationships are viewed as wholes (not mere aggregates of parent and child characteristics) that have continuity and coherence over time and that are carried forward to other close relationships (Sroufe & Fleeson, 1986). Thus children with supportive parents learn a supportive relationship style that they employ with others. **[comment on soc initiative paper Barber & Erickson, 2001]**

Similarly, although less process (relationship) oriented, social learning theory stipulates the same link. Many measures of parental support index specific social behaviors that are directed toward the child (e.g., smiling, praising, spending time with, comforting, talking, etc.), all of which, together or individually, could serve as a guiding model of social interaction that a child would naturally imitate as he or she approaches relationships with peers and adults outside

the family. In essence, children learn from their parent's example how to behave in social interaction.

Finally, symbolic interaction theory offers another plausible explanation for the link between parental support and sociability in children (see Rollins & Thomas, 1979 and Stryker & Stratham, 1985 for discussion and review). Specifically, concepts of reflected appraisals and the "looking-glass self" (Cooley, 1902; Mead, 1934) are useful in advancing the explanation that children utilize parental behaviors as symbols of the child's worth and competence, as well as evidence that relationships with important partners are trustworthy. Thus, children who are consistently nurtured and supported learn to believe that they are trusted, competent, and effective, and, therefore, are more confident in engaging themselves with significant others in their social environment.

Parental Control

The recent distinctions made between parental behavioral and psychological control appear to be promising in resolving some of the complexity and confusion surrounding parental control and its associations with child development. Although not analyzed sufficiently, references to parental control that address children's behavior versus their psychological world have been consistently implied in most of the major work on parent-child socialization. In making this distinction explicit, the recent work has lead naturally to attempts to identify specialized effects of these forms of control. Detailed attention to this can be found in Barber (1996) and Barber et al. (1994) and will be reviewed only briefly here. That work was undertaken, however, without attention to parental support (except for a post-hoc analysis in the 1994 paper), and consistent with our contention that better information comes from models that

are more comprehensive in their specification, it is important to validate the findings of both behavioral and psychological control when considering their covariation with parental support. Much other work has also validated the distinction between psychological and behavioral control (e.g., Eccles, Early, Fraser, Belansky, & McCarthy, 1997; Gray & Steinberg, 1999; Hermann, Dornbusch & Hertig, 1997; Pettit & Laird, 2002).

Psychological Control and Mental Health

Psychological control refers to parental control that intrudes on the psychological and emotional development of the child (e.g., invalidating feelings, constraining verbal expression, love withdrawal, guilt induction, etc.). Until recently, the construct, which first surfaced in the 1960s (Schaefer, 1965a, 1965b), was not employed often (Barber, 2002b), although references to similar ideas have consistently informed socialization research (e.g., Baumrind, 1971, 1991; Hauser, 1991). It is easy to argue theoretically and from the empirical literature that this form of intrusive parental behavior is linked particularly to internalized forms of youth difficulty (e.g., depression, withdrawal, loneliness, eating disorders, etc.; Barber, 1992; 1996). A psychologically controlling environment

> "makes it difficult for a child to develop a healthy awareness and perception of self for several reasons: the implied derogation of the child, the lack of healthy interaction with others that is required for adequate self-definition (Youniss & Smollar, 1985), limited opportunities to develop a sense of personal efficacy (Seligman & Peterson, 1986), and, particularly for adolescents, interference with

> the exploration needed to establish a stable identity (Erikson, 1968; Marcia, 1980)." (Barber, 1996:11)

The work testing this association in the context of other forms of control and youth functioning clearly supports the link of psychological control to internalized problems. Some of the work, however, also shows a link to externalized problems (Barber, 1996; Conger, Conger, & Scaramella, 1997; Eccles et al., 1997; Gray & Steinberg, 1999; Herman et al., 1997), indicating that some children may also act out in response to this intrusive environment, or that a given child may manifest both internalized and externalized problem behaviors.

Behavioral Control and Youth Antisocial Behavior

Not unlike the consistency shown for the effects of parental support, there is well-established validation for the salience of parental control of children's behavior. Conceptual labels vary from parental supervision (e.g., Coley & Hoffman, 1996; McCord, 1979; Kurdek & Fine, 1995) to family management (e.g., Dishion, 1990; Patterson & Stouthamer-Loeber, 1984; Snyder, Dishion, & Patterson, 1986) to parental monitoring (e.g., Barber, 1996; Barber et al., 1994; Brown, Mounts, Lamborn, & Steinberg, 1993; Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; Steinberg, 1986; Steinberg, Fletcher, & Darling, 1994) to demandingness (Baumrind, 1991; Maccoby & Martin, 1983). Taken together, these and many other studies establish clearly that the imposition of a regulating structure on children's behavior has consistent, and often strong, associations with children's conformity and social competence (Barber, 1997).

The absence of such control is particularly predictive of undercontrolled or externalized behavior patterns of youth characteristic of antisocial behavior. This link can be explained in at

least two ways: (1) that parental control facilitates the self-regulation children need to inhibit disruptive behavior and engage in socially approved behavior (Maccoby & Martin, 1983), and (2) that unsupervised children are more likely to be influenced by peers, some of whom may encourage risk-taking and deviant behavior. The protective influence of behavioral control against antisocial behavior of adolescents, in part through impacting relations with peers, has been highlighted in numerous theories, including coercion theory (Patterson, 1983), differential association theory (Sutherland & Cressey, 1966), interaction theory (Thornberry, 1987), and power-control theory (Hagan, Simpson, & Gillis, 1987).

In sum, we began this initial attempt to clarify the independent nature of the three long-established parenting dimensions by positing that, once tested simultaneously in the same model: parental support would be specifically linked to youth social competence; parental psychological control would be linked to deficits in mental health of youth; and that parental behavioral control would be linked to lower levels of non-conformity in youth.

Methodology

Sample

Data came from the NIMH-funded Ogden Youth and Family Project, a longitudinal study of families with adolescents in Ogden, Utah. The baseline sample was a random sample of fifth- and eighth-grade classrooms in the Ogden City School District in 1994. This sample of classrooms was stratified so as to appropriately represent the percentage (15%) of Hispanic children in the school system. The sample consisted of 933 students. It was split equally between male and female students and grade (5^{th} and 8^{th} grade), and was 71% White (16% Hispanic), 84% middle income, and 46% Mormon. In the first year, an extensive self-report survey of

family interaction, personality, youth behavior, and peer, school, and neighborhood experiences was administered to the students in classrooms. Subsequent waves of the survey were done by multiple mailings to the students' homes. Both 5th and 8th grade cohorts were followed for 4 subsequent years until 1997. The participation rate in the first year (in-class assessment) was over 90%. No follow-up was done of absentees. Multiple mailings following standard mail survey methodology (Dillman, 1978) were employed to maximize response rates in the subsequent years of data collection. Response rates for years 2-4 averaged 80%. Analyses revealed that respondents and non-respondents differed significantly only by way of a slightly higher percentage of Mormons represented among the respondents.

Measures

The same scales were used to measure the constructs of interest to this study in every year, with the exception that no measure of social initiative was available Year 1. Therefore, the study did not include analysis of the full model in Year 1.

Parental Support. Parental support was measured using the 10-item Acceptance subscale from the revised Child Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965; Schuldermann & Schludermann, 1988, personal communication). Subjects responded on a 3-point Likert-type scale from 1 "not like her (him)" to 3 "a lot like her (him)" as to how well items described their mothers and fathers. Items are:

1. makes me feel better after talking over my worries with her/him.
2. smiles at me very often.
3. is able to make me feel better when I am upset.
4. enjoys doing things with me.

5. cheers me up when I am sad.
6. gives me a lot of care and attention.
7. makes me feel like the most important person in her/his life.
8. believes in showing her/his love for me.
9. often praises me.
10. is easy to talk to .

Parental Psychological Control. Psychological control was measured by the 8-item Psychological Control Scale-Youth Self-Report (PCS-YSR; Barber, 1996). This scale resulted from an analysis of the 10-items from the psychological control/psychological autonomy subscale of the most recent revision of the CRPBI, combined with another set of items written to more adequately tap the hypothesized dimensions of parental psychological control (Barber, 1996). The resulting 8-item scale retains three of the original CRPBI items and five of the newly written items. Subjects responded on a 3-point Likert-type scale from 1 "not like her (him)" to 3 "a lot like her (him)" as to how well items described their mothers and fathers. Items are:

1. is always trying to change how I feel or think about things.
2. changes the subject whenever I have something to say.
3. often interrupts me.
4. blames me for other family members' problems.
5. brings up past mistakes when s/he criticizes me.
6. is less friendly with me if I do not see things her/his way.
7. will avoid looking at me when I have disappointed her/him.
8. if I have hurt her/his feelings, stops talking to me until I please her/him again."

Parental Behavioral Control. Exploratory analyses of these data have demonstrated that the 10-item firm control/lax control subscale from the most recent revision of the CRPBI has inadequate internal consistency and therefore could not be used as a measure of behavioral control. Instead, we opted for a 5-item scale often used in family research with adolescents (e.g., Barber, 1996; Brown et al., 1993). This scale has been traditionally referred to as a measure of parental monitoring, but it is more accurately labeled a measure of parental knowledge of youth behavior and activities (Kerr & Stattin, 2000; Stattin & Kerr, 2000). This scale, or scales like it, have been consistently associated with lower levels of antisocial behavior of adolescents (e.g., Barber, 1992, 1996; Dishion, & McMahon, 1998; Gray & Steinberg, 1999; Hagan et al., 1987; Patterson & Stouthamer-Loeber, 1984). That finding accords with social control theories that imply that parental behaviors (e.g., monitoring, supervision, etc.) that likely result in parental knowledge of youth activities serve a regulatory function against non-conforming or risk-taking behaviors of adolescents (e.g., Hirschi, 1969; Thornberry, 1987).

After controlling for the portion of this same variable that was accounted for by youth disclosure to their parents of their activities, the scale retained significant, negative associations with several forms of deviant behavior (Kerr & Stattin, 2000; Stattin & Kerr, 2000 Moreover, other recent work that has utilized this same monitoring/knowledge variable in conjunction with a limit-setting scale (e.g., parents setting curfew hours, monitoring school work, etc) has demonstrated that these two different types of behavioral control function with near identical strength in negatively predicting adolescent externalized behaviors (e.g., longitudinally predicting sexual debut [Barber, Miller, Erickson, & Heaton, 2001]; and adolescent substance use in three racial groups in South Africa [Amoateng, Barber, & Erickson, 2001]).

Students responded on a 3-point Likert-type scale from 1 “doesn't know” to 3 “knows a lot” relative to how much their parents “really know”: a) “where you go at night,” b) “where you are most afternoons after school,” c) “how you spend your money,” d) “what you do with your free time,” and e) “who your friends are.” Higher scores indicated higher levels of monitoring.

Social Initiative. Social initiative by youth was measured with a 13-item scale from the Monitoring the Future Study (Bachman, Johnston, & O’Malley, 1993). Subjects responded on a 5-item Likert-type scale from 1 “never/almost never true” to 5 “very often/always true”. The set of items indexes youth efforts to initiate social interaction with peers and adults outside the home and in groups settings. Items are:

1. I enjoy doing things and talking with peers.
2. I get into conversations with adults (e.g., teachers, staff) at the school.
3. I share feelings and ideas with peers.
4. I actively participate in topic clubs (e.g., political, history, Honor Society).
5. I talk to teachers and staff about things other than class.
6. I actively participate in the school newspaper or yearbook.
7. I help other students who might need assistance (e.g., lost in the building, sick or hurt).
8. I ask questions in class when I don’t understand the material.
9. I actively participate in drama (e.g., school plays) or music (e.g., band).
10. I express liking and caring for my friends.
11. I actively participate in student government.
12. I join in class discussions.

13. I am comfortable joking with teachers and staff.

Depression. Depression was measured using the 10-item version of the Child Depression Inventory (CDI; Kovacs, 1992). Respondents marked one of three sentences for all of the ten items. Items were:

1. I am sad once in a while

   I am sad many times

   I am sad all the time
2. Nothing will ever work out for me

   I am not sure if things will work out for me

   Things will work out for me O.K.
3. I do most things O.K.

   I do many things O.K.

   I do everything wrong
4. I hate myself

   I do not like myself

   I like myself
5. I feel like crying every day

   I feel like crying many days

   I feel like crying once in awhile
6. Things bother me all the time

Things bother me many times

Things bother me once in awhile

7. I look O.K.

   There are some bad things about my looks

   I look ugly

8. I do not feel alone

   I feel alone many times

   I feel alone all the time

9. I have plenty of friends

   I have some friends, but I wish I had more

   I do not have any friends

10. Nobody really loves me

    I am not sure if anybody loves me

    I am sure that somebody loves me

Antisocial Behavior. Antisocial behavior was measured by six items from the Delinquent subscale of the Child Behavior Checklist-Youth Self-Report (Achenbach & Edelbrock, 1987). Response categories ranged from 0 “not true” to 2 “very true or often true”. Items are:

1. I destroy my own things
2. I destroy things belonging to others
3. I disobey at school

4. I hang around with kids who get in trouble
5. I lie or cheat
6. I steal things from places other than home
7. I swear or use dirty language
8. I cut classes or skip school
9. I use alcohol or drugs for non-medical purposes

Results for Cross-Sectional Regression Analyses

Intercorrelations Among Parenting Variables

In Table 1, the structural equation model correlations among the parenting variables are presented. Parental support was correlated significantly with the two parental control variables at a similar magnitude (.50-.60). The correlations between psychological control and behavioral control tended to be somewhat lower (.30-.40), reinforcing the interpretation that these forms of control are different from each other. These correlations among the three parenting dimensions are generally below the range in which substantial concern about colinearity would be warranted.

Structural Associations

In Table 2, the structural coefficients for the model are presented for all of the yearly cross-sectional tests, in every case broken down by age of youth and sex of youth. (We also tested the model separately on Mormon and non-Mormon youth for all years and found no difference in the pattern of findings.) The pattern of findings supported the hypothesized model, i.e., support was significantly related to both social initiative and depression; psychological control was

significantly related to depression and antisocial behavior; and, behavioral control was significantly related to antisocial behavior. Although there were occasional non-significant correlations (indicated by asterisks in the table), there was remarkable consistency across subgroups and years of data. Thus, the hypothesized specialized associations between the parenting dimensions and youth functioning measures held equally well for younger and older adolescents, and for male and female reports of mothers and of fathers. All of these held additionally in each of three consecutive years of assessment, a period that spanned a transition to a new school for all youth and included years in which pubertal development typically occurs.

Results for Linearity Tests

In order to conclude that any one or more of the parenting variables had non-linear effects, we expected to see patterned evidence of such effects. Our criteria for concluding a pattern was: (a) the number of significant non-linear effects exceeded that to be expected by chance (i.e., 5%); (b) that there should be evidence for the same non-linear effect in at least two of the three years of data; and (c) that the same effect should be evident in at least two of the four sub-groups of the sample (males, females, younger older) for either mother or father parenting, since these sub-groups were overlapping in their constituency (e.g., the male and younger subgroups contained some of the same cases, etc.).

There were 13 (6%) significant non-linear effects. See Table 3. None were significant at the .001 level; four were significant at the .01 level, and 9 were significant at the .05 level. This number exceeded by 2 the number of significant effects that would be expected by chance. The 13 significant non-linear effects were scattered across the analyses. Although there were three instances where a significant non-linear effect was discerned for two of the subgroups of the

sample (1995 mother psychological control predicting antisocial behavior for females and older youth; 1996 father behavioral control predicting social initiative for male and younger youth; and 1997 father support predicting depression for male and older youth) each of these effects appeared in only one year of the data. Thus, there appears to be no pattern of non-linearity in these data. To the extent that the few significant effects have meaning, they indicate accelerating (concave upward) effects of parental support and behavioral control, and a decelerating (concave downward) effect of parental psychological control.

Results of Tests for Interactions

Interactions among the parenting dimensions were also assessed via hierarchical multiple regression analyses, and were, again, tested on all subgroups of the data, for each criterion variable, and in all years. This resulted in a total of 288 tests for interaction. The first block of entry included the two alternative criterion variables, followed by z scores for the three parenting variables in the second block, the three possible two-way interactions among the z scores for the three parenting variables in the third block, and, finally, the three-way interaction between the z scores for the three parenting variables in the fourth block. The same criteria used for discerning patterns of non-linear effects were used to determine patterns of interactive effects.

Forty-two interaction terms (15%) were significant: 20 at the .05 level; 17 at the .01 level; and 5 at the .001 level. Thirty-one of these significant effects were for two-way interactions and 11 were for three-way interactions. See Table 4. As was the case for non-linear effects, these interaction effects were scattered across the years of data and the sub-groups of the sample. There was no pattern of 3-way interactions, but there were three cases where a two-way interaction occurred in two of the three years of data and for at least two of the sample

subgroups. These significant interaction effects were broken down using simple slope analysis (Aiken & West, 1991), by which the predictive association between one parenting variable and the criterion variable was calculated for the mean of the interacting variable and at one standard deviation above and below the mean of the interacting variable. These coefficients are presented in Table 5.

Results of Dominance Analysis

In general, dominance results indicate the relative importance, or rank ordering, of predictors based on their overall *explanatory* power, rather than their *predictive* power. Thus, it is possible that a dominance analysis would reveal that a variable is quite important in explaining an outcome, while a multiple regression framework would suggest that it is redundant (non-significant) because it failed to add significant predictive power to the model beyond the other variables considered. Explanation of a given youth outcome is much more important (for both policy and practice) than prediction of the outcome, since an approach that focuses on *explanation* of an outcome identifies all meaningful intervention targets, while a model that optimally *predicts* an outcome often overlooks them.

The results of the dominance analyses offer strong support for differential effects of mothers and fathers in several areas of youth functioning. Mothering (particularly mothers' knowledge/behavioral control) is particularly important in explaining adolescent sons' antisocial behavior. The more sons report that their mother knows who their friends are and where they spend their time and money (the more behavior control they report receiving) the less likely sons are to subsequently engage in antisocial behaviors such as substance use and theft. The dominance of parental knowledge in predicting antisocial behavior is in keeping with findings

from recent effort to disentangle competent parenting and evaluate the relationships of particular parenting dimensions with particular youth outcomes (Omitted et al., 2002). With regard to the dominance of *maternal* knowledge in predicting boys' antisocial behavior, this finding runs contrary to the "dad the disciplinarian" popular image as well as to conservative researchers' insistence that fathers' are uniquely suited to discipline offspring (see Popenoe, 1996). For boys, at least one component of behavioral control – knowledge of sons' activities and friends – appears to be much more powerful when possessed by a mother.

Another differential effect concerns the relationship of parental support with youth social initiative. Father support nearly exclusively dominates all other predictors in explaining both sons' and daughters' social initiative. In other words, the more sons and daughters (of all ages) report feeling supported by their fathers, the more likely they are to show initiative in engaging prosocially outside the home. The linkage between parental support and youth social intitiative is also in keeping with other, recent research demonstrating the specialized nature of this relationship across culture as well as gender and age of youth (Omitted et al., 2002). With regard to the dominance of fathers' support, it is possible that this finding is culture-bound, rather than a reflection of a fundamental underlying process….

Additionally, the results of these analyses suggest that positive mothering (primarily lower levels of psychological control and higher levels of knowledge/behavioral control) tends to be particularly predictive of subsequent lower levels of younger boys' depression, while positive fathering is important in explaining subsequent lower levels of younger girls' depression. While the results do support an interpretation of cross-gendered influence within this younger cohort, it is interesting that no particular fathering construct consistently dominates across waves in

explaining girls' subsequent depression. Rather, fathers' support, knowledge, and respect for psychological autonomy all appear to be relatively important in predicting lower levels of girls' depression in 6th and 7th grades. As these youth transition to 8th grade, the cross-gendered influence on depression remains, but both maternal knowledge (in the boys' model) and paternal knowledge (in the girls' model) drop to the position of least important predictor (6th out of 6), while both maternal psychological control (in the boys' model) and paternal psychological control (in the girls' model) dominate (i.e. are ranked 1st in) the explanation of depression .

Longitudinal Analyses

Perhaps the most significant limitation of parent socialization research is the relative lack of longitudinal evidence for the "effects" of parenting on child and youth development. For, whereas it is not straightforward to conceive of non-linear or interactive effects of parenting as discussed above, it is easy to expect – as is so often acknowledged in closing caveats of cross-sectional studies – that the found associations between parenting and development could just as well be indicating parental response to child behaviors as the more commonly inferred direction of effect leading from parenting to child functioning.

Latent Change Analysis

Results of these analyses are reported in Table 6. The most consistent effects were for the one year lags. These were generally significant, whereas the two year lag effects were not generally significant. This pattern held generally for all groups. Thus, the findings indicated that the expected associations between the parenting variables and the youth functioning variables were discernable across a one-year time lag, but less so across a two year time lag.

Multi-Wave Longitudinal Panel Analysis

To more strenuously test the longitudinal properties of the model, we also conducted a series of multi-wave longitudinal panel analyses. Whereas the latent change analysis just described tested simple change across time, the panel analyses residualized change, controlling for prior levels of parenting and child functioning variables. The four annual years of data on parenting and the three annual years of data on the child functioning variables made this a particularly demanding test as it permitted a view to the hypothesized patterns after (1) controlling for stability across time in both parenting and child variables, (2) modeling the effects of the child variables on subsequent parenting variables (T2 to T3), and (3) the assessment of effects of the parenting variables on the child variables across three separate longitudinal segments (i.e., T1 to T2, T3 to T4, and T1-T4).

Stability Effects. . . . the stability coefficients for the parenting and youth functioning variables were all significant and ranged from .17 up to .50. Most of the coefficients were between .30 and .45. Although statistically significant, the relatively low levels of these correlations indicate that neither parenting nor youth functioning are mostly stable, but that there are other factors that determine the level of both types of variables in any given year.

Child effects. These values varied significantly by type of youth functioning variables. In only 4 of 24 cases (three parenting variables x 8 sample subgroups) did social initiative in 1995 predict parenting in 1996. Earlier social initiative predicted higher parental support the following year in two cases (older youth reporting on mother and father support) and higher behavioral control the following year also in two cases (males and older youth reporting on father behavioral control). Earlier social initiative did not predict later parental psychological control in any case.

Earlier depression predicted later parenting in 8 of 24 cases. Seven of these were for predicting later, higher levels of maternal and paternal psychological control. In one case (males reporting on mothers), earlier depression predicted later, lower levels of parental support.

Earlier antisocial behavior predicted later parenting in 16 of 24 cases. In 7 of 8 cases, earlier antisocial behavior predicted later and lower levels of parental behavioral control. In 4 of 8 cases, earlier antisocial behavior predicted later and higher levels of parental psychological control. And, in 5 of 8 cases, earlier antisocial behavior predicted later and lower levels of parental support.

Parent effects. Overall, for the T1-T2 lag, 29 of 40 (73%) coefficients were significant. The pattern of these findings support the originally hypothesized "purely" specialized model. Specifically, the link between parental support and social initiative was significant 7 of 8 times; the link between parental support and depression 3 of 8 times; the link between parental psychological control and depression 8/8 times; the link between parental psychological control and antisocial behavior 5 of 8 times; and the link between parental behavioral control and antisocial behavior 7 of 8 times.

Overall, for the T3-T4 lag, 9 of 40 (23%) coefficients were significant. This lower overall number likely reflects the fact that for the T1-T2 lag where 3 times as many paths were significant, prior parenting was not controlled, whereas for the T3-T4 lag, T1 parenting was controlled. Again, when significant, the pattern supported the hypothesized model. Of the 9 significant T3-T4 paths, 7 were for the link between parental support and youth social initiative. The remaining two were for the link between parental psychological control and youth depression.

Overall, for the T1-T4 lag, which controlled for both T2 parenting and T3 youth outcomes, also 9 of 40 paths were significant. Four of these were for the link between parental psychological control and youth depression (3 of which were for father psychological control). The remaining 4 significant paths were scattered: one for the link between parental support and social initiative; one for the link between parental support and depression; two for the link between psychological control and antisocial behavior; and one for the link between behavioral control and antisocial behavior.

Methodology for Cross-National Replications

Samples

The sampling frames for C-NAP samples were school-going adolescents in urban centers. This was consistent with the U.S. project that specifically explored the specialized effects of the parenting variables which C-NAP was designed to extend (Barber et al., 2002). A native, local colleague (typically a university professor) obtained permission from schools to conduct the survey. Schools and classrooms were chosen to represent as much diversity (e.g., social class, ethnicity) as existed in the particular metropolitan area. Students were surveyed in classroom groups. All students attending class on the day of survey administration participated in the survey. No attempt was made to include students who happened to have been absent on the survey days. The survey took between 30 and 90 minutes to complete, varying in duration non-systematically across sites.

The survey used in the U.S. study was back-translated into the native language for all non-English speaking samples (with the exception of India where the language of instruction was English) after having been carefully checked for cultural relevance by the native collaborator. No major content modifications of the survey were required, indicating further evidence for the general salience of the variables across cultures. The target sample size was 1,000 adolescents, split equally by males and females. Because of the presence of three major ethnic groups in South Africa, smaller samples of each group were surveyed.

Results of Cross-National Replications

Structural Equation Analyses

see Table 3.

- all hypothesized paths are significant in all cultures
- all hypothesized paths are in the same direction in all cultures
- estimating additional paths improved the fit in SA Coloured, Bosnia, Germany, Gaza and US White
- in all of these cases, except Germany, the additional path of support to antisocial behavior (negative) was significant
- for Bosnia and Germany, the additional path of behavioral control to social initiative (positive) was significant
- for Gaza, the additional path of behavioral control to depression (positive) was significant

Table 1. Correlations Among Latent Parenting Variables, by Year, Sex of Youth, Age of Youth, and Sex of Parent

	1995	1996	1997	Mean
Support with Psychological Control				
Mother Parenting				-.59
Males	-.46	-.48	-.45	
Females	-.77	-.68	-.60	
Younger	-.57	-.61	-.57	
Older	-.63	-.58	-.63	
Father Parenting				-.53
Males	-.36	-.45	-.40	
Females	-.64	-.68	-.54	
Younger	-.44	-.68	-.52	
Older	-.52	-.52	-.62	
Support with Behavioral Control				
Mother Parenting				.54
Males	.45	.48	.52	
Females	.61	.62	.47	
Younger	.50	.56	.56	
Older	.52	.55	.58	
Father Parenting				.61
Males	.55	.51	.50	
Females	.68	.68	.61	
Younger	.69	.61	.63	
Older	.55	.60	.65	
Psych Control with Behav Control				
Mother Parenting				-.43
Males	-.41	-.21	-.35	
Females	-.58	-.61	-.36	
Younger	-.45	-.45	-.38	
Older	-.50	-.39	-.45	
Father Parenting				-.34
Males	-.30	-.28	-.16	
Females	-.44	-.47	-.33	
Younger	-.35	-.46	-.30	
Older	-.37	-.32	-.34	

Table 7. Significant Longitudinal Stability, Child, and Parent Effects by Sex and Age of Youth and Sex of Parent (standardized SEM coefficients)

Sex of Parent	MOTHERS				FATHERS			
	Males	Females	Young	Old	Males	Female	Young	Old
STABILITY EFFECTS								
Support (T1-T3)	.25***	.36***	.22***	.41***	.33***	.33***	.24***	.44***
Psychological Control (T1-T3)	.24***	.26***	.20**	.31***	.33***	.38***	.31***	.39***
Behavioral Control (T1-T3)	.19**	.22***	.17**	.26***	.33***	.37***	.33***	.36***
Social Initiative (T2-T4)	.32***	.33***	.25***	.45***	.31***	.31***	.27***	.43***
Depression (T2-T4)	.50***	.42***	.44***	.50***	.47***	.38***	.43***	.41***
Antisocial Behavior (T2-T4)	.37****	.29***	.23***	.42***	.40***	.31***	.29***	.41***
CHILD EFFECTS (T2-T3)								
Social Initiative – Support	.11	.08	.08	.14**	.08	.03	-.03	.13*
Social Initiative – Psych Control	.04	-.03	-.03	.02	.07	-.03	-.04	.07
Social Initiative – Behav Control	.10	.04	.07	.08	.15*	.06	.05	.14*
Depression - Support	-.15**	-.05	-.08	-.10	-.05	-.01	-.02	-.05
Depression – Psych Control	.27***	.14*	.19**	.21***	.14*	.14*	.18**	.12
Depression - Behav Control	-.04	-.01	-.07	.01	-.05	.03	-.03	-.01
Antisocial Behavior - Support	-.11	-.23***	-.13*	-.23***	-.07	-.15**	-.09	-.15**
Antisocial Beh - Psych Control	.06	.29***	.12	.25***	.06	.15**	.06	.12*
Antisocial Beh - Behavioral Control	-.24***	-.24***	-.14*	-.32***	-.15*	-.18**	-.02	-.29***
PARENT EFFECTS								
Support – Social Initiative								
T1-T2	.17**	.16**	.20***	.09	.26***	.21***	.25***	.18**
T3-T4	.01	.22***	.12*	.10	.19**	.31***	.28***	.16*
T1-T4	.18***	-.07	.09	.06	.06	-.04	.03	.03
Support – Depression								
T1-T2	-.11	-.12	-.09	-.14*	-.06	-.23***	-.20**	-.13
T3-T4	.11	.00	.05	.07	-.06	-.14	-.14*	-.06
T1-T4	-.02	-.12	-.01	-.12*	-.06	.04	.00	-.04
Psych Control – Depression								
T1-T2	.17**	.23***	.20**	.16**	.22***	.23***	.23***	.22**
T3-T4	.08	.19**	.22***	.04	.05	-.04	.11	-.11
T1-T4	.14**	-.08	.04	.02	.13*	.16*	.05	.20**
Psych Control – Antisocial Beh								
T1-T2	.11	.23***	.23***	.12	.12	.22***	.14*	.23***
T3-T4	.03	.02	.09	-.09	.09	.06	.09	.04
T1-T4	.05	.08	.13*	-.01	.01	.09	.16**	-.04

Behav Control – Antisocial Beh								
T1-T2	-.25***	-.29***	-.17**	-.32***	-.13	-.30***	-.23***	-.19**
T3-T4	-.10	-.08	-.07	-.11	-.06	-.06	.01	-.12
T1-T4	-.08	.01	-.10	.00	-.09	.00	-.16**	.09

Table 2. Cronbach's Alpha for Parenting Variables, by Culture

	Support		Behavioral Control		Psychological Control	
	Mother	Father	Mother	Father	Mother	Father
Africa						
SA Black	.90	.89	.71	.82	.72	.76
SA Coloured	.86	.84	.54	.78	.66	.67
SA White	.90	.90	.78	.83	.76	.77
Asia						
Bangladesh	.81	.82	.61	.71	.59	.57
China	.87	.86	.81	.83	.72	.71
India	.83	.81	.64	.70	.64	.68
Australia						
Australia	.90	.90	.78	.86	.76	.82
Europe						
Bosnia	.86	.86	.79	.85	.72	.72
Germany	.88	.89	.79	.83	.74	.77
Middle-East						
Palestine	.83	.84	.60	.64	.52	.54
North America						
Cheyenne	.89	.88	.82	.88	.83	.76
Utah	.90	.90	.80	.89	.83	.83
South America						
Colombia	.86*	.86*	.75	.83	.65	.63

Notes: * Colombia scale includes only 9 items.

Regression Weights from Structural Equation Analyses by Culture
Unstandardized (and Standardized) Coefficients

	SA Black	SA Coloured	SA White	Bangladesh	China	India	Australia
Connection--Social Initiative	.83***(.27)	1.09***(.27)	.92***(.41)	.48***(.27)	.64***(.33)	.97***(.34)	.72***(.36)
Connection--Depression	-.34***(-.29)	-.37***(-.27)	-.27***(-.31)	-.30***(-.41)	-.28***(-.33)	-.34***(-.33)	-.31***(-.35) -
Psych Control--Depression	.35***(.31)	.38***(.42)	.42***(.40)	.07*(.08)	.13***(.14)	.16***(.17)	.30***(.27)
Psych Control--Antisocial	.34***(.27)	.24*(.20)	.23***(.23)	.10**(.11)	.23***(.28)	.27***(.24)	.24***(.20)
Regulation--Antisocial	-.23***(-.23)	-.24**(-.17)	-.32***(-.39)	-.23***(-.36)	-.19***(-.27)	-.32***(-.29)	-.58***(-.61) -

	unconstrained model	constrained model
Chi-square	349.532	696.241
df	169	265
GFI	.991	.982
AGFI	.968	.961
NFI	.983	.966
RMSEA	.011	.014
AIC	1181.532	1336.241