



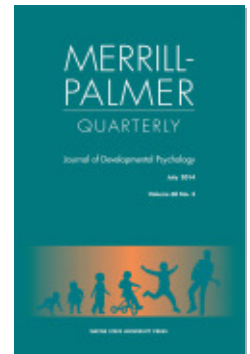
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Parental Provision of Structure: Implementation and Correlates in Three Domains

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This study examined parents' provision of *structure*, defined as the organization of the environment to facilitate competence, and the degree to which it supports versus controls children's autonomy, in the domains of homework and studying, unsupervised time, and responsibilities in a diverse sample of sixth-grade children and their parents. Four components of structure and four components of autonomy support were combined into composites that were independent. Parents provided the most structure and least autonomy support in the unsupervised domain. Structure was associated with several competence outcomes in the unsupervised domain, whereas relations between autonomy support and outcomes were more prevalent in the other domains. Results suggest the importance of differentiating structure and the way it is implemented and considering the meaning of structure within different domains.

Within the parenting literature, there has been some consensus about the parenting dimensions that facilitate children's adjustment. Notably, most conceptualizations include a dimension concerning the allocation of resources to children in the form of time, attention, warmth, and caring. Among other labels, this dimension has been referred to as acceptance (e.g., Schaefer, 1965), warmth (Rohner, 1986), and involvement

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(e.g., Grolnick & Slowiaczek, 1994). Many conceptualizations include a second dimension that concerns the way parents influence or motivate their child. This dimension includes attempts that are domineering, intrusive, or controlling, including constructs such as psychological control (Barber, 1996; Schaefer, 1965) and controllingness (Grolnick, 2003) and, at the other extreme, autonomy supportive or autonomy granting (e.g., Grolnick, 2003; Silk, Morris, Kanaya, & Steinberg, 2003). Researchers have also identified a third dimension of parenting. In particular, many theorists, beginning as early as the 1930s (e.g., Symonds, 1939), acknowledge that beyond being involved and caring and supporting their autonomy, parents must help children become responsible and competent members of their communities by ensuring that the children engage in valued behaviors. Thus, the third dimension has typically concerned parenting that guides children to engage in positive behaviors and refrain from dangerous or objectionable ones. This third dimension has come under many headings, including behavioral control (Barber, 1996) and firm control (e.g., Schaefer, 1965), and includes components such as setting and enforcing rules (e.g., Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994) and monitoring children's whereabouts (e.g., Dishion & McMahon, 1998).

This third parenting construct has been measured in a variety of ways, which has resulted in some confusion within the literature (Grolnick & Pomerantz, 2009). Further, some conceptualizations have not thoroughly disentangled this third dimension from the second dimension, which concerns how controlling (e.g., pressuring, coercive, and psychologically controlling) versus supportive of autonomy parents are. For example, the Child's Report of Parental Behavior Inventory (CRPBI) Firm Control subscale contains items such as "believes in having a lot of rules and sticking with them," but also "is very strict with me," which may include elements of both firmness and controllingness. The independence of these constructs is an issue in the parenting literature because some dimensions such as firm control are positively related to psychological control (e.g., Schwarz, Barton-Henry, & Pruzinsky, 1985), whereas others such as behavioral control are moderately negatively correlated with psychological control (e.g., Barber, Stolz, & Olsen, 2005).

Given the myriad ways this dimension has been conceptualized and measured, it is important to bring this work together to determine what aspects of the third dimension are most useful and in which domains of family life. Thus, in this study, we build on this literature by employing a theoretical view—Self-determination Theory (Deci & Ryan, 1985)—to examine multiple components of this third dimension, which we

conceptualize as *structure*. In addition, we add to existing work on structure by examining not only the quality of structure provided in families but also how structure is implemented—that is, whether in a controlling or an autonomy-supportive manner.

A Self-Determination Theory Perspective on Structure

Self-determination Theory (SDT) posits that individuals have three psychological needs—autonomy, relatedness, and competence—the satisfaction of which is crucial for motivation and well-being. Further, contexts that support satisfaction of these needs facilitate self-regulation and adjustment. In particular, relatedness needs are met through contexts that are warm, caring, and involved. Individuals' autonomy needs are supported through contexts that take their perspectives, encourage self-initiation, and allow joint problem solving. By contrast, controlling contexts pressure individuals toward specific outcomes, solve problems for them, and discount their perspectives and goals. From an SDT perspective, *structure* is defined as the degree to which the environment is organized to facilitate competence. This includes making clear what is expected so that individuals can orient their behavior toward competence and providing predictable consequences for behavior so that individuals can anticipate outcomes. Structured parenting environments give children a sense of how their actions are connected with outcomes (e.g., Grolnick & Ryan, 1989). When parenting environments are unpredictable or chaotic, children may not feel in control of outcomes and are likely to feel ineffective (e.g., Skinner, Johnson, & Snyder, 2005). Thus, parental provision of structure is crucial to helping children develop a sense of control understanding (i.e., a sense of how their actions are related to key outcomes) and perceived competence, which become the basis for competent functioning.

Studies using conceptualizations of the third dimension that are similar to structure have found this dimension to be related to children's adjustment. For example, *behavioral control*, defined as attempts to control or manage children's behavior (Barber, 1996), has been linked to children's decreased externalizing symptoms and higher achievement (Fletcher, Steinberg, & Williams-Wheeler, 2004; Gray & Steinberg, 1999; Wang, Pomerantz, & Chen, 2007). Schaefer (1965) defined *firm versus lax control* as the absence versus presence of permitting extreme independence (e.g., allowing children to do anything they want) and lax discipline (e.g., allowing children to get away with poor behavior). Firm control has been negatively associated with externalizing behavior problems (e.g., Barber, Olsen, & Shagle, 1994). Notably, the concept of firm enforcement, similar

to firm versus lax control, plays a key role in Baumrind's (1966) classic differentiation between authoritative, authoritarian, and permissive parenting types, two of which (authoritarian and authoritative) are high on firm enforcement.

Beyond these more general conceptualizations, aspects of parenting that fit within the rubrics of behavioral control or structure have also been studied. In particular, Patterson and colleagues (e.g., Dishion, Patterson, Stoolmiller & Skinner, 1991; Patterson & Dishion, 1985), in their concept of parental management, and Steinberg and his colleagues (e.g., Steinberg et al., 1994; Steinberg, Lamborn, Dornbusch, & Darling, 1992), using their notion of strictness and supervision, showed that setting and enforcing rules and expectations was associated with lower levels of acting-out behavior and higher perceptions of competence (Gray & Steinberg, 1999). Another key aspect relevant to the third dimension is consistent consequences for action. Such consistency is included in Baumrind's (1966) notion of firm enforcement and has been highlighted in the literature on predictors of delinquency, where consistent discipline is associated with lower levels of acting-out and aggressive behavior (e.g., Hill, Bush, & Roosa, 2003; Patterson & Stouthamer-Loeber, 1984). Another variable receiving attention in the discipline literature is provision of rationales (Grusec & Goodnow, 1994). For example, Baumrind (1966) included "gives reasons with directives" in her concept of authoritative parenting, and Lamborn, Mounts, Steinberg, and Dornbusch (1991) studied whether parents explained why they wanted children to follow a directive. Relatedly, *induction*, whereby parents use explanations or reasoning, has been associated with internalization and prosocial values (Hoffman, 2001). Another aspect under the third dimension is whether parents take a leadership role in the family, including a role in decisions that affect children. Several studies have shown that youth who make key decisions alone without parental input exhibit more behavior problems (Dornbusch, Ritter, Mont-Reynaud, & Chen, 1990; Fletcher et al., 2004) and lower grade point averages (Steinberg et al., 1994).

This work builds on this research by examining four components of structure—clear rules and expectations, predictable consequences, provision of rationales, and authority—that have been found to be important in previous research. Some prior research has examined at least one of these components from an SDT perspective. Grolnick and Ryan (1989) assessed structure through parent interviews measuring clear rules, expectations, and guidelines, as well as *consistency*, defined as parental adherence to rules and expectations. Higher levels of structure were associated with children's greater understanding of control in school and in general.

Grolnick and Wellborn (1988) developed a questionnaire measure of structure assessing clarity of parental expectations and predictability of consequences for violating rules and expectations. Higher structure was associated with lower levels of *maladaptive control beliefs* (i.e., believing that luck or unknown factors determine success or failure) and higher perceived competence. Skinner et al. (2005) also developed a questionnaire that measured structure (vs. chaos). Structure was associated with greater perceived control, engagement in school, and self-worth. Jang, Reeve, and Deci (2010) had coders rate classrooms on three elements of structure: clear directions, a plan of action, and constructive feedback. Ratings were combined to form a structure composite, which was correlated with children's classroom engagement.

Farkas and Grolnick (2010) developed a semistructured interview for children to examine the components of structure in the domain of academics. A total of 75 seventh- and eighth-grade children were interviewed about homework and grades, and coders rated parents on the components of structure. Results indicated that the structure components could be reliably coded, were moderately correlated, and could be combined to form a structure composite that was related to previous questionnaire measures of structure. The structure composite predicted children's academic perceived control, perceived competence, school engagement, and grades above and beyond the effects of other parenting dimensions.

Farkas and Grolnick (2010) provided a promising method for examining structure that demonstrated reliability and validity. However, this initial study had several limitations. First, the sample size was small ($N = 75$), preventing the authors from using factor analyses to examine the components. Second, to measure the other parenting dimensions, including autonomy support, general (i.e., non-domain-specific) questionnaires were used. This limitation prevented the study from determining clearly whether structure and autonomy support could be measured separately, as well as precluded the evaluation of their independent and joint effects within the same domain. Finally, structure was examined in only the academic domain. It is unclear how parents implement structure in other domains in which rules and expectations play a prominent role.

The present study was designed to overcome these limitations and extend our understanding of structure in families. In particular, it (a) involved a larger sample ($N = 160$) so that more complex analyses could be conducted, (b) measured the way structure is implemented (i.e., in a way that is autonomy supportive vs. controlling), and (c) extended the work to two domains in which parents implement structure: unsupervised time and responsibilities.

Implementing Structure: Autonomy Supportive Versus Controlling

From an SDT perspective, structure should facilitate competence. However, structure may be implemented in a highly controlling or a more autonomy-supportive manner. Even when structure is implemented in a controlling manner, children may learn the association between actions and outcomes. However, the manner in which structure is implemented is critical because it affects the extent to which children feel ownership of their behaviors and so benefit fully from their exercise of competent behaviors. That is, children will feel most competent and engage most fully when the context in which structure is implemented supports their autonomy rather than pressuring or controlling them.

The degree to which parents are autonomy supportive versus controlling has been conceptualized in many studies as a key dimension of parenting and typically is measured as it applies to the general parenting environment. In this study, however, we focus specifically on whether *structuring behaviors* (e.g., clear rules and expectations) are implemented in an autonomy-supportive versus controlling manner. Focusing specifically on whether structuring behaviors are implemented in an autonomy-supportive manner, rather than on parental autonomy support in general, allows for a comparison of the importance of these two dimensions within the same content area. One problem with studies examining multiple parenting dimensions is that the dimensions often refer to different areas (e.g., behavioral control during unsupervised time, psychological control in general or academics) (Grolnick & Pomerantz, 2009). Our current conceptualization still posits the importance of three SDT dimensions (involvement, autonomy support, structure), but suggests that they can be measured with respect to particular content (or in general). Thus, one could measure whether parental involvement in children's schooling (e.g., helping with homework) is conducted in an autonomy supportive versus controlling manner. In this study, we examine the extent to which parents implement structure in an autonomy supportive versus controlling manner and heretofore refer to this as *autonomy support*.

We therefore developed a second set of interview questions and ratings that would tap into components of autonomy support that would be especially relevant to structuring behaviors and measured them with respect to the structure components. An extensive literature has noted that autonomy support includes (a) taking children's perspectives, (b) providing empathy when children have to engage in behaviors they do not want to, (c) encouraging discussion and give-and-take, and (d) allowing children to solve their own problems (e.g., Assor, Roth, & Deci, 2004;

Grolnick & Ryan, 1989; Reeve & Jang, 2006). The interview questions thus focused on these four components of autonomy support, each of which was grounded in both the SDT literature and prior work. In particular, based on the literature describing autonomy support as including taking children's perspectives, encouraging give-and-take, and allowing children to solve their own problems, we identified components that would be especially relevant to provision of rules and expectations but fit with these overall concepts. The first component, *jointly established rules*, concerned whether rules and expectations were dictated by parents or constructed with the input and opinions of children. This component is related to joint decision making (e.g., Dornbusch et al., 1990; Fletcher et al., 2004), though it concerns rules and expectations more specifically. The second, *open exchange*, is the degree to which there is open communication about rules and expectations, including allowing criticism (Assor, Kaplan, & Roth, 2002) and responsiveness to questions and comments (Reeve & Jang, 2006). *Empathy*, the third component, consists of caregivers acknowledging and accepting feelings and communicating an understanding of another's perspective. Empathy is a key feature of autonomy support (Koestner, Ryan, Bernieri, & Holt, 1984; Reeve & Jang, 2006), especially for those activities that are not inherently interesting or motivating (Deci, Eghrari, Patrick, & Leone, 1994), which activities necessitating structure tend to be. The fourth component, *choice*, long regarded as a key aspect of autonomy support, has been linked to enhanced interest, persistence, and perceived competence (Zuckerman, Porac, Lathin, Smith, & Deci, 1978). Importantly, choice here is not choice about whether to follow the rule/expectation, but about how one does so (e.g., the rule is to do homework before dinner, but the child can choose whether to start right after school or use the computer first).

Domains

In this study, structure is examined in three domains: academics, unsupervised time, and responsibilities. *Academics* was chosen because it is a key domain of competence for children, and Farkas and Grolnick (2010) showed that structure in this domain had important effects. *Unsupervised time* was chosen because most of the literature on the third parenting dimension focuses on this domain (e.g., setting a curfew or requiring that children let parents know where they are). The final domain, *responsibilities*, was identified through pilot work indicating that this is the domain in which parents most frequently set rules and expectations.

Home responsibilities include responsibilities to the family, such as chores (e.g., helping with the dishes or doing laundry), as well as to oneself (e.g., brushing teeth or going to bed on time). It has been argued that, through household responsibilities, children learn responsibility for the family and themselves (Goodnow, 1988). We chose to focus on sixth graders in our study because, at this developmental point, children are likely to have a significant amount of homework, to have chores and other responsibilities, and to have some unsupervised time (e.g., walking to school or playing outside). However, at this point, children are still monitored, at least distally, by parents, so rules and expectations play an important everyday role.

There is evidence that structure in the domain of academics is related to motivational outcomes linked to competence, including perceived competence, and perceived control (Farkas & Grolnick, 2010). Though not specific to structure, autonomy support in general has been linked to children's academic perceived competence, perceived control, and achievement (e.g., Grolnick & Ryan, 1989; Soenens & Vansteenkiste, 2005). Thus, we expected both structure and autonomy support to be related to motivational outcomes within the academic domain. Rules and expectations about where children are and what they are doing have been linked to lower levels of problem behavior and norm breaking (Kerr, Stattin, & Özdemir, 2012; Patterson & Stouthamer-Loeber, 1984) and higher self-esteem (Kakihara, Tilton-Weaver, Kerr, & Stattin, 2010), though no studies that we are aware of relate such measures to children's feelings of competence and motivation. Further, adolescents who felt overcontrolled about free time engaged in more norm breaking and displayed lower levels of self-esteem (Kakihara et al., 2010; Kerr & Stattin, 2000). With regard to responsibilities, families of adolescents who have more regular practices or activities in such areas as bedtime, chores, and leisure time have children who are higher in achievement and lower in problem behaviors (e.g., Brody & Flor, 1997; Taylor & Lopez, 2005). To our knowledge, no studies have specifically investigated how parents implement such practices on the dimension of autonomy supportive versus controlling.

In sum, this study examined the effects of structure and autonomy support in three domains. We had several goals. A first goal was to determine whether structure and autonomy support (relevant to structure components) could be meaningfully differentiated. Thus, we examined whether components of each dimension would cohere as two separate factors that were relatively uncorrelated. A second goal was to examine possible domain differences in parents' provision of structure and autonomy support. Finally, a third goal was to examine relations between structure and autonomy

support and child competence outcomes, including perceived control, perceived competence, and engagement. We expected that structure and autonomy support would be associated with competence outcomes in all three domains.

Method

Participants

Participants were 160 sixth-grade children (72 boys and 88 girls, mean age = 11.42 years [$SD = .61$]) and their primary caregivers (147 mothers, 10 fathers, 2 grandmothers, and 1 aunt). Sixty-nine children (43%) were Hispanic, 62 (39%) were European American, 10 (6%) were African American, 3 (2%) were Asian, 1 (.5%) was Native American, 1 (.5%) was African, and 14 (9%) were multiracial. A total of 80 children (50%) were from married two-parent families, 38 (24%) were from single (not married, not divorced) parent families, 30 (19%) had parents who were divorced or separated, 2 (1%) had parents who were widowed, and 10 (6%) had parents who were with an unmarried partner. Parent education level was diverse: Among mothers, 26 (16%) did not complete high school, 39 (24%) completed high school or earned a graduate equivalency diploma (GED), 53 (33%) completed vocational training or some college, 29 (18%) completed college, and 13 (8%) reported schooling beyond college; with regard to fathers, 30 (21%) did not complete high school, 43 (30%) completed high school or earned a GED, 40 (28%) completed vocational training or some college, 23 (16%) completed college, and 9 (6%) completed schooling beyond college.

Procedure

Families were recruited from an urban school district in a Northeast city. Students were told about the project in their classrooms and brought home a letter (in either English or Spanish) describing the study and inviting participation. Of 61% of parents who responded, 66% responded affirmatively. This response rate is comparable to that in other studies involving parents and young adolescents (e.g., Laursen, DeLay, & Adams, 2010; Silk, Steinberg, & Morris, 2003). Interested families were contacted and according to parents' preferences, visits scheduled either at the family's home or at the university lab. After parents provided written consent, children were interviewed and children and parents completed questionnaires. In all cases, parents and children responded to questions in separate rooms

and so were unable to hear each others' answers. Parent questionnaires were administered in English or Spanish, and 31 parents (19%) elected to complete the questionnaires in Spanish. Spanish questionnaires were translated and then back-translated by another native speaker. Families received \$60 for participating.

Measures

Parent structure and autonomy support interview. This semistructured child interview assessed structure and autonomy support in the domains of homework and studying, unsupervised time, and responsibilities. Each section began with a general question about the domain (e.g., "I'd like to start by asking you to tell me about your home with regard to homework and studying"). Each section proceeded with questions tapping structure provision, including asking children what rules and expectations their parents have for them, how consistently their parents keep to those rules, what happens if they do not follow the rules, and what their parents tell them about why the rules are in place. Each section also contained questions relevant to autonomy support, including asking the children how the rules and expectations came to be, what they and their parents talked about when the rules were established, what sorts of choices they have about how to follow the rules, and what happened when they disagreed with a rule or thought it needed to be changed.

Trained raters (one of whom was the interviewer) coded the interviews on four 7-point Likert scales measuring parent provision of structure and autonomy support.¹ A coding manual provided descriptions and examples at each level (1–7).² These were the structure subscales (along with the end points for elucidation):

1. Clarity and consistency of rules and expectations: Rules and expectations in the home are clear and consistent (=7) versus there are no clear and consistent rules or expectations (=1).
2. Predictability of consequences: Response to rule-related behavior is known by the child and consistently applied (=7) versus there are no consistent consequences for rule-related behavior (=1).
3. Rationales provided: There is consistent communication of why rules and expectations are important in terms of long-term well-being and competence (=7) versus no stated rationales (=1).

1. The full coding manual is available from the first author.

2. One structure component (opportunity to meet expectations) and one autonomy support component (meaningful rationale) were deleted due to low interrater reliability (<.60).

4. Parental authority: Parents maintain leadership role—for example, have decision-making power and authority to impose consequences (=7) versus parents do not have leadership role in the home (=1).

These were the autonomy support components (along with the end points for elucidation):

1. Joint establishment of rules/expectations: Parents developed rules together with child (e.g., invited or considered child input) (=7) versus parents dictated rules and child was not permitted to voice his or her opinion (=1).
2. Open exchange: There is frequent and open discussion about rules (=7) versus rules are not open for discussion (=1).
3. Empathy: Parents communicate that they understand the child's point of view even if they do not agree (=7) versus parents ignore or ridicule the child's perspective (=1).
4. Provision of choice: Options and alternatives about how to follow rules are provided (=7) versus the child must follow rules in exactly the manner the parents specify (=1).

Two raters coded 38% (60) of the interviews. Raters discussed their codings until consensus and consensus scores were used in all analyses. Interrater reliabilities (intraclass correlations) of independent ratings prior to discussion were, for homework and studying, unsupervised time, and responsibilities, respectively, as follows: clear and consistent rules and expectations .82, .71, .84; predictability, .67, .83, .79; rationale, .84, .67, .86; and authority, .74, .70, .71. For autonomy support in the three domains, the values were as follows: jointly established .69, .68, .71; open exchange, .71, .75, .75; empathy, .77, .76, .72; and choice, .79, .71, .81. Thus, all reliabilities were close to or above .7.

Child Outcomes

Self-Perception Profile (Harter, 1982). This questionnaire assesses children's perceived competence in several domains. In this study, we used the cognitive (academic) subscale. In addition, two 4-item subscales that measured children's perceived competence with regard to behavior during unsupervised time and completion of responsibilities were developed for this study. Children identify which of two types of children is more like them (e.g., "Some kids do very well at their class work, *but* other kids don't do so well at their class work," "Some kids feel that they do a good job with their responsibilities at home, *but* other kids don't feel they do so well with

their responsibilities,” “Some kids feel it is hard to manage themselves when they are unsupervised, *but* other kids feel it is pretty easy to manage themselves when unsupervised”) and the extent to which it is *really true* (=1 or 4) or *sort of true* (=2 or 3) for them. In this study, alphas for the subscales ranged from .73 to .80.

Student Perceptions of Control Questionnaire (Skinner, Wellborn, & Connell, 1990; Skinner, Zimmer-Gembeck, & Connell, 1998). This questionnaire measures children’s perceptions of control over their successes and failures. Scales for the academic domain and in general were used. Two 6-item scales address children’s overall control perceptions in the general domain (e.g., “If I decided to do something hard, I can do it”) and in the academic domain (e.g., “I can get good grades in school”). For each domain, subscales assess beliefs about strategies for success, including luck (e.g., “To do well at something, I have to be lucky”) and unknown (e.g., “When I do well at something, I usually don’t know why”). In this study, Cronbach alphas were .62 for general control and .63 for control in the academic domain. As has been found in previous studies (e.g., Skinner et al., 1998), luck and unknown were highly correlated ($r = .55, p < .01$ for general; and $r = .68, p < .01$ for academic) and therefore were combined to form two maladaptive control scales. Cronbach’s alpha for maladaptive control was .80 for the general domain and .86 for the academic domain.

School Engagement (Marchand & Skinner, 2007). This 10-item questionnaire assesses students’ engagement in school (e.g., “I try hard to do well in school”). Children respond on 4-point Likert scales (*not true at all* to *very true*). Alpha was .78.

Parent Report of Children’s Competence. This 12-item scale, adapted from the Self-perception Profile (Harter, 1982) for parent report, assesses parents’ perceptions of their children’s competence in three domains: academic, unsupervised time, and responsibilities. The format is similar to the child report in that parents identify which of two types of children his or her child is most like (e.g., “My child is really good at his/her schoolwork *or* My child is not good at his/her schoolwork,” “My child knows how to handle him/herself when unsupervised *or* My child does not know to handle him or herself when unsupervised,” “My child does a good job with his/her responsibilities *or* My child does not do so well with his/her responsibilities”) and then whether the description is *really true* (=1 or 4) or only *sort of true* (=2 or 3) for his or her child. In this study, alphas were .75, .83, and .75 in the academic, unsupervised time, and responsibilities domains, respectively.

School grades. Children’s end-of-year English and math grades were obtained from school records. Grades were coded on a scale from 1 (= F) to 13 (= A+).

Results

Analysis of Interview Ratings

Means and standard deviations for structure and autonomy support ratings are listed in Table 1. Structure ratings across the three domains were in the 4.00 range (on a scale of 1–7). In order to determine whether ratings differed across the three domains, repeated-measures ANOVAs were conducted, followed by pairwise *t* tests with significance levels adjusted using the Bonferroni correction to correct for family-wise error. There were significant domain differences for all four structure ratings. Parents were rated as lowest in clear and consistent rules and expectations in the homework and studying domain and highest in the unsupervised domain. Parents were rated as lowest in predictability and providing rationales for the responsibilities domain. Finally, scores for authority were highest in the unsupervised domain. Means for autonomy support ratings were lower—in

Table 1. Repeated-measures ANOVAs, means, and standard deviations for interview ratings by domain^a

	Homework and studying	Unsupervised time	Responsibilities	Domain F
Structure				
Clear and consistent	4.43 _a (1.07)	4.99 _b (1.03)	4.74 _c (1.13)	10.55***
Predictability	4.08 _a (1.19)	4.10 _a (1.30)	3.75 _a (1.38)	3.45*
Rationale	4.44 _a (1.20)	4.37 _a (1.03)	3.81 _b (1.00)	16.35***
Authority	4.66 _a (1.08)	4.94 _b (.95)	4.55 _a (1.01)	2.99*
Autonomy support				
Jointly established	2.97 (1.08)	2.82 (.86)	3.07 (1.0)	1.88
Open exchange	3.22 (1.12)	3.11 (.99)	3.11 (1.08)	.49
Choice	3.32 _a (1.82)	2.61 _b (1.16)	3.29 _a (1.25)	14.77***
Empathy	3.35 (1.31)	3.18 (1.21)	3.17 (1.19)	.90

Note.

^aMeans not sharing the same subscript (a, b, c) differ at the .01 level per pairwise *t* tests.

**p* < .05.

***p* < .01.

****p* < .001.

the 3.00 range. There was one significant domain difference: Parents were rated as providing the least choice in the unsupervised domain.

Correlations among structure ratings within domain were computed. For homework and studying, relations among clear and consistent, predictability, rationale, and authority ranged from $r = .29$ (clear and consistent with rationale) to $r = .68$ (clear and consistent with authority). Correlations ranged from $r = .22$ (rationale and predictability) to $r = .51$ (authority and predictability) for unsupervised time and $r = .25$ (clear and consistent with rationale) to $r = .69$ (predictability and authority) for responsibilities.

Correlations among autonomy support components were also computed. For homework and studying, jointly established rules, open exchange, empathy, and choice were all moderately correlated, $r = .31$ (empathy and choice) to $r = .57$ (jointly established rules and open exchange). A similar pattern was in evidence for unsupervised time, with correlations ranging from $r = .32$ (open exchange and choice) to $r = .60$ (open exchange and empathy). Correlations for responsibilities ranged from $r = .36$ (jointly established and choice) to $r = .67$ (jointly established rules and open exchange).

Factor analysis of interview ratings. To determine whether structure and autonomy support could be differentiated, three confirmatory factor analyses, one for each domain, were computed with the four structure and four autonomy support components (see Figures 1–3). For all three domains, the model fits were excellent: for homework and studying, $\chi^2 = 38.2$, $p < .01$; comparative fit index (CFI) = .97; root mean square error

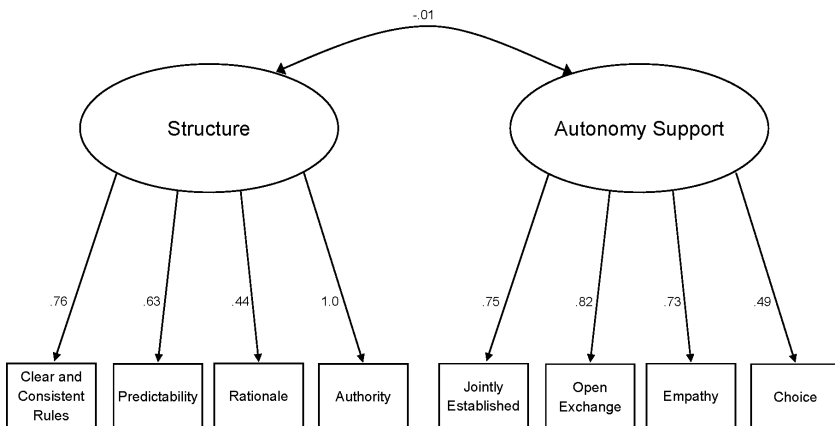


Figure 1. Confirmatory factor analysis of structure and autonomy support ratings in the homework/studying domain. All values are standardized beta weights: $\chi^2(20) = 38.2$, $p < .01$; CFI = .97; RMSEA = .07.

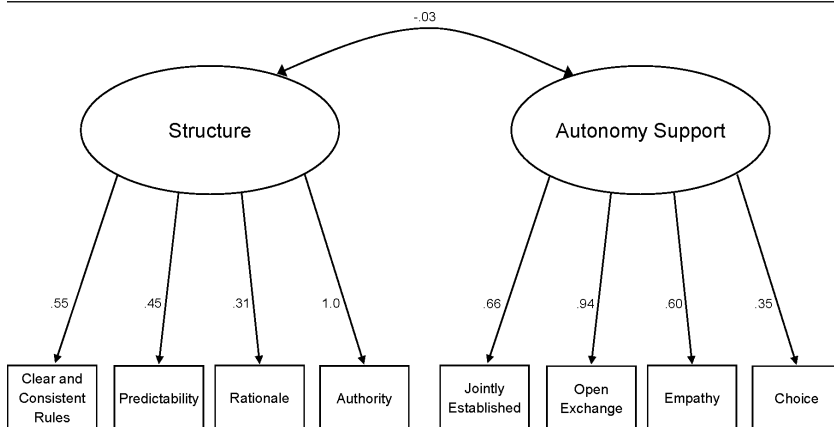


Figure 2. Confirmatory factor analysis of structure and autonomy support ratings in the unsupervised time domain. All values are standardized beta weights: $\chi^2(20) = 20.9, ns$; CFI = .99; RMSEA = .02.

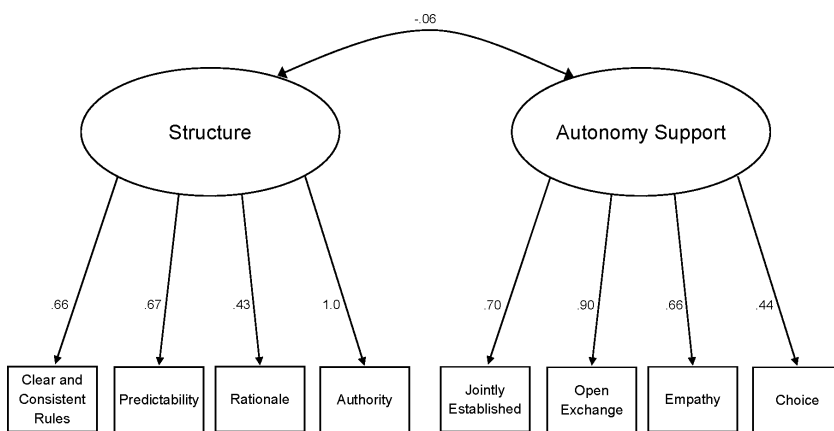


Figure 3. Confirmatory factor analysis of structure and autonomy support ratings in the responsibilities domain. All values are standardized beta weights: $\chi^2(20) = 37.7, p < .01$; CFI = .96; RMSEA = .07.

of approximation (RMSEA) = .07; for unsupervised time, $\chi^2 = 20.9, ns$; CFI = .99; RMSEA = .02; and, for responsibilities, $\chi^2 = 37.7, p < .01$; CFI = .96; RMSEA = .07. Paths between the two factors were nonsignificant in each domain.

On the basis of these findings, structure and autonomy support composites (mean of components) were computed for each domains. Alphas for the composites were for structure and autonomy support, respectively: homework and studying = .79, .79; unsupervised time = .70, .73; and responsibilities = .78, .78. The three structure composites were moderately correlated: homework and studying with unsupervised time, $r = .20$, $p < .01$; homework and studying with responsibilities, $r = .60$, $p < .001$; and unsupervised time with responsibilities, $r = .47$, $p < .001$. Autonomy support composites were also correlated: homework and studying with unsupervised time, $r = .61$, $p < .001$; homework and studying and responsibilities, $r = .60$, $p < .001$; and unsupervised time and responsibilities, $r = .55$, $p < .001$. The structure and autonomy support composites were not significantly correlated for any of the domains (r s ranged from .05 to .09).

Demographics and interview ratings. The effects of child gender, ethnicity, family configuration (single vs. two parent) and maternal employment (full time, part time, or not employed outside home) were examined for the structure and autonomy support composites in each of the domains. Given that parent education is the socioeconomic status (SES) variable most closely associated with parenting (Hoff-Ginsberg & Tardif, 1995), relations with parent education were also examined.

There were no gender differences for the structure ratings, but there were gender differences for autonomy support in all three domains, with parents of girls rated higher in homework and studying, $F = 11.38$, $p < .001$, $M_{\text{girls}} = 3.41$ ($SD = .96$), $M_{\text{boys}} = 2.91$ ($SD = .89$), unsupervised time, $F = 8.27$, $p < .01$, $M_{\text{girls}} = 3.07$ ($SD = .85$), $M_{\text{boys}} = 2.72$ ($SD = .65$), and responsibilities, $F = 11.43$, $p < .001$, $M_{\text{girls}} = 3.37$ ($SD = .92$), $M_{\text{boys}} = 2.90$ ($SD = .82$).

Maternal and paternal education were significantly correlated with structure in the homework and studying domain ($r = .22$, $p < .01$, and $r = .18$, $p < .05$, respectively) and the unsupervised domain ($r = .19$, $p < .05$, and $r = .18$, $p < .05$, respectively). Maternal education was also positively correlated with structure for responsibilities ($r = .29$, $p < .001$). Parent education was not significantly correlated with autonomy support in any domain.

Given the sample sizes, we were able to examine differences between European American and Hispanic families on our parenting variables in each domain. Of the six variables, only one showed a significant effect ($F = 4.22$, $p < .04$), with parents from European American backgrounds higher in structure in the homework and studying domain, $M = .48$ ($SD = .78$), relative to parents from Hispanic backgrounds, $M = 4.20$ ($SD = .92$). However, when maternal education was controlled, the effect

of ethnicity on structure in the academic domain was no longer significant ($F = .65, p = .42$), indicating that this effect was accounted for by education.

There were significant effects of single-parent versus two-parent family configuration for parental structure, with two-parent households rated as higher than single-parent ones in the homework and studying domain, $F = 6.13, p < .05, M_{\text{two parent}} = 4.58 (SD = .79), M_{\text{single}} = 4.21 (SD = 1.03)$, and in the responsibilities domain, $F = 4.40, p < .05, p < .05, M_{\text{two parent}} = 4.38 (SD = .80), M_{\text{single}} = 4.08 (SD = .94)$. There were no effects of family configuration for structure during unsupervised time. There were no effects of family configuration on autonomy support. Finally, maternal employment status was not associated with structure or autonomy support in any domain.

Relations Between Structure and Autonomy Support and Child Outcomes

Correlations between the structure and autonomy support and child outcomes are listed in Table 2. Perceived competence and parents' perceptions of competence were measured within the specific domain (e.g., parents' perceptions of their children's competence in school and in carrying out household responsibilities). Control perceptions were measured only in school and in general. Thus, interview ratings in the homework and

Table 2. Correlations of structure and autonomy support composites with outcomes across three domains

Outcomes	Homework and studying		Unsupervised time		Responsibilities	
	Structure	AS	Structure	AS	Structure	AS
Perceived competence	-.01	.20**	.16*	.07	-.01	.11
Parent perceptions of competence	-.00	.24**	.10	.15	-.00	.15*
Perceived control	.15*	.18*	.22**	.14	.20**	.17*
Maladaptive control	-.17**	-.22**	-.09	-.21**	-.12	-.19*
Engagement	.18*	.23**				
English grades	-.03	.26**				
Math grades	.02	.29***				

Note. AS = autonomy support.

* $p < .05$.

** $p < .01$. *** $p < .001$.

studying domain were related to perceptions of control in school. Ratings in the unsupervised and responsibilities domains were related to children's general control perceptions. The pattern of correlations revealed more significant correlations between structure and outcomes for unsupervised time and more significant correlations between autonomy support and outcomes in the homework and studying and the responsibilities domains. These relations, and whether they are unique, are examined further in the regression analyses.

Regression Analyses

Of particular interest were the unique effects of structure and autonomy support on child outcomes, which were examined by using regression analyses. In considering demographic variables to control for in these analyses, we identified variables that were correlated both with the parenting composites and with the child outcomes. Because maternal education was correlated with the parenting composites and several child outcomes, we controlled for maternal education in all analyses. While there were gender differences for interview ratings, there was only one gender effect for outcomes, with girls higher than boys on English grades ($t = 2.91, p < .004$). Given this, we did not control for gender.³ In addition, though there were significant differences between single- and two-parent families in interview ratings and child outcomes, all were nonsignificant after controlling for maternal education. Thus, we did not control for family configuration.⁴

Hierarchical regressions were conducted in steps, beginning with the control variable: maternal education. Thus, each dependent variable was regressed onto maternal education in Step 1, structure and autonomy support in Step 2, and the structure by autonomy support interaction in Step 3 (see Tables 3–5). Results for homework and studying and for responsibilities revealed no effects for structure, but there were significant effects of structure in the unsupervised domain. In particular, parents rated higher on structure for unsupervised time had children who felt more competent. Higher parental structure was also associated with children feeling more in control of outcomes in general.

3. Regressions were run for English grades with child gender in addition to maternal education included. The results were virtually identical to when only maternal education was controlled.

4. There were a few exceptions to this. For children's perceived competence in school, English grades, and math grades, children of single parents were lower even controlling for maternal education. For these variables, regressions in the homework and studying domain were run including both maternal education and family structure. The results are virtually identical except that for math grades the marginally significant interaction was significant.

Table 3. Hierarchical regressions of child outcomes on structure and autonomy support composites: Homework and studying domain

Outcomes	Step 1					Step 2					Step 3									
	Mother education					Structure					Autonomy support					Structure x autonomy support				
	t	B	SE	R ²		t	B	SE	R ²		t	B	SE	R ²		t	B	SE	R ²	
Perceived competence	4.47***	.21	.05	.11		-1.42	-.11	.08	.14		2.04*	.16	.08	.14		0.99	.08	.08	.14	
Parent perceptions of competence	3.47**	.15	.04	.06		-1.12	-.09	.08	.13		2.93**	.23	.08	.13		-0.34	-.03	.08	.13	
Engagement	3.17**	.15	.05	.06		1.54	.12	.08	.13		2.58**	.20	.08	.13		0.53	.04	.08	.13	
Maladaptive control	3.72***	-.18	.05	.08		-1.25	-.10	.08	.12		-2.35*	-.18	.08	.12		0.30	.02	.08	.13	
Perceived control	3.18**	.14	.05	.05		1.03	.08	.08	.10		1.87*	.14	.08	.10		-0.22	-.02	.08	.10	
English grades	2.96**	.16	.05	.06		-0.78	-.07	.09	.15		2.95**	.25	.09	.15		-1.01	-.10	.10	.16	
Math grades	3.12	.17	.05	.07		-0.56	-.05	.09	.16		3.26***	.28	.08	.16		-1.64	-.16	.10	.18	

Note.
 * $p < .05$.
 ** $p < .01$.
 *** $p < .001$.

Table 4. Hierarchical regressions of child outcomes on structure and autonomy support composites: Unsupervised time domain

Outcomes	Step 1			Step 2						Step 3					
	Mother education			Structure			Autonomy support			Structure x autonomy support					
	<i>t</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>B</i>	<i>SE</i>	<i>R</i> ²	<i>t</i>	<i>B</i>	<i>SE</i>	<i>R</i> ²	
Perceived competence	1.55	.05	.03	.02	2.36*	.07	.05	0.74	.04	.05	.06	0.06	.01	.09	.06
Parent perceptions of competence	2.08*	.05	.02	.02	0.91	.04	.04	1.58	.06	.04	.06	-0.11	-.00	.07	.05
Maladaptive control	-4.56***	-.13	.03	.12	-0.15	-.01	.04	-2.35*	-.10	.04	.16	1.40	.10	.07	.17
Perceived control	4.19***	.10	.02	.09	2.07*	.07	.04	1.46	.05	.04	.14	-0.33	-.02	.06	.14

Note.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 5. Hierarchical regressions of child outcomes on structure and autonomy support composites: Responsibilities domain

Outcomes	Step 1				Step 2				Step 3							
	Mother education				Structure				Autonomy support				Structure x autonomy support			
	t	B	SE	R ²	t	B	SE	R ²	t	B	SE	R ²	t	B	SE	R ²
Perceived competence	0.38	.01	.03	.00	-0.47	-.02	.05	.01	1.46	.07	.05	.01	-0.25	-.01	.06	.01
Parent perceptions of competence	0.65	.02	.03	.00	-0.38	-.02	.05	.03	1.89*	.10	.05	.03	0.23	.01	.06	.03
Maladaptive control	-4.41***	-.12	.03	.11	-0.35	-.02	.04	.15	-2.48**	-.10	.04	.15	-0.32	-.02	.05	.14
Perceived control	4.09***	.09	.02	.10	1.43	.05	.04	.13	2.23*	.08	.03	.13	-0.19	-.01	.04	.14

Note.
 *p < .05.
 **p < .01.
 ***p < .001.

In contrast to the results for structure, there were many significant effects for autonomy support in the homework and studying and the responsibilities domains. Parents rated higher on autonomy support in homework and studying had children who reported higher academic perceived competence and engagement, felt more in control of school outcomes, endorsed lower levels of maladaptive control for school outcomes, and had higher English and math grades. For responsibilities, autonomy support was associated with parents' perceptions of children's competence in completing responsibilities, lower levels of maladaptive control beliefs, and feeling more in control of outcomes. There was one effect of autonomy support in the unsupervised domain: Higher autonomy support was associated with lower levels of maladaptive control beliefs.

Discussion

This study examined parental provision of structure, and the degree to which it was provided in an autonomy-supportive versus controlling manner, in three domains in a sample of sixth-grade children by using an interview and rating procedure. The results of the study provide insight into parental structure and its concomitants in these different domains, with some domain similarities and some differences.

Components and Characteristics of Structure and Autonomy Support in Different Domains

One of our goals was to determine whether components of structure and autonomy support would cohere similarly across domains. For structure, there were strong and consistent relations among clear and consistent rules and expectations, predictability, rationale, and authority across domains. There was also good reliability and coherence for the four autonomy support components: jointly established rules, open exchange, empathy, and choice. Confirmatory factor analyses of the four structure and four autonomy support components indicated two orthogonal dimensions across the three domains, and composite measures of the two dimensions were not significantly correlated. Thus, we met our goal of measuring the two dimensions independently within the same domain. Supporting the robustness of the two dimensions was consistency across the three domains in that parents who were high on structure (or autonomy support) in one domain tended to be high on the others. However there were interesting mean differences between domains. In particular, means were high for structure during unsupervised time, especially for the component of authority. On the other

hand, means were low for autonomy support in this domain. This pattern makes sense in that rules and expectations for unsupervised time involve safety issues and parents may be most concerned about being authorities without as much attention to giving children a voice. Interestingly, parents were lowest in providing clear and consistent expectations for homework and studying. We speculate that rules and expectations in the unsupervised and the responsibilities domains may be more easily concretized. It is also possible that parents see homework and studying as less in their sphere of influence (e.g., schools also contribute). Another interesting finding was that parents were least likely to provide rationales for responsibilities. Perhaps when parents assign responsibilities to their children they do so for exigent rather than long-term reasons. Alternatively, they may feel that the reason for assigning responsibilities are more self-evident (e.g., the dishes are dirty) and do not require additional rationale.

There were some relations between structure and demographic variables. Consistent with other studies (Barber, 1996; Grolnick & Ryan, 1989), parents implemented structure in a more controlling manner with their boys relative to their girls. This may be because parents perceived their girls as more cooperative or competent or because of parents' views that their boys require more pressure or coercion. Parental education, an index of SES, was associated with structure provision. Consistent with work on family routines (Fiese et al., 2002), challenges such as lack of time and resources likely make it difficult for parents to institute structure in their homes. Parents from different socioeconomic backgrounds might also have different beliefs about the importance of setting rules and expectations for children.

Relations Between Structure and Autonomy Support Outcomes in Different Domains

A key goal of the study was to examine relations between parental structure and autonomy support and competence outcomes. Some relations to outcomes were consistent across domains and, interestingly, others differed. Structure was uniquely related to children's perceptions of competence in the unsupervised time domain, but not in the homework and studying or the responsibilities domains. Thus, when parents provided clear and consistent structure for unsupervised time, children felt more competent to handle themselves during unsupervised time than when parents were lower on structure. That these results were in evidence in only the unsupervised domain may be because this domain was relatively new to the families. Many parents indicated that sixth grade was the first time they

allowed their child to stay home alone or move about the neighborhood unattended. Thus, children may have been less certain about how to navigate this domain and so having clear structure would be particularly important. Children had been negotiating the other two domains for more time. Interestingly, the results for structure are consistent with those in a recent study (Mauras, Grolnick, & Friendly, 2013) showing that parental structure during mother–daughter conversations about sex was more predictive of positive child responses (e.g., desire to have more conversations) than was autonomy support during the same conversations. The reverse was true for discussions about everyday events. Thus, the effects of structure may depend on children’s comfort with a domain. When children are older and more accustomed to being unsupervised, the effects of structure may differ. Our results thus underscore the importance of taking a developmental perspective on structure.

Whereas structure was associated with outcomes in the unsupervised domain, autonomy support was associated with all outcomes in the homework and studying domain and with some in the responsibilities domain. In particular, when parents jointly established rules and expectations, facilitated open exchange, and provided empathy and choice, children were most engaged in school and felt and were rated by their parents as most competent. They also performed better in school. While these results could indicate the motivational effects of implementing structure in an autonomy-supportive manner, they could also indicate child-to-parent influence in which parents provide more autonomy support when children are more competent and engaged. Likely this is a bidirectional and transactional process (e.g., Pomerantz & Eaton, 2001). Autonomy support was also associated with children’s school grades and their control perceptions in all domains.

Interestingly, along with evidencing lower means than in the other domains, autonomy support evidenced fewer relations with outcomes in the unsupervised domain. This finding may be interpretable from *Social Cognitive Theory* (Smetana & Asquith, 1994), which differentiates between moral issues (acts that are wrong because they affect the welfare of others), conventional issues (arbitrary consensually agreed-upon behavioral uniformities), personal issues (acts that have consequences to only the actor), and prudential issues (pertaining to safety, harm to self, or health). Adolescents and parents perceive moral and prudential issues as more legitimately subject to parental authority than personal and conventional issues (Smetana & Asquith, 1994). Given that unsupervised time could be classified as prudential, how autonomy supportive parents are in implementing structure might have different effects in this area relative to

more personally defined areas. Children may be more open to authority in this more prudential domain and thus less reactive to controlling styles. If they did feel that setting rules was more legitimate, children may not get the same message of incompetence from controllingness (Pomerantz & Eaton, 2000) in this sphere relative to the others. This finding illustrates the importance of considering the meaning of domains so as to understand what parenting strategies will be most salient.

Finally, structure in all three domains was related to perceptions of control (academics for homework and studying, and general for the other two domains). Thus, in line with SDT, when parents provide structure, children feel more in control of outcomes and less helpless with regard to successes and failures.

Some limitations of this study should be noted. First, as indicated earlier, the design was correlational and thus the direction of effects cannot be determined. As suggested earlier, it is likely that parent-child correlations are the result of a bidirectional and transactional process (e.g., Pomerantz & Eaton, 2001). In considering structure, it seems unlikely that parents would respond to their children's lower competence with less structure, yet this is a possibility. Further studies may use longitudinal designs to disentangle parent-child effects. Second, though diverse, our sample was on the economically disadvantaged end. Levels of parent resources and relations among constructs may differ in other populations. Third, the interview was conducted with the child and several of the child outcomes were also child reported, making shared reporter variance an issue. Given that students' experience of structure and autonomy support (versus parents' intention to provide these resources) would be most important for their motivation, we elected to conduct the interview with the child. Further, though using the same reporter, the interview and rating procedure involved a different method than the self-report questionnaires and some cross-reporter relations were uncovered. Finally, the relations between our parenting dimensions and child outcomes even when significant were modest to low. Clearly there are other factors that facilitate motivation and adjustment within these domains.

In sum, this study provides support for the differentiation of structure and the way it is implemented (autonomy supportive vs. controlling). It illustrates that parents are consistent across domains yet tailor their level of these resources to the demands of particular domains. Further, it suggests effects of these two components and how their effects depend on the domain. Clearly the results evoke further questions about the roles of developmental level, familiarity with the area, and parents' goals in how they structure their homes. They also invite explorations of the factors

that interfere with parents providing structure for their children, such as family instability (e.g., multiple moves, changes in caregiver relationships; Marcynyszyn, Evans, & Eckenrode, 2008) and lack of resources and how families are able to maintain structure despite these obstacles.

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