OBSERVATIONS OF PARENT MONITORING AND FAMILY PROBLEM SOLVING IN ADOLESCENCE: CONVERGENT AND PREDICTIVE VALIDITY FOR EUROPEAN AMERICAN AND AFRICAN AMERICAN YOUTH

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DISSERTATION ABSTRACT

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The two family management skills targeted in this study were parent monitoring and problem solving, both established in previous research as particularly important in the etiology of adolescent problem behavior. Videotaped parent-adolescent family interactions were coded for monitoring, problem solving, and negative interaction dynamics in an ethnically diverse sample of 714 European American and African American males and females. Each construct was assessed at age 16-17 using multiple indicators and methods to evaluate convergent, discriminant, and predictive validity as a function of ethnic status. Structural equation modeling revealed that convergent validity of parental monitoring among parent (mother/father), youth, and observations measures was equivalent for both ethnic groups. So too, the convergent validity among measures of problem solving was equivalent for both groups. The two constructs, respectively, were found to be modestly correlated in both ethnic groups at approximately the same level.

In addition, the construct of parental monitoring was found to be highly predictive of future drug use in both European American and African American families.

In both ethnic groups, high levels of monitoring were related to low levels of drug use at age 18-19. So too, parental monitoring and problem solving, respectively, were equally predictive of antisocial behavior at age 18-19 in both ethnic groups, in the expected direction, with higher levels of family management modestly predicting decreased antisocial behavior in later adolescence. In contrast, findings reveal differential predictive validity of problem solving and monitoring on observed negativity as a function of ethnicity. The differential pattern of covariation between these two family management constructs and observed negative interactions suggests either possible biases in coder ratings or, more likely, different interaction patterns within ethnic groups that define effective parenting.

These findings suggest that parental monitoring and problem solving, as measured in this study, have considerable construct validity across reporting agents (mother/father/adolescent and coder), assessment methodologies (self-report/observational), and ethnic group membership (European American/African American). Finally these findings suggest that interventions that target parent monitoring and family problem solving are of value for both European American and African American families in efforts to decrease or prevent problem behavior in adolescence.

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CHAPTER I

INTRODUCTION

Overview

Problem behavior in adolescence is a strong predictor of maladjustment, delinquency, and substance abuse in adulthood (Dishion & Patterson, 2006). Multiple studies have identified parenting practices as core in understanding both the etiology of adolescent dysfunction, as well as effective intervention design. Moreover, varied models implicate parental practices in the *development* of "problem" behavior (Dishion & Kavanagh, 2003; Griffin, Botvin, Scheier, Diaz, & Miller, 2000). Behavioral family interventions are based on the important tenet that parenting practices are linked to child behavior outcomes (Dishion & Patterson, 2006; Kerr & Statin, 2000; Laird, Pettit, Bates, & Dodge, 2008; Patterson & Stouthamer-Loeber, 1984). Ineffective monitoring, for instance, is predictive of substance use, number of arrests, and conduct problems in adolescence (Chilcoat, Anthony & Dishion, 1995; Loeber & Dishion, 1983; Wasserman, Miller, Pinner, & Jaramillo, 1996). Moreover, poor family management skills account for the onset and persistence of antisocial behavior in childhood (Patterson, 1993). Modifying parent behavior is presumed a key component within interventions designed to reduce conduct problems in adolescents and children (Reid, Patterson, & Snyder, 2002; Tolan & McKay, 1996).

One methodological challenge when examining parenting constructs is the difficulties inherent in evaluating discriminant and convergent validity (Metzler, Biglan, Ary, & Li, 1998). It is argued that distilling the "critical dimensions of parenting"

through valid measurement is important to our understanding of family processes (Metzler et al., 1998, p.601). Metzler and colleagues (1998) recommend that further work be conducted on the construct validity of parenting practices, especially research that focuses on understanding method factors (e.g. informant, observation) and cultural variation. In fact, they propose that an *alternate* way to test the validity of parenting constructs is to evaluate if self-reported items hold equal meaning across informants.

The clinical utility of a developmental finding on parenting effects is only as good as the measurement method used in assessing it. When method variance is shared, by use of a single informant, for instance, the likelihood is increased that the correlations between variables of interest is magnified (Rueter & Conger, 1998; Griffin et al., 2000). For example, the correlation between, parenting and child behavior problems can be inflated if the parent is depressed (Gartstein, Bridgett, Dishion, & Kaufman, 2009). Hayden and colleagues (1998) argue that multi-method assessments are the most appropriate towards ensuring that unique reporter variance is not obfuscated through the use of family composites or aggregates. However, while the rigor of methodological probes has evolved to include multiple behavioral profiles and multiple time points, method factors continue to be considered as potential "limitations" when based only on parent or youth report.

Moreover, understanding how the *context of assessment* impacts the validity of the results obtained is also critical. A salient example of context is when the participant of a research or intervention program is of minority status, and the measurement was designed, and mostly collected and scored by research assistants belonging to a majority

group. Guided by work highlighting the importance of convergent and predictive validity across informants (Metzler et al., 1998; Lovejoy, Verda, & Hays, 1997), the current study seeks to explore if direct observations of family management skills, in the form of coder ratings, converge with parent and youth report, as a function of ethnicity. The current study aims to understand the predictive validity of self-report and coder ratings in the development of adolescent substance use and antisocial behavior. In this study, two salient parenting constructs, monitoring and problem solving, are evaluated. The validity of these two parenting constructs will be considered for a group of African American and European American adolescents, assessed at 16-17 and then again two years later, at 18-19.

Adolescent Problem Behavior: Costs to Society

The costs to society of adolescent problem behavior can similarly be understood from a developmental perspective. In the field of family management, behavioral repertoires can be conceptualized on the basis of cumulative events (Moffitt, 1993). That is, when an individual is not given an opportunity to learn pro-social behaviors, the detrimental effect of negative accumulative experiences promotes a fixed behavioral style that becomes less amenable to change, purportedly by early adulthood. According to Moffitt (1993), interventions aimed at persistent antisocial individuals fail to produce prosocial outcomes and may unfortunately serve to further opportunities for antisocial maintenance. This paints a grim clinical picture that highlights the importance of timely intervention early in development, before negative behavioral repertoires reach fixation. Given the saliency of adolescent conduct problems, and the detrimental social and

emotional consequences of the behavior (Biglan, Brennan, Foster, & Holder, 2004), it is imperative to evaluate the bi-directional and contextual factors influencing intervention success within the family ecology.

Importance of Family-Centered Interventions

Family-centered models of change have long contended that effectiveness in treatment is characterized by comprehensively designed interventions that consider the individual, family, peer, school and neighborhood/community levels (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Altman, 1995). Interventions are now more attuned to the importance of involving and recruiting parents and members of the extended family (Harachi, Catalano, & Hawkins, 1997; Spoth & Redmond, 1994). In fact, multimodular interventions address family management skills by focusing on the interrelationships between family members (i.e. adolescent, parent, relative) (Hogue, Liddle, Becker, & Johnson-Leckrone, 2002). Family management skills have come to be conceptualized and assessed as interactive processes, rather than solely as skills a parent holds without reference to the adolescent's behavior—to which the parent is reacting. That is, Kerr and Stattin (2000) argue for the importance of capturing parenting skills as bidirectional *reactions* to specified adolescent behavior.

Research shows that interventions geared at teaching parents self-management and self-control skills improve both parent *and* child outcomes (Serketich & Dumas, 1996). The hypothesis that strengthening parenting practices results in increased positive outcomes in youth is a central and well-documented tenet in adolescent prevention work (Dishion & Bullock, 2002; Reid et al., 2002). In fact, the effect size differential between

family-focused prevention programs and child-only interventions is substantive (on the order of nine times), and has been noted in the literature as producing an overall reduction of aggressiveness and conduct disorders in children (Kumpfer & Alvarado, 2003).

Adaptive Family Interventions

Notwithstanding clear successes in family intervention work, research indicates that families with high levels of distress and adversity are least likely to benefit from behavioral family interventions (Evans & English, 2002; Sanders, Markie-Dadds, Tully, & Bor, 2000; Hayden et al., 1998; Capaldi & Patterson, 1991; Spoth, Goldberg, & Redmond, 1999). The focus has shifted to designing parent training interventions that are tailored to the specific needs of the family (Dishion & Kavanagh, 2003; Sanders, Turner, & Markie-Dadds, 2002; Hoagwood & Koretz, 1996). Adaptive interventions have recently emerged to contest the notion that *fixed* interventions, where all participants receive the same program components, optimally meet the intervention needs of all participants (Collins, Murphy, & Bierman, 2004). Adaptive interventions selectively assign differing "dosages" to program participants by first identifying the variables important to a given subset of respondents, and then titrating the intervention components to meet their specific needs. The Family Check-Up Model and Triple P-Positive Parenting Program are such attempts to address this issue via multi-level behavioral family models that include different levels of intervention along a tiered continuum of increasing strength. These programs address family adversity in their inclusion of an enhanced behavioral component that helps participants manage depression, anger,

anxiety and contextualized stress. Parenting interventions with this "enhanced" component have been shown to result in better outcomes for families than mere parent *content* training alone (Dishion & Stormshak, 2007; Sanders et al., 2000; Spoth & Redmond, 1994).

In addition, Weisz and colleagues (1988) contend that teachers, parents, and mental health service providers act as the "gatekeepers" to child mental health. One other key adaption of family interventions is the inclusion of a teacher component, where the focus lies on bridging the school and home domains by utilizing the teacher as an agent of family-system change (Webster-Stratton, 1998). This focus on tailoring intervention components has been shown to reduce peer delinquency via strengthening family and school bonds (Hogue et al., 2002).

It is, however, noted that requiring family member participation is only effective if adequate rapport and engagement are first evinced, otherwise it may prove detrimental to adolescent outcomes (Huey, Henggeler, Brondino, & Pickrel, 2000). The underlying implication is that inclusion of the family system into an intervention is not in and of itself sufficient towards reducing adolescent problem behavior.

Family Management: Mediator of Change

Theoretical definitions of behavioral change as nothing more than a difference score between pre- and post- intervention, a methodology since characterized as simplistic, are now often abandoned in favor of models that account for moderating and mediating influences (Eddy, Dishion, & Stoolmiller, 1998). For instance, empirical work supports a sequence from improved family function to decreases in deviant peer

affiliation, to ultimate declines in adolescent delinquent behavior (Huey et al., 2000). Intervention work requires identification of the salient mediators and moderators that influence the direction and strength of the relationship between a criterion variable (i.e. adolescent antisocial behavior) and a predictor variable (i.e. problem solving skill).

When considering the mediating role of parenting practices it is known, for instance, that *resolution* of conflict reduces the negative impact of parental discord and arguments on children (Cummings, Simpson, & Wilson, 1993). Dadds, Atkinson, Blums and Lendich (1999) found that conflict-resolution *style,* influences the degree of internalizing and externalizing adjustment behaviors present in children. It is further stipulated that *constructive* conflict and "future-oriented planning"—as characterized by suggestions, creating plans of action, and evaluating—is associated with flexibility and with having the conflict resolved in compromise, as opposed to a win/loss outcome (Ross, Ross, Stein, & Trabasso, 2006). Interestingly enough, conflict itself can serve a moderating role by promoting family cohesiveness. Barrera, Ary, and Li (2001) claim that conflict plays a role in positive family involvement—a counterintuitive finding at first glance. Arguably, conflict in a family system can serve to promote opportunities for increased practice of parenting skills. It is therefore speculated that conflict can operate at two distinct levels, the micro level where it is likely to have a more negative and coercive role (Forgatch, 1989), and the macro level where it can serve a more positive function.

Furthermore, Darling and Steinberg (1993) propose that parenting can be parsed into: 1) specific behaviors and 2) delivery style. That is, the authors argue that parenting *style* provides the backdrop context, what they term the "emotional climate," which sets

the stage for how specific parenting practices and *behaviors* are later interpreted within the family (p.488). It is argued that the effect of poor parenting skills is tempered and moderated by the emotional climate present within the family system. In fact, latent-variable methodology shows that the unique variance associated with *affect* in a family system can be parsed from *behavioral* correlates for emotional closeness, such as engagement in shared activities (Jacob & Windle, 1999). Understanding affect, and its role in moderating observed family dynamics, may aid in clarifying what may initially seem like contradictory findings in family systems work. For instance, Dishion and Bullock (2002) assessed relationship quality in video-taped family interaction tasks between mother and adolescent in a cohort of European American and African-American participants. Upon first analysis, the authors' results conformed to previous socio-developmental findings, such that high-risk youth exhibited *lower* levels of relationship quality and mutuality with their parents, when compared to normative counterparts. Relationships high on mutuality are highly reciprocal and characterized by a "conversation-like" quality to them (Deater-Deckard & Petrill, 2004). However, Dishion and Bullock (2002) found that different patterns emerged across ethnic subgroups, such that the *highest* parent-child relationship quality was evident within a *high-risk* subset of African-American boys, those designated at most risk for later conduct problems.

Monitoring and Problem Solving: Salient Constructs

In the cache of family management tools, parental monitoring has been extensively demonstrated as a very robust predictor of later adolescent substance use (Patterson & Stouthamer-Loeber, 1984; Chilcoat & Anthony, 1996; Griffin et al., 2000).

Seminal work in the field by Patterson and Southamer-Loeber (1984) demonstrated that parental monitoring accounted for a sizable amount of variance in predicting delinquency in a subset of White adolescent males, over that accounted for by other parenting components (such as discipline and reinforcement). In fact, Griffin and colleagues (2000) found that parental monitoring was significantly associated with decreases in drinking behavior amongst a culturally diverse group of high-risk boys from single-parent households. Not only did parental monitoring account for significant amounts of variance in child conduct problems, findings reveal that this variance is independent of the contributions of other parenting components, such as parent-child conflict and parent involvement (Wasserman et al., 1996). That is, parental monitoring provides incremental validity in predicting adolescent substance use and initiation. This is noteworthy, given the grave concern in the field over discriminant validity and parenting measures that tap into variance shared by other constructs (Lovejoy et al., 1997). Parental monitoring has been identified in the field as a cornerstone in successful adolescent adjustment, and earmarked as an important protective factor during the developmental period of adolescence.

Parental monitoring has similarly been found to magnify the effect of unsupervised peer contact, when parental monitoring is low, and to alternately, ameliorate the impact of unsupervised peer contact, when parental monitoring is high (Petit, Bates, Dodge, & Meece, 1999). Petit and colleagues (1999) further report that the magnitude of the relation between unsupervised peer contact and behavior problems was dependent on both the level of monitoring and the perceived safety of the neighborhood,

as reported by mother informants. The authors qualify their findings by noting that the indicators of monitoring and neighborhood safety were assessed by self-report measures, which may not reflect "actual" patterns of supervision and/or neighborhood characteristics.

Furthermore, Laird, Criss and Petit (2008) found that "knowledgeable" parents decreased the likelihood of adolescents forming relationships with antisocial peers. In fact, the authors discuss the importance of parents having information regarding their adolescents' activities and whereabouts, since less monitoring knowledge is predictive of later delinquent behavior and associations. Laird et al. (2008) align their findings with current interpretations of monitoring as a feedback mechanism, where parents are provided with opportunities to intervene and modify misbehavior before it escalates (Dishion & McMahon, 1998). It is argued that less informed and knowledgeable parents have fewer opportunities to redirect adolescent misbehavior. Crouter et al., (1990) highlight the importance of truly understanding what parental monitoring entails. They suggest that for some families, parental monitoring may encompass supervision and awareness of the child's daily events. In addition, another level of monitoring reflects parental interest in the child, and the resulting efforts to solicit information through conversation. An alternate mechanism for monitoring is proposed by Kerr and Stattin (2000), who found that it was not so much parental "tracking and surveillance" of adolescent's behavior that buffered against negative outcomes, but adolescents' spontaneous disclosure to parents. In fact, Kerr and Sttatin (2000) tested the hypothesis that parents gain knowledge on their adolescents through an active process of searching

and gathering information, and found no evidence for this interpretation. Kerr and Stattin (2000) instead propose that the method by which parents acquire relevant monitoring "knowledge" is through a bidirectional mechanism that relies on adolescent self-disclosure.

A similarly salient construct in the field of family management is problem solving ability. The inability to resolve conflict plays a key role in the development of aggressive behavior in children (Forgatch, 1989). Forgatch (1989) builds on work suggesting that problem solving has discrete stages, and proposes that negative emotion interferes with each stage of the problem solving process. For instance, Forgatch (1989) speculated that negative emotion may impact how accurately a problem gets represented at the outset. Similarly, work by Rempel, Ross, and Holmes (2001) suggests that *negative* details have more saliency and weigh more heavily in the conceptualization of the event as problematic. Forgatch (1989) similarly argues that negative emotion creates conflict in a dyad because it primes automatic and highly practiced negative interaction patterns, what she terms "synchronous exchanges of negative emotion" (p.116). In fact, these bi-directional interactions, now referred to as "coercive exchanges," have been implicated in the promotion of antisocial behavior and are characterized by hostility in both members of the exchange (Caspi, Elder, & Bern, 1987; Moffitt, 1993; Patterson, Reid, & Dishion, 1998). In bridging these research findings to clinical work, the author proposes that successful parenting interventions must focus on teaching participants how to regulate negative emotion while staying focused on problem solving.

Social problem solving, in turn, is operationalized as the ability to respond adaptively to contextual stressors. Jaffee and D'Zurilla (2003) identify social problem solving as important in the prevention of adolescent externalizing behavior. The authors suggest that preventative interventions should coach parents on how to teach problem solving skills to their adolescents. Clinically disturbed populations are characterized by problem solving deficits (Sanders, Dadds, Johnston, & Cash, 1992). However, Sanders and colleagues present evidence that depressed children exhibit different behavior profiles in a problem-solving interaction, relative to a comparison group of conduct-disordered children. In their study, conduct-disordered children expressed open hostility when problem solving, whereas depressed children exhibited distressed nonverbal affect. The authors speculate that depressed children may use distress behaviors to cue their parents to decrease criticism or to increase sympathy. Sanders et al. (1992) discuss the disadvantages of this process, noting that it likely leads to unresolved problems and disengagement between members. As such, the authors propose that treatment approaches for depression focus on family problem-solving and communication training.

Need for Direct Observation: Macro-Level Ratings

Self-report questionnaires are commonly used in family-centered assessments, and do not capture the real-time *context* in which parenting often unfolds. Observational methodology provides an independent perspective of real-time relationship processes, and is believed key in supplementing the perspectives captured by self-report measures (Dishion & Granic, 2004; Hops, Davis & Longoria, 1995). The use of observational methodology to capture family dynamics has ecological validity (Dishion & Granic,

2004; Hops et al., 1995; Hawkins, 1982; Patterson & Fogatch, 1987; Bandura, 1992). For instance, Dishion and Andrews (1995) observed that it was only the intervention families in their randomized experimental condition that showed visible behavior change. In addition, Dishion and Granic (2004) highlight the importance of addressing discrepancies between self-report and observational methodologies, most especially in cross-cultural work.

One concern over self-report measures is that respondents tend to be inaccurate reporters of their role in family processes (Dishion & Granic, 2004). Alternately, a common concern when using observational methodology is the possibility that participants will act and behave in ways not consistent with their usual behavior, on account of the intrusive nature of video equipment and the presence of an outside observer. Arguably, "faking good" is difficult to do in distressed families (Dishion & Granic, 2004; Johnson & Bolstad, 1975), such that ingrained patterns of interaction are not easily masked and are under more automatized processes (Patterson & Reid, 1984; Dishion & Granic 2004; Forgatch, 1989).

Debates regarding the utility of observational methodologies over self-report measures are based on the fact that both self-report measures *and* observational ratings can be biased (Hops et al., 1995). Dishion, Nelson, Winter, and Bullock (2004) acknowledge these differences in perception between multiple reporting agents, and the potential confounds evoked as a result of operative biases, yet hold that observational coding can be an objective predictor of family functioning across cultural groups. That is, the authors propose that whether or not observational coding can have equal predictive

validity across cultural groups is an empirical question of interest—irrespective of the value-laden biases in the reporting agent. It is noted, for instance, that differential value systems around drug use in adolescents, such as smoking marijuana, does not change the finding that onset of marijuana smoking in youth is predictive of substance use problems in later adulthood (Dishion & Granic, 2004).

Observational reliability is based on inter-observer agreement, where observers with the same training in a coding system view the same observation task (Hops et al., 1995). When it comes to validity, Hawkins (1982) emphasizes the function of a behavior, such that any observational methodology attuned to functional validity will more likely capture behaviors that indeed have *significance* for later development. The importance of understanding functional validity/equivalence has direct bearing on how a coding methodology is constructed, and on how behaviors are operationalized within a coding scheme. For instance, Dishion and Bullock (2002) found that high-risk European American families were scored by coders as higher in limit setting than successful African American families—a finding which the authors speculate may be biased in favor of a European American definition of what limit setting entails.

In advancing our knowledge of family processes, intervention outcomes must therefore be interpreted in relation to this *context of assessment*. This "context of assessment" includes the value systems and ingrained schemas that individual holds (Ji, 2005). For example, Weisz and colleagues (1988) underscore how Thai Buddhist teachings on change (i.e. that the surrounding context is in flux and that nothing stays the same) can influence judgments made on child problem behavior, such that a child's

misbehavior is considered less problematic and distressing if it is believed transient and likely to change, rather than reflecting "…an enduring personality trait…" (p.602). Conceptual equivalence figures prominently when constructing instruments that are "sensitive" to change (Eddy et al., 1998; Okazaki & Sue, 1995). Okazaki and Sue (1995) postulate that even when a given construct (i.e. aggressiveness in adolescents) is found to be equivalent across ethnically diverse youth assessed in a school setting, the conceptual equivalence of that construct may fail to hold outside the school grounds (i.e. the assessment setting) when these youth are at home, with family, or out in the neighborhood. It is important to note that similar concerns have been raised in how best to bridge observed gains within a specific setting (i.e. parent group, therapist's office) to other equally relevant, or realistic settings (Flay, 1986).

Hawkins (1982) suggests the use of task analysis to break down a given behavior into its component parts, with an important bifurcation: behavior codes whose purpose is evaluative (i.e. attaining the frequency with which caregivers play with their infant) versus behavior codes whose purpose has a teaching "how to" element; the latter being most important and relevant to intervention work. According to the authors, confounds invariably exist when the observed behavior of interest cannot be conceptualized into distinct tasks. Hawkins (1982) argues, for instance, that "hyperactivity" in children is not considered a behavior "task," and urges that researchers identify the component parts that comprise a given behavioral response. That is, it is argued that behavior codes will be most meaningful if they assess not just the major tasks (i.e. "mutual orientation"), but the underlying components of those tasks (i.e. "eyes focused exclusively on the infant")—

such that the real-world applicability of the behavior code is heightened when the *function* of that behavior is understood in context (Hawkins, 1982, p.24).

Measurement and Methodology

Darling and Steinberg (1993) propose that part of the challenge in evaluating the validity of self-report and observed measures of parenting is that behavioral constructs, such as *parenting practices,* are not adequately distinguished from affective indicators, such as *parenting style*. From a methodological standpoint, it is important to understand if this distinction, between parenting practices and parenting style, necessitates changes in how these constructs are assessed. Observational methodologies attuned to both behavior and affect may have the greatest clinical utility in family-centered prevention and intervention models.

Another example in point is the erroneous assumption, for instance, that increases or decreases in parental discipline affect child aggression in *functionally* the same manner, irrespective of whether these increases in discipline occur at the lower end of the spectrum, or the "abusive-punitive" end of the discipline continuum (Deater-Deckard & Dodge, 1997, p.165; Baron & Kenny, 1986).

The Role of Culture

Cultural context influences the very definitions we use in describing pathology. Suggestive evidence highlights the importance of adopting culture-specific frameworks, where definitions regarding what constitutes normalcy are made by members of the particular cultural group being sampled (Tsai, Butcher, Muñoz, & Vitousek, 2001). The meaning of parenting, for example, varies as a function of the socio-cultural context

(Dishion & Bullock, 2002; Dishion, French, & Paterson, 1995). A set of symptoms that may be normative for one group may instead be serious ground for concern in another. That is, how parents perceive and interpret a given adolescent behavior in the first place influences their level of concern and their subsequent parenting responses (Weisz et al., 1988). So too, how a child interprets a given parenting behavior plays an equally important role. Harsh parenting practices, for instance, are associated with increased levels of child aggression and externalizing behavior in European-American samples , but not so for African American youth counterparts (Deater-Deckard, Dodge, Bates, & Pettit, 1996). In fact, African American youth subjected to high levels of physical punishment had lower aggressive and externalizing scores than their European American counterparts and perceived harsh parenting as *fair* (Deater-Deckard et al., 1996). It is posited that when physical discipline is perceived, by both parent and child alike, as normative, its effects on the child need not be negative and may be understood as part of the nurturing context of that parent-child relationship (Deater-Deckard & Dodge, 1997).

In addition, Newcomb (1995) argues that the construct of "problem behavior" may be differentially structured across ethnic-minority samples. In fact, work by Weisz and colleagues (1993) suggest that there are culture-specific thresholds in the perception, and expression of behavior. For instance, Thai adolescents have shown significantly higher levels of internalizing behaviors, when compared to American respondents, while European-American youth, in turn, expressed higher levels of externalizing behavior (Weisz et al., 1993). According to the authors, these findings suggest that differing

cultural pressures, in this case self-control and emotional restraint, may foster different styles of adolescent problem behavior.

Behavioral "reality" is subject to biases and contextually-embedded expectations and influences (Langlois & Downs, 1979). Aggressive designations of children, for instance, can be based on subjective parameters, such as perceived physical attractiveness (Serketich & Dumas, 1997; Langlois & Downs, 1979). Perceptions of youth delinquency may similarly vary as a function of ethnicity (Zimmerman, Khoury, Vega, Gil, & Warheit, 1995). These filtered versions of reality highlight the importance of measurement, and call into question the effectiveness of intervention research which targets observable behavior without understanding the perceptual biases and schemas of the reporting agent. This distinction between *perceived* and *behavioral* reality is ever more relevant in assessing family functioning across varying cultural subsets.

In fact, Western templates of symptomatic assessment may be considered inadequate when used with ethnic-minority groups because they fail to include culture-specific aspects of a construct (i.e. parenting) and may negate cultural idioms of distress (Stewart et al., 2002). For instance, Fisher and Ball (2002) document efforts to *depart* from the common practice of adapting *existing* interventions for use with ethnic minority populations, in favor of allowing the tribe to formulate and "…articulat[e]…[its]…vision for parenting…" based on tribal cultural values (Fisher & Ball, 2002, p.238). Culturally-grounded preventative interventions, such as the tribal participatory model with American Indian and Alaskan Native participants, involve community members in *all* phases of the research process and focuses on incorporating cultural and historical factors

believed key to family functioning (Fisher & Ball, 2002). It is further acknowledged that while "generic" versions of an intervention agenda, when applied to family-based interventions with ethnic-minority families, do result in "slight" improvements in outcome, it is the culturally-adapted versions of an intervention that increase recruitment and retention (Kumpfer, Alvarado, Smith, & Bellamy, 2002, p. 244).

Validity of Family Management Constructs across Groups

Mental health symptoms may manifest differently by virtue of their relative salience and importance in any given group. Instruments such the Family Adaptability and Cohesion Evaluation Scale (FACES), for instance, while globally demonstrating good internal consistency, does not hold as reliably when analyzed at the subscale level across cultures (Smith, Prinz, Dumas, & Laughlin, 2001). The authors highlight work revealing that both the adaptability and cohesion dimensions fit adequately well with Anglo-American families, whereas only the adaptability dimension fits well with Latino family cohorts. In this Latino subset, the authors found that the cohesion factor exhibited a decidedly poor fit (Smith et al., 2001). Similarly, statistical factor analyses reveal a differential order, or pattern, of factor extraction on the General Health Questionnaire (GHQ-60) across cultural groups. For instance, social dysfunction is the first depressive factor that emerged for Japanese and Spanish participants, but the last factor extracted for Chinese and British samples (Tsai & Chentsova-Dutton, 2002). The resulting interpretation is that the elements of depression that are most significant indeed vary across cultures (Tousignant & Maldonado, 1989). These findings converge on the notion that pathological attributions may vary across ethnic groups and depend on the cultural

reference point. It is further noted that measures of parenting efficacy continue to be "plagued" by inconsistent definitions of what exactly each construct entails (Lovejoy et al., 1997). Lovejoy and colleagues (1997) review work showing that parenting efficacy has been researched under different guises, from "illusion of control" to "perceived competency" (Lovejoy et al., 1996). This apparent lack of specificity impedes the clinical utility of the construct (Holden & Edwards, 1989). It therefore follows that constructs relating to adolescent adjustment and family management practices may be under similar cultural influences and be equally sensitive to measurement bias and subjectivity.

The Current Study

Conceptual Framework

Structural equation modeling is a tool that allows for examining measurement and validity issues in the context of the same analysis. It will be used to test the hypotheses that parenting constructs, specifically monitoring and problem solving, hold differential meaning and predictive validity as a function of cultural background.

Previous published work on harsh parenting and its differential effects on youth as a function of ethnicity, coupled with cross-cultural work on problematic attributions of behavior, provide rationale for testing the validity of parenting constructs as a function of ethinicity (Deater-Deckard et al., 1996; Okasaki & Sue, 1995).

Guided by previous work in the literature, it was expected that a family discussion task on problem solving, a highly evocative discussion topic, would act as a stressor, therein priming a given behavioral response and parenting skill set (Forgatch & Stoolmiller, 1994; Dix, 1991; Hong et al., 2000). The problem solving task used in this

study, relied on a pre-selected problem of the parent's choosing—where the participating family operationalized what they considered to be "problematic" at the time of assessment. It is hypothesized that by allowing the family to define what adolescent behavior they view as problematic, the likelihood of tapping into a meaningful family process is exponentially increased (Newcomb, 1995; Weisz et al., 1995).

As before alluded to, and as herein hypothesized, perturbing the family system by discussing a salient family stressor, may be necessary to our understanding of how families function outside the confines of the research lab—adding real world applicability and external validity to the study of family systems (Flay, 1986).

Research Questions

Three research questions address the methodological external validity of problem solving and monitoring constructs in adolescence for African-American and European American families: (1) Do macro coder ratings of videotaped parent-adolescent interactions of these two constructs converge with reported parent and adolescent perspectives on family functioning? Based on the literature reviewed above, it is hypothesized that the convergent validity between observational and self-report data will be lower for African-American families than European-American families. (2) Can parental monitoring and problem solving (macro level indicators) differentially predict adolescent substance use and antisocial behavior in early adulthood and late adolescence as equally well for European American and African American families? (3) Does family problem solving and parental monitoring predict observed negativity (microsocial

measure) in parent-adolescent interactions? These questions will be addressed using: (1) Analysis of Variance and (2) Structural Equation Modeling.

CHAPTER II

METHOD

Sample

Participants included 714 adolescents and their families, drawn from a longitudinal, family-centered intervention study, Project Alliance (Dishion & Kavanagh, 2003). Data were obtained from the sixth wave of assessment and consist of a subset of high-risk youth, recruited in 6th grade, from three middle schools in an ethnically diverse, urban community. The retention rate for this sample through age 23 was 80%.

When the adolescents were 16-17 they and their families were invited to participate in a multi-method family assessment, consisting of observation tasks and questionnaires. Questionnaires were administered to mothers, fathers, teachers, and students as part of an assessment battery that queried substance use, adolescent problem behavior, parental monitoring, problem solving, peer relations, and school adjustment. Observation tasks consisted of video-taped, five-minute discussions between parent (i.e. mother, father) and adolescent, on topics ranging from Problem Solving to Planning a Family Celebration. In this study, the two observation tasks analyzed were the Monitoring and Problem Solving discussions. Coder observation ratings of monitoring and problem solving were used, since participants completed corresponding self-report measures on monitoring and problem solving, resulting in two different accounts of the same family management skill.

Procedures

The latent variables modeled in this study were based on three or more indicators.

Videotaped Observations

During the family interview portion of the assessment, parents and adolescents were prompted to discuss each of seven family topics for a duration of five minutes. The Problem Solving task asked participants to discuss a problem pertaining to the family. The problem was selected by the parent prior to the discussion task and served as the basis for discussion (i.e. "we'd like you to discuss the problem you selected…"). The Monitoring task similarly prompted participants to discuss a situation that elicited monitoring behavior from the parent.

General Coding Procedures. The videotapes were coded by a team of University of Oregon undergraduate students that were blind to the study hypotheses. Two levels of coding were conducted on the observed family interactions. The first level was a micro-code, and is here referred to as the Relationship Affect Coding System. The Relationship Affect Coding System (RACS) focused on both the interpersonal behavioral *and* affective processes observed in the parent-adolescent interaction. The Relationship Affect Coding system relied on coded speakership and used an event recorder to obtain sequencing and duration data on the dyadic parent-adolescent interaction. The second level of coding consisted of a global coder rating following observation of the family discussion task.

Micro Coder Rating Scales. The Relationship Affect Coding System (RACS) was developed for the purpose of coding the interpersonal dynamics of a close

relationship (Dishion, Jabson, Peterson, & Winter, 2008). Codes were created to represent a 3-by-3 behavior grid, where the topographical dimensions of the interaction were coded as verbal, nonverbal and physical. The interpersonal valence of the interactions was coded as positive, negative or neutral. That is, the verbal code was designed to capture verbal behaviors (i.e. positive verbal, negative verbal, directives, and general talk). For example, the positive verbal code includes verbal expressions of approval, support, empathy or endearment, such as "Good job!" and "You'll do fine on your test tomorrow." The "Talk" verbal code captures general conversational interactions, including questions and answers, acknowledgement and factual statements (i.e. "What should we have for dinner tonight?"). The directive verbal code captures firm commands or requests for behavior change (i.e. "Let's think of another solution"). The negative verbal code includes vocal expressions of disapproval for behavior, or any condition relevant to the family discussion, such as "I don't like you doing that," "You're lying," and "You're spilling on the floor." The coding scheme for physical behaviors similarly captures positive and negative valence. For instance, a positive physical is characterized by physical contact that is affectionate (i.e. hugs, kisses, patting back softly), while a negative physical code is characterized by intrusive contact (i.e. shoving, hitting, pinching, ear flicking) or any other physical behavior that may be experienced negatively, such as kicking a family member's chair. The affect codes, in turn, reflect demonstrable and observable affect, and are based on facial cues, vocal tone and body posture. For instance, the Anger/Disgust affect code captures a raised voice, a furrowed brow, frustration, eye rolls, constrained anger, irritation and annoyance. It is important to

note that the affect coding scheme ignores verbal content and focuses exclusively on affective cues.

As discussed above, behaviors were coded in real-time and entered with an event recorder, where each entry was defined by (1) a verbal content code, (2) a physical behavior code, and (3) an affect code. Reliability was assessed through random selection of a subset of parent-adolescent videotapes, which were independently coded. Observers were blind to which videotapes were used for reliability calculations. Furthermore, coders were randomly assigned as either calibrator or reliability files when computing percent agreement and kappa. The percent agreement in this project was 93.5%, with kappa at .93.

Macro Coder Rating Scales. Coders completed a Macro Coder Rating Scale after each family discussion task. That is, coders provided behavioral ratings on videotaped parent adolescent interactions immediately after observation. Macro-rating coder percent agreement across the entire project was 84%.

Measures

Parental Monitoring

Monitoring was measured with four indicators, where each indicator represented a different reporting agent (mother, father, adolescent and coder). Means and standard deviations for all monitoring indicators can be found in Table 1.

Mother/Father/Adolescent Report. Parents and adolescents were asked to complete a questionnaire on family rules and monitoring (CFCQP). Both adolescent and mother/father participants were assessed on the same 4 items, using a five point Likert-

type scale, with responses ranging from 1 (*Never or Almost Never*) to 5 (*Always or Almost Always*). A high score on this scale indicates higher levels of parental monitoring. Adolescents were asked to respond to the following items: "In the past three months, how often did at least one of your parents": "Know what you were doing when away from home," "Know where you were after school," "Know about your plans for the coming day," and "Have a pretty good idea of your interests and activities."

Coder Ratings. Coders provided behavioral ratings on videotaped parent-adolescent interactions. After observing the videotaped Monitoring and Listening discussion, coders completed the Monitoring scale, an 21-item, 9 point Likert-scale anchored at 1 (*not at all*), 5 (*somewhat*) and 9 (*very much*). Coders were asked to respond to items such as "Does it seem that the child spends time away from adult supervision?," "Does this parent seem to be monitoring where the child spends time?," and "Does the parent indicate involvement in the child's activities, such as planning, discussing, participating or providing transportation?" An indicator, *lack of monitoring*, was constructed from coder responses.

Problem Solving

Problem solving was measured with four indicators, where each indicator represented a different reporting agent (mother, father, adolescent and coder). Means and standard deviations for all problem solving indicators can be found in Table 3.

Mother/Father/Adolescent Report. The problem solving self-report questionnaire (PROB) assessed parent and adolescent perceptions of problem solving, using a 6-item, five point Likert-type scale. Mothers, fathers and adolescents were asked

to respond to the following items: “How well did you understand what the problem was?,” “How much did you agree on a solution?,” “Do you think you solved this problem during this discussion?,” “How satisfied are you with this discussion?,” “Did your family decide to take some action as a result of this discussion?,” and “How often does your family have a discussion like this?” Responses were anchored 1 (*very well/very satisfied*) and 5 (*not at all well/not at all satisfied*). A high score on this scale indicates higher levels of problem solving perception. Item analysis revealed that excluding two items from the scale (“How well did you understand the problem?” and “How often does your family have a discussion like this?”) increased the cohesiveness of the construct. The standardized item alpha in this full sample (N=493) for adolescent reports on family problem solving was .868. For mother report on problem solving, Cronbach’s standardized alpha was .868 (N=464). For father report on problem solving, the standardized Cronbach alpha was .826 (N=241). Scale analysis by ethnic group show comparable alphas across participants (European American Mother: .855 (N=276), African American mother: .870 (N=188), European American father: .825 (N=193), African American father: .753 (N=48), European American adolescent: .861 (N=293), African American adolescent: .865, (N=200)).

Coder Ratings. Coders completed a Coder Macro Rating Scale to assess global coder impressions of family management processes. That is, coders provided behavioral ratings on videotaped parent-adolescent interactions immediately after observation. For instance, after observing the videotaped Problem Solving Discussion, coders completed the Problem Solving Scale, an 18-item, 9 point Likert-scale anchored at 1(*not at all*), 5

(*somewhat*) and 9 (*very much*). Coders were asked to respond to items such as "Do family members propose clear and specific solutions?," "How clearly was the problem specified?," and "Are suggestions constructive or positive toward problem resolution?" An indicator of parent-adolescent dyadic functioning was constructed from coder responses for each of the observation tasks. Macro-rating coder percent agreement across the entire project was 84%.

Adolescent Problem Behavior: Antisocial Behavior and Substance Use

At age 18-19, antisocial behavior was measured with three indicators, including adolescent and parents reports. The Adult Behavior Checklist (ABCL) assessed parent perceptions of adolescent antisocial behavior, using a 16 item, three point Likert scale (Achenbach, Howell, Quay, & Conners, 1991). The Adult Self Report (ASR) assessed adolescent perceptions of their own antisocial behavior. Mothers, fathers and adolescents were asked to respond to items such as: "Argues a lot," "Blames others for own problems," "Cruelty, bullying or meanness to others," "Gets along badly with family," "Gets in many fights," and "Physically attacks people." Responses were anchored at 0 (*not true*), 1 (*somewhat or sometimes true*) and 2 (*very true or often true*). A high score on this scale indicates higher levels of antisocial behavior.

Substance use at age 18-19 was measured via a latent construct based on three indicators from adolescents' self-report that assessed (a) tobacco frequency, (b) alcohol frequency and (c) marijuana frequency. For each subscale, a mean score was computed based on individual items querying frequency of use in the past three months. For adolescent report on alcohol, tobacco and marijuana frequency of use, Cronbach's

standardized alpha was .65. Means and standard deviations for antisocial and substance use indicators can be found in Table 5.

Observed Negativity

The proportion of time mother, father and adolescent spent engaged in negativity, relative to the total length of the observation was measured. Observed negativity was defined as negative verbal content, a negative physical, or negative affect. Means and standard deviations for observed negativity indicators can be found in Table 5.

Analytic Plan

Structural equation modeling was used to test if macro-codes (i.e. youth, parent report, coder ratings) predicted adolescent aggression and substance use differentially as a function of ethnicity. Structural equation modeling was used to formally test the hypothesis that youth and parent report have differential convergent validity with coder macro-level ratings, as a function of ethnicity. Lastly, structural equation modeling was used to test the hypothesis that the monitoring and problem solving constructs were prognostic of later antisocial behavior, substance use and observed negativity. Missing data from outcome measures reduced the sample size on an analysis-by-analysis basis.

CHAPTER III

RESULTS

Descriptive Analyses and Statistics

Parental Monitoring

Table 1 provides the mean level of parent monitoring in African American and European American males and females, according to mother, father, and adolescent report. A significant main effect of ethnicity was observed for monitoring of adolescent behavior according to maternal report, with European American mothers reporting higher mean levels of parental monitoring relative to African American mothers ($F(1, 492)= 12.85$, $p<.001$; see Table 1). A significant main effect of gender was observed for parental monitoring, with European American and African American mothers reporting higher mean level monitoring of females, relative to males ($F(1,492)=7.23$, $p=.01$; see Table 2).

A significant main effect of ethnicity was likewise observed for father reports of monitoring, with European American fathers reporting higher mean levels of monitoring, when compared to African American fathers ($F(1, 266)= 6.10$, $p=.01$; see Table 1). No significant main effect of gender was found for father reports of monitoring.

Based on adolescent report, there were no main effects for ethnicity (See Table 2). There were main effects, however, for gender on parent monitoring ($F(1,578)=10.06$, $p=.002$), with again, higher levels for girls as compared to boys (see Table 2).

Table 1: Means and Standard Deviations of Monitoring Scores as a function of Ethnicity, Gender and Reporting Agent

Outcome Measure	European American				African American			
	Males		Females		Males		Females	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Parental Monitoring								
Mother	4.02	.94	4.25	.87	3.71	1.0	3.94	.93
Father	3.93	.86	4.02	.95	3.50	1.1	3.76	.96
Adolescent	2.60	.89	3.00	.90	2.64	.99	2.76	1.12
Coder Rating (lack of Monitoring)	3.89	1.0	3.87	1.0	4.08	1.1	3.62	.91

Table 2: Analysis of Variance for Mean Levels of Paternal Monitoring as a function of Reporting Agent

Source	*Sums of Squares*	*df*	*Mean Square*	*F*	*p*
Between Subjects					
Mother Report					
Ethnicity	11.36	1	11.36	12.85	.00
Gender	6.39	1	6.39	7.23	.01
Ethnicity x Gender	.00	1	.00	.00	.99
Father Report					
Ethnicity	5.33	1	5.30	6.10	.01
Gender	1.30	1	1.30	1.50	.22
Ethnicity x Gender	.33	1	.33	.38	.54
Adolescent Report					
Ethnicity	1.39	1	1.39	1.48	.22
Gender	9.41	1	9.41	10.06	.00
Ethnicity x Gender	2.84	1	2.84	3.03	.08
Coder Report					
Ethnicity	.11	1	.11	.10	.75
Gender	6.90	1	6.90	6.56	.01
Ethnicity x Gender	5.83	1	5.83	5.56	.02

Coder ratings of monitoring based on the videotaped interactions did not reveal a main effect for ethnicity, however there were main effects for gender, where again, parents of boys were rated as lower in monitoring than those of girls ($F(1,495)=6.56$,

p=.011). In addition, there was a significant interaction between ethnicity and gender (F(1,495)=5.56, *p*=.02) (see Figure 1).

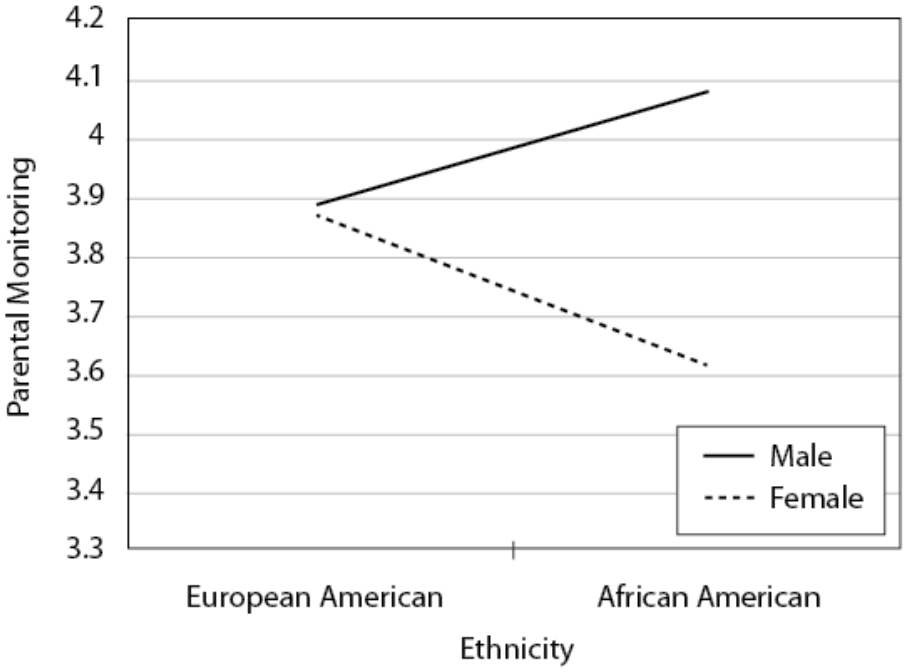


Figure 1. Interaction effect of ethnicity by gender on coder ratings of observed parental monitoring.

Problem Solving

Table 3 provides the mean level of problem solving in African American and European American males and females, according to mother, father, and adolescent report. A significant main effect of ethnicity was observed for family problem solving according to mother, father and adolescent report, with African American participants reporting higher mean levels of family problem solving relative to European American participants (see Table 3 and Table 4). In addition, there was a significant interaction

between ethnicity and gender for adolescent report of family problem solving

(F(1,492)=8.84, *p*=.003) (Table 4, Figure 2).

Table 3: Means and Standard Deviations of Problem Solving Scores as a function of Ethnicity, Gender and Reporting Agent

Outcome Measure	European American				African American			
	Males		Females		Males		Females	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Family Problem Solving								
Mother	12.86	3.76	13.50	3.36	14.99	3.95	14.97	3.11
Father	12.70	3.00	13.05	3.87	15.82	3.37	14.50	2.76
Adolescent	13.00	3.40	14.27	3.80	15.61	3.31	14.98	3.40
Coder Rating	4.87	1.17	5.02	1.29	4.73	1.27	4.74	1.36

Table 4: Analysis of Variance for Mean Levels of Family Problem Solving as a function of Reporting Agent

Source	*Sums of Squares*	*df*	*Mean Square*	*F*	*p*
Between Subjects					
Mother Report					
Ethnicity	363.86	1	363.86	28.65	.00
Gender	10.93	1	10.93	.86	.35
Ethnicity x Gender	12.40	1	12.40	.98	.32
Father Report					
Ethnicity	196.39	1	196.39	17.40	.00
Gender	8.80	1	8.80	.78	.38
Ethnicity x Gender	26.33	1	26.33	2.33	.13
Adolescent Report					
Ethnicity	330.45	1	330.45	26.95	.00
Gender	11.86	1	11.86	.97	.33
Ethnicity x Gender	108.37	1	108.37	8.84	.00
Coder Report					
Ethnicity	5.14	1	5.14	3.22	.07
Gender	.79	1	.79	.49	.48
Ethnicity x Gender	.59	1	.59	.37	.54

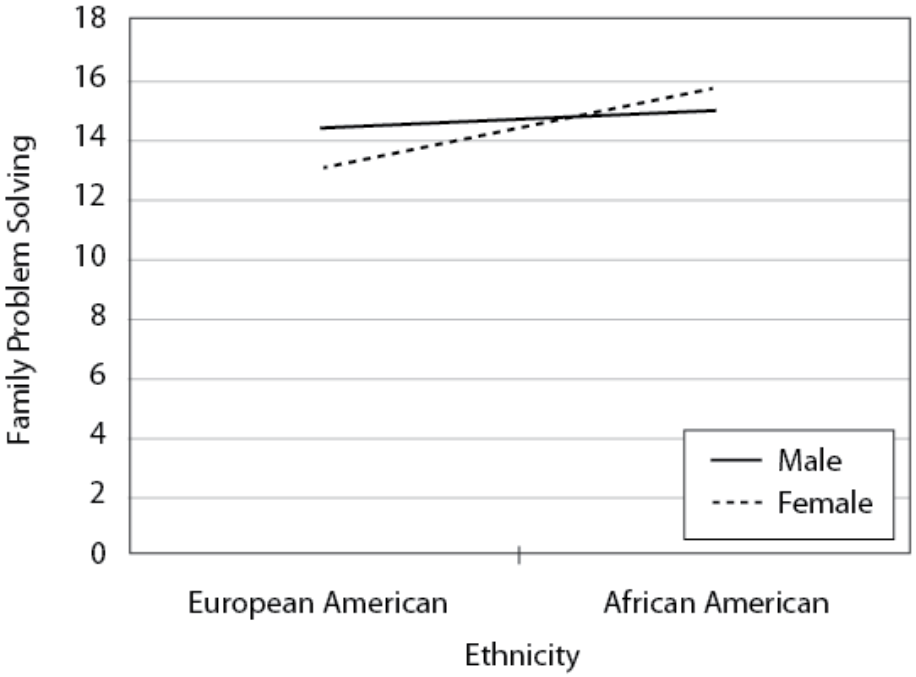


Figure 2. Interaction effect of ethnicity by gender on adolescent report of family problem solving.

Observed Negativity

Table 5 provides the mean level of all outcome measures investigated in this study for African American and European American males and females. Coder ratings of observed negativity based on videotaped interactions did not reveal a main effect of ethnicity for mothers or adolescents. However, coder ratings of observed negativity did reveal a main effect of ethnicity for fathers, with African American fathers being rated as higher in negativity than European American fathers (F (1, 248)=4.25, p=.04) (see Tables 5 and 6). In addition, coder ratings of observed negativity reveal a main effect of gender for mothers (F(1,467)=3.95, p<.05).

Drug Use

A significant main effect of ethnicity was observed for frequency of tobacco, alcohol and marijuana use in the past three months according to adolescent report, with European American adolescents reporting higher mean levels of use, relative to African American adolescents (see Tables 5 and 7).

A significant main effect of gender was observed for frequency of alcohol and marijuana use, with European American and African American adolescents reporting higher frequency of use in males, relative to females (see Tables 5 and 7). Testing between-subjects effects reveals a significant interaction between ethnicity and gender on adolescent report of alcohol and marijuana use (see Table 7).

Antisocial Behavior

No significant main effect of ethnicity on levels of adolescent aggressive behavior was observed, as reported by mother, father and adolescent informants. No significant main effect of gender on adolescent aggression was observed, as reported by mothers, fathers and adolescents.

Table 5: Descriptive Statistics for Outcome Measures

Outcome Measure	European American				African American			
	Male		Female		Male		Female	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Observed Negativity								
Mother Negative Duration	.01 (149)	.04	.01 (134)	.02	.02 (91)	.03	.01 (97)	.02
Father Negative Duration	.01 (108)	.01	.00 (89)	.01	.01 (32)	.02	.02 (23)	.05
Adolescent Negative Duration	.02 (156)	.03	.02 (139)	.04	.01 (102)	.03	.01 (101)	.03
Drug Use-Adolescent Report								
Alcohol Frequency	2.68 (181)	2.04	1.91 (164)	1.74	1.04 (122)	1.58	.93 (118)	1.31
Tobacco Frequency	1.88 (181)	2.56	1.55 (164)	2.37	.95 (121)	1.96	1.0 (118)	2.01
Marijuana Frequency	1.53 (181)	2.19	.74 (164)	1.26	.89 (122)	1.80	.77 (117)	1.60
Antisocial Behavior: Aggression								
Mother report on Adolescent	53.95 (142)	5.66	53.67 (126)	4.59	53.21 (99)	5.71	54.46 (99)	4.98
Father report on Adolescent	53.49 (100)	5.11	53.85 (80)	5.48	54.50 (28)	6.18	53.90 (20)	5.05
Adolescent Self-report	54.44 (181)	5.53	54.54 (164)	5.29	54.95 (122)	6.05	55.42 (118)	5.74

Note: Number of measures available for each mean is noted parenthetically

Table 6: Analysis of Variance for Coder Ratings of Observed Negativity

Source	*Sums of Squares*	*df*	*Mean Square*	*F*	*p*
Between Subjects					
Mother					
Ethnicity	.001	1	.074	1.26	.26
Gender	.004	1	.001	3.95	.05
Ethnicity x Gender	2.89E-006	1	2.89E-006	.00	.96
Father					
Ethnicity	.002	1	.002	4.25	.04
Gender	.000	1	.000	.47	.49
Ethnicity x Gender	.001	1	.001	2.77	.10
Adolescent					
Ethnicity	.003	1	.003	2.81	.10
Gender	.000	1	.000	.10	.75
Ethnicity x Gender	.000	1	.000	.20	.66

Table 7: Analysis of Variance for Mean Levels of Adolescent Drug Use

Source	*Sums of Squares*	*df*	*Mean Square*	*F*	*p*
Between Subjects					
Tobacco Frequency					
Ethnicity	74.88	1	74.88	14.36	.000
Gender	2.19	1	2.19	.42	.518
Interaction	5.85	1	5.85	1.12	.290
Alcohol Frequency					
Ethnicity	241.84	1	241.84	80.48	.000
Gender	27.76	1	27.76	9.24	.002
Interaction	15.56	1	15.56	5.18	.023
Marijuana Frequency					
Ethnicity	13.08	1	13.08	4.19	.041
Gender	30.12	1	30.12	9.65	.002
Interaction	15.71	1	15.71	5.03	.025

Interpreting Goodness of Fit

In analyzing structural equation models, Kline (2005) stipulates that a good model fit is characterized by a nonsignificant chi-square value. However, with large data samples, this chi-square criterion is considered overly conservative, since significance is easily achieved with more statistical power. In this study other fit indices are provided in

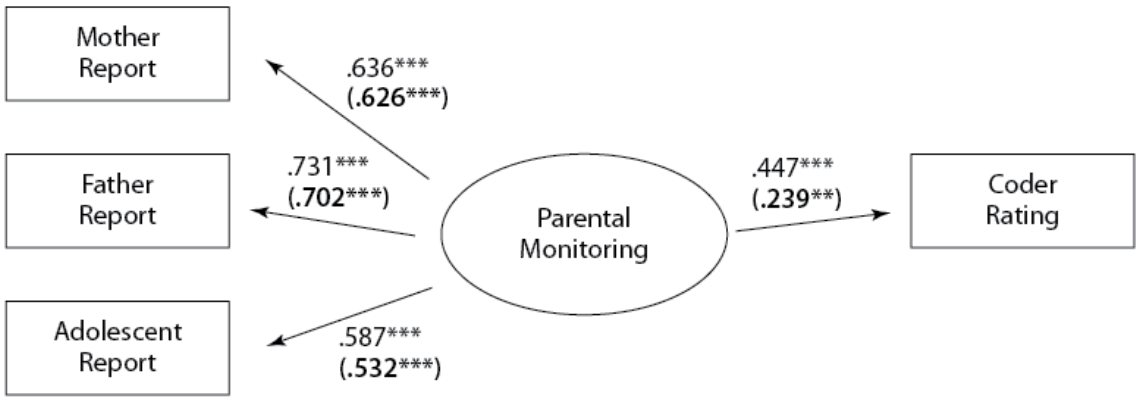
assessing model fit. When using the Comparative Fit Index (CFI) and the Tucker-Lewis Index, values of .90, or above, indicate a good model fit. In addition, a good model fit is evidenced by a root mean square error of evaluation (RMSEA) of 0.05 or less, and a standardized mean square residual value of 0.10 or less.

Hypothesis 1

Convergent Validity of Monitoring

Structural equation modeling was used to formally test the hypothesis that coder ratings reliably correlate with adolescent and parent report measures of monitoring for both EA and AA participants. A multiple group analysis was conducted to test if the model had a good fit for each of the two ethnic groups represented in this study. The first set of analyses constrained factor loadings of all four indicators to be equal across ethnic groups and showed good model fit, χ^2 (10)=15.587, p = .11, SRMR=.056, TLI=.96, CFI=.97, RMSEA=.032. The second model constrained three indicators (mother, adolescent and father report of monitoring) across the two groups, and allowed the fourth indicator (coder rating) to vary across ethnicity. The less constrained model, $\chi^2(9)=11.748$, p =.23 SRMR=.044, TLI=.98, CFI=.99, RMSEA=.032, fit the data better than a model where all indicators were set to be equal, as evidenced by a significant difference in fit, $\Delta\chi^2(1)=3.849$, p=.05 (see Figure 3). These results suggest that convergent validity between measures of parental monitoring is adequate for both ethnic groups. However, because a better fitting model was obtained when allowing coder ratings of monitoring behavior to vary across European American and African American participants, this suggests the possibility of modest variation in the measurement model

of the two groups, perhaps suggestive bias. Specifically, coder ratings of monitoring load more strongly for European American participating families (λ=.45, p<.001) than for African-American families (λ =.24, p=.007).



Model Fit:
N=586
$\chi^2(9) = 11.75$, $p = .23$, TLI = .98, CFI = .99,
SRMR = 0.44, RMSEA = .032
Loadings for African American group reported in bold and parentheses.

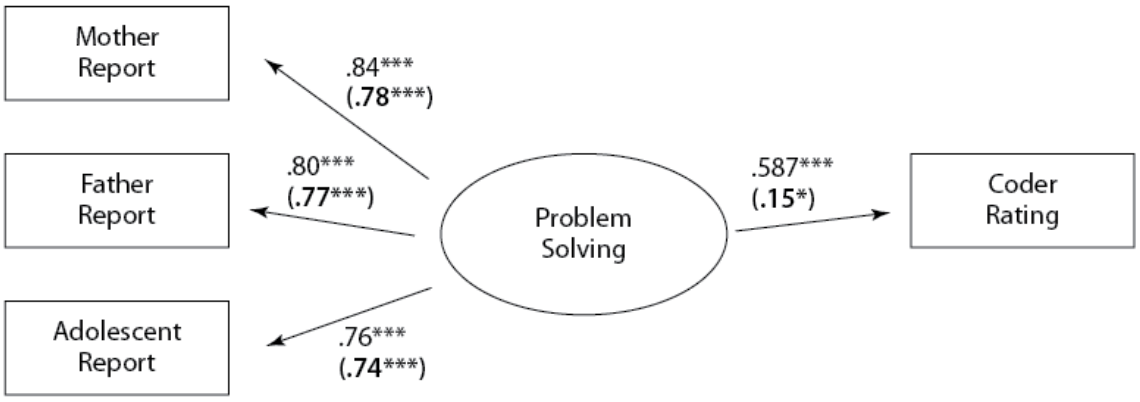
**$p < .01$, ***$p < .001$
Note: Standardized values are reported.

Figure 3. Convergent validity of parental monitoring as a function of reporting agent and ethnicity.

Convergent Validity of Problem Solving

Structural equation modeling was used to formally test the hypothesis that global coder ratings reliably correlate with adolescent and parent report measures of problem solving for both EA and AA participants. A multiple group analysis was conducted to test if the model had a good fit for each of the two ethnic groups represented in this study. The first set of analyses constrained factor loadings of all four indicators to be equal

across ethnic groups and showed adequate fit, χ^2 (10)=36.23, p <.001, SRMR=.051, TLI=.94, CFI=.95, RMSEA=.10. The second model constrained three indicators (mother, adolescent and father report of problem solving) across the two groups, and allowed the fourth indicator (coder rating) to vary across ethnicity. The less constrained model, $\chi^2(9)=18.6$, p =.03, SRMR=.068, TLI=.97, CFI=.98, RMSEA=.07, fit the data better than a model where all indicators were set to be equal, as evidenced by a significant difference in fit, $\Delta\chi^2(1) = 17.623$, p<.001. These results suggest that convergent validity between measures of problem solving is adequate for both ethnic groups. However, because a better fitting model was obtained when allowing coder ratings of problem solving behavior to vary across European American and African American participants, this suggests the possibility of modest variation in the measurement model of the two groups, again suggestive of bias. Specifically, coder ratings of problem solving load more strongly for European American participating families (λ=.59, p<.001) than for African-American families (λ =.15, p=.02), (see Figure 4).



Model Fit:
N=503
$\chi^2(9) = 18.6$, $p = .03$, TLI = .97, CFI = .98, SRMR = 0.68, RMSEA = .07
Loadings for African American group reported in bold and parentheses.

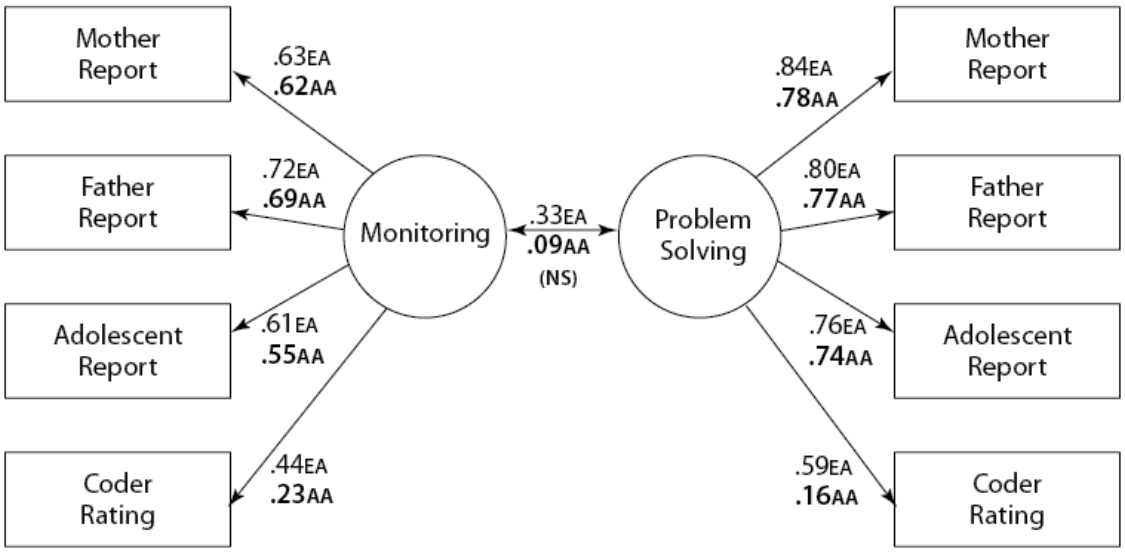
*$p < .05$, **$p < .01$, ***$p < .001$
Note: Standardized values are reported.

Figure 4. Convergent validity of problem solving as a function of reporting agent and ethnicity.

Discriminant Validity of Parenting Constructs

Structural equation modeling was used to formally test the hypothesis that monitoring and problem solving are significantly different parenting constructs, in both European American and African American groups. A multiple group analysis was conducted to test if the hypothesized model exhibited good fit for each of the two ethnic groups represented in this study. The first set of analyses allowed the correlation between the two latent constructs, monitoring and problem solving, to vary across ethnic groups. This model exhibited adequate fit, χ^2 (48) = 82.12, $p = .002$, SRMR=.07, TLI=.94, CFI=.95, RMSEA=.05. The second set of analyses constrained factor loadings of all four indicators to be equal across ethnic groups and similarly exhibited an adequate model fit,

χ^2 (49)=85.31, p = .001, SRMR=.07, TLI=.94, CFI=.95, RMSEA=.05 (See Figure 5). The less constrained model fit the data better than a model where all indicators were set to be equal, as evidenced by a marginally significant difference in fit, $\Delta\chi^2(1)=3.189$, p=.07. Overall, these results suggest that the two parenting constructs of monitoring and problem solving can be statistically differentiated. However, because a better fitting model was obtained when allowing the correlation between latent constructs to vary across European American and African American participants, this suggests the possibility of variation in the measurement model of the two groups. Specifically, discriminant analyses suggest a moderate relationship between the construct of monitoring and problem solving in European American families (λ =.33, p<.001). In contrast, in African American families, the correlation between monitoring and problem solving is nonsignificant, suggesting that monitoring and problem solving, as measured in this study, represent two orthogonal constructs for this ethnic group (λ =.09, p=.39).



Model Fit:
N=586
$\chi^2(48) = 82.12$, $p = .002$, TLI = .94, CFI = .95,
SRMR = .07, RMSEA = .05

Note: Standardized values are reported.

All indicator loadings significant at $p < .001$, except when noted (NS).
Loadings for European American participants denoted by subscript EA.
Loadings for African American participants denoted by subscript AA, in bold.

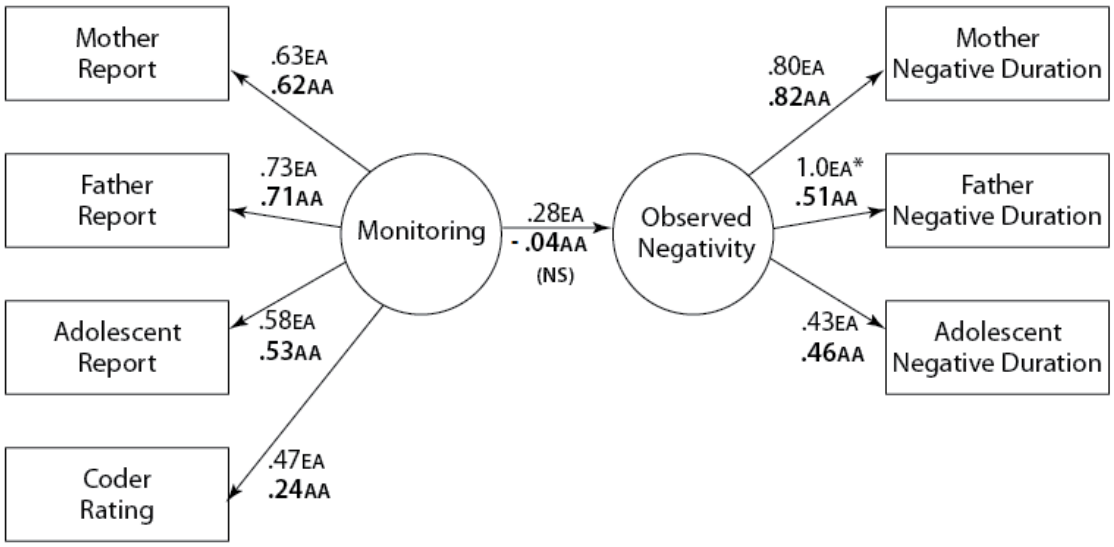
Figure 5. Discriminant validity of parental monitoring and problem solving as a function of reporting agent and ethnicity.

Hypothesis 2

Predictive Validity of Monitoring

Micro Level Observed Negativity. Structural equation modeling was used to formally test the hypothesis that parental monitoring has differential predictive validity on the microsocial measure of parent-adolescent negativity. It is thought that negativity in family interaction is prognostic of conflict and difficulty monitoring, and therefore, it is expected to correlate with less parent monitoring. As stipulated previously, a multiple

group analysis was conducted to test if the hypothesized model exhibited good fit for each of the two ethnic groups represented in this study. The first set of analyses allowed the correlation between the two latent constructs, monitoring and observed negativity, to vary across ethnic groups. This model exhibited adequate fit, χ^2 (36)=59.78, p = .01, SRMR=.08, TLI=.92, CFI=.93, RMSEA=.05. A second model constrained the relationship between monitoring and observed negativity to be equal across both ethnic groups. Similarly, this model, χ^2(37)=63.89, p = .004, SRMR=.08, TLI=.91, CFI=.92, RMSEA=.050, exhibited adequate fit. However, the first model, where the correlation between monitoring and negativity is free to vary across both ethnic groups, fits the data better as evidenced by a significant difference in fit, $\Delta\chi^2$(1)=4.11, p=.04 (see Figure 6). These results suggest a significant difference in the predictive validity of monitoring on observed negativity as a function of ethnicity. High levels of parental monitoring were related to low levels of observed negativity in this European American subset, (β=−.28, p<.001). In contrast, monitoring in African American families was virtually uncorrelated with observed negativity (β=−.04, p=.75).



Model Fit:
N=586
$\chi^2(36) = 59.78$, $p = .01$, TLI = .92, CFI = .93,
SRMR = .08, RMSEA = .05

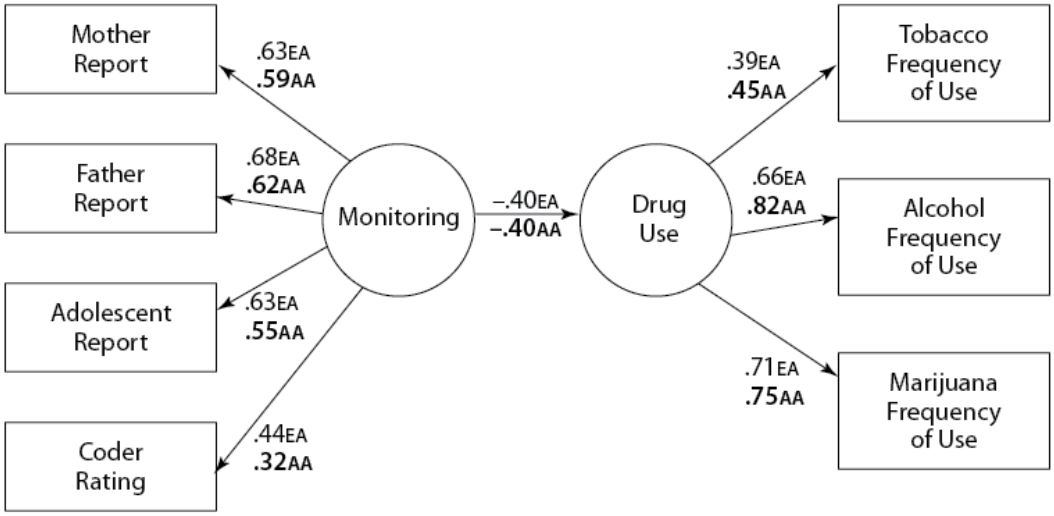
Note: Standardized values are reported.

All indicator loadings significant at $p < .001$, except when noted (NS).
Loadings for European American participants denoted by subscript EA.
Loadings for African American participants denoted by subscript AA, in bold.
* The residual variance for this measure was negative but nonsignificant, and thus constrained at zero.

Figure 6. Predictive validity of parental monitoring on observed negativity.

Drug Use. Structural equation modeling was used to formally test the hypothesis that monitoring, as measured at age 16-17, predicted drug use at age 18 to 19 years of age, at the same level across ethnic groups. A multiple group analysis was conducted to test if the hypothesized model exhibited good fit for each of the two ethnic groups represented in this study. The first set of analyses allowed the correlation between the two latent constructs, monitoring and drug use, to vary across ethnic groups. This model had an acceptable fit, $\chi^2(34) = 66.22$, $p < .001$, SRMR=.07, TLI=.92, CFI=.93,

RMSEA=.06. A second model constrained the relationship between monitoring and drug use to be equal across both ethnic groups. Similarly, this model, $\chi^2(35)=66.28$, $p = .001$, SRMR=.07, TLI=.93, CFI=.94, RMSEA=.053, had an acceptable fit. However, the difference in fit between models is non-significant, $\Delta\chi^2(1)=0.06$, p=.81, which suggests that the regression path from monitoring to drug use is equivalent across both ethnic groups (see Figure 7). As such, parent monitoring is highly predictive of future drug use in both EA and AA families, at the same level. In both African American (β=−.40, p<.001) and European American groups (β=−.40, p<.001), high levels of parental monitoring were significantly related to low levels of drug use 2-3 years later.

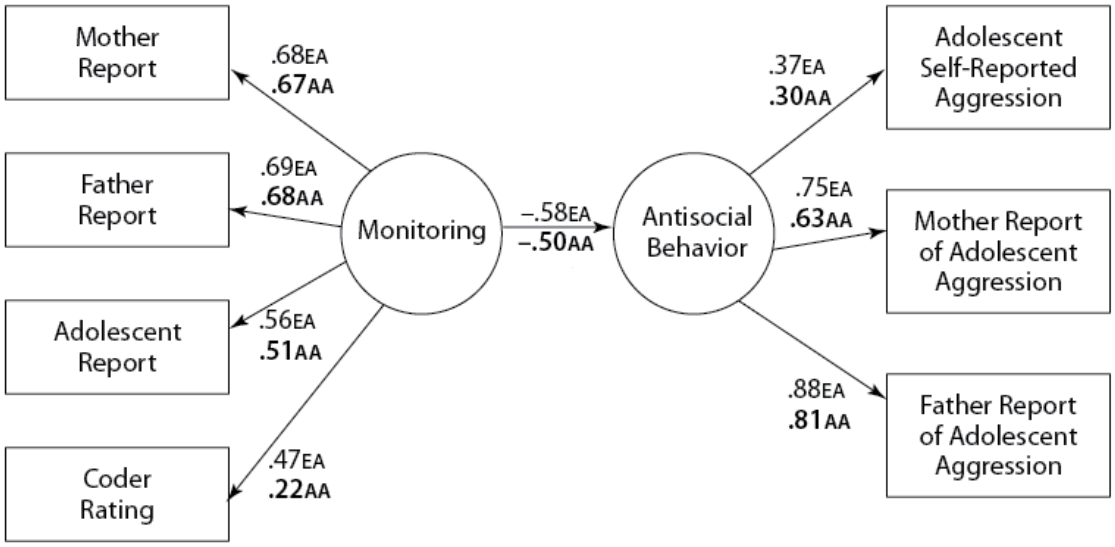


Model Fit:
N=631
$\chi^2(34) = 66.22$, $p = .001$, TLI = .92, CFI = .93,
SRMR = .07, RMSEA = .06
All indicator loadings significant at $p < .001$.
Loadings for European American participants denoted by subscript EA.
Loadings for African American participants denoted by subscript AA, in bold.

Note: Standardized values are reported.

Figure 7. Predictive validity of parental monitoring on adolescent drug use.

Antisocial Behavior. Structural equation modeling was used to formally test the hypothesis that parent monitoring at age 16-17 predicted antisocial behavior in late adolescence for both AA and EA families (age 18-19). A multiple group analysis was conducted to test if the hypothesized model exhibited good fit for each of the two ethnic groups represented in this study. The first set of analyses allowed the correlation between the two latent constructs, monitoring and antisocial behavior, to vary across ethnic groups. This model exhibited adequate fit, χ^2 (35) = 56.20, p = .013, SRMR=.06, TLI=.93, CFI=.94, RMSEA=.04. A second model constrained the relationship between monitoring and antisocial behavior to be equal across both ethnic groups. Similarly, this model, $\chi^2(36)=57.62$, p = .013, SRMR=.08, TLI=.93, CFI=.94, RMSEA=.04, exhibited adequate fit. However, the difference in fit between models is non-significant, $\Delta\chi^2(1)=1.42$, p=.23, which suggests that the regression path between from monitoring to antisocial behavior is equivalent across both ethnic groups. As such, no significant difference in the predictive validity of monitoring on antisocial behavior, as a function of ethnicity, is evident. In both African American (β=−.50, p<.001) and European American groups (β=−.58, p<.001), high levels of parental monitoring in adolescence were modestly predictive of low levels of antisocial behavior in late adolescence (see Figure 8).



Model Fit:
N=631
$\chi^2(35) = 56.20$, $p = .013$, TLI = .93, CFI = .94,
SRMR = .06, RMSEA = .04
All indicator loadings significant at $p < .001$.
Loadings for European American participants denoted by subscript EA.
Loadings for African American participants denoted by subscript AA, in bold.

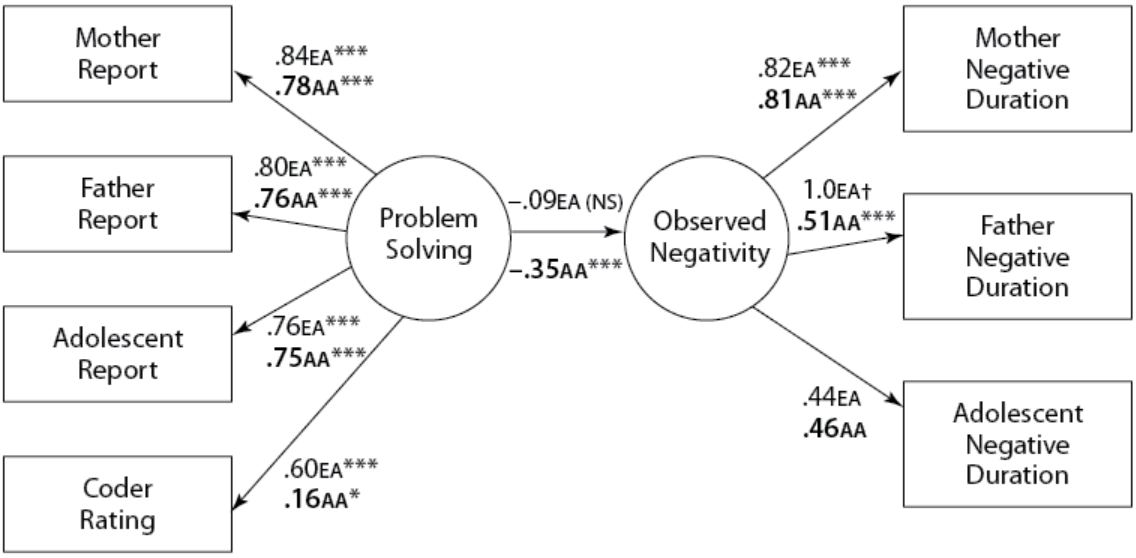
Note: Standardized values are reported.

Figure 8. Predictive validity of parental monitoring on antisocial behavior.

Predictive Validity of Problem Solving

Micro-Level Observed Negativity. Structural equation modeling was used to formally test the hypothesis that problem solving has differential predictive validity on the microsocial measure of parent-adolescent negativity. Guided by previous work on problem solving, it was believed that a family problem solving discussion would act as a stressor in the dyadic exchange (Forgatch, 1989; Forgatch & Stoolmiller, 1994). It is thought that negativity in family interactions is prognostic of conflict and it was therefore expected to correlate with less family problem solving. As stipulated previously, a

multiple group analysis was conducted to test if the hypothesized model exhibited good fit for each of the two ethnic groups represented in this study. The first set of analyses allowed the correlation between the two latent constructs, problem solving and observed negativity, to vary across ethnic groups. This model exhibited adequate fit, χ^2 (36)=68.25, $p < .001$, SRMR=.09, TLI=.94, CFI=.95, RMSEA=.06. A second model constrained the relationship between problem solving and observed negativity to be equal across both ethnic groups. Similarly, this model, $\chi^2(37)=72.12$, $p = .001$, SRMR=.09, TLI=.94, CFI=.95, RMSEA=.061, exhibited adequate fit. However, the first model, where the correlation between problem solving and negativity is free to vary across both ethnic groups, fits the data better as evidenced by a significant difference in fit, $\Delta\chi^2(1)=3.87$, p=.05. These results suggest a significant difference in the predictive validity of problem solving on observed negativity as a function of ethnicity (see Figure 9). Problem solving in European American families was uncorrelated with observed negativity (β=−.09, p=.18). In contrast, high levels of problem solving were related to low levels of observed negativity in this African American subset, (β=−.35, p<.001).



Model Fit:
N = 503
$\chi^2(36) = 68.25$, $p < .001$, TLI = .94, CFI = .95, SRMR = .09, RMSEA = .06

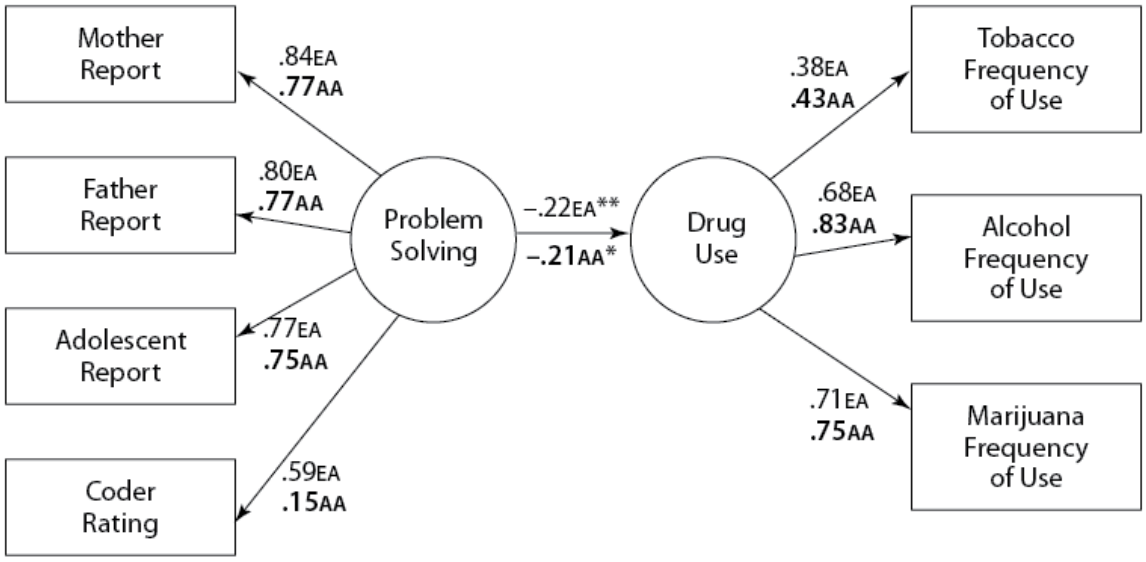
*$p < .05$, ***$p < .001$
Note: Standardized values are reported.

Loadings for European American participants denoted by subscript EA.
Loadings for African American participants denoted by subscript AA, in bold.
†The residual variance for this measure was nonsignificant, and thus constrained at zero.

Figure 9. Predictive validity of problem solving on observed negativity.

Drug Use. Structural equation modeling was used to formally test the hypothesis that problem solving, as measured at age 16-17, predicted drug use 2-3 years later, at the same level across ethnic groups. A multiple group analysis was conducted to test if the hypothesized model exhibited good fit for each of the two ethnic groups represented in this study. The first set of analyses allowed the correlation between the two latent constructs, problem solving and drug use, to vary across ethnic groups. This model had an acceptable fit, $\chi^2(34) = 50.99$, $p = .03$, SRMR=.07, TLI=.97, CFI=.98, RMSEA=.04. A second model constrained the relationship between problem solving and drug use to be

equal across both ethnic groups. Similarly, this model, $\chi^2(35)=60.0$, $p = .04$, SRMR=.07, TLI=.98, CFI=.98, RMSEA=.04, had an acceptable fit. However, the difference in fit between models is non-significant, $\Delta\chi^2(1)=0.01$, p=.92, which suggests that the regression path from problem solving to drug use is equivalent across both ethnic groups. As such, problem solving is highly predictive of future drug use in both EA and AA families, at the same level (see Figure 10). In both African American (β=−.21, p=.03) and European American groups (β=−.22, p=.003), high levels of problem solving were significantly related to low levels of drug use, as indexed by frequency of tobacco, alcohol and marijuana use, respectively.



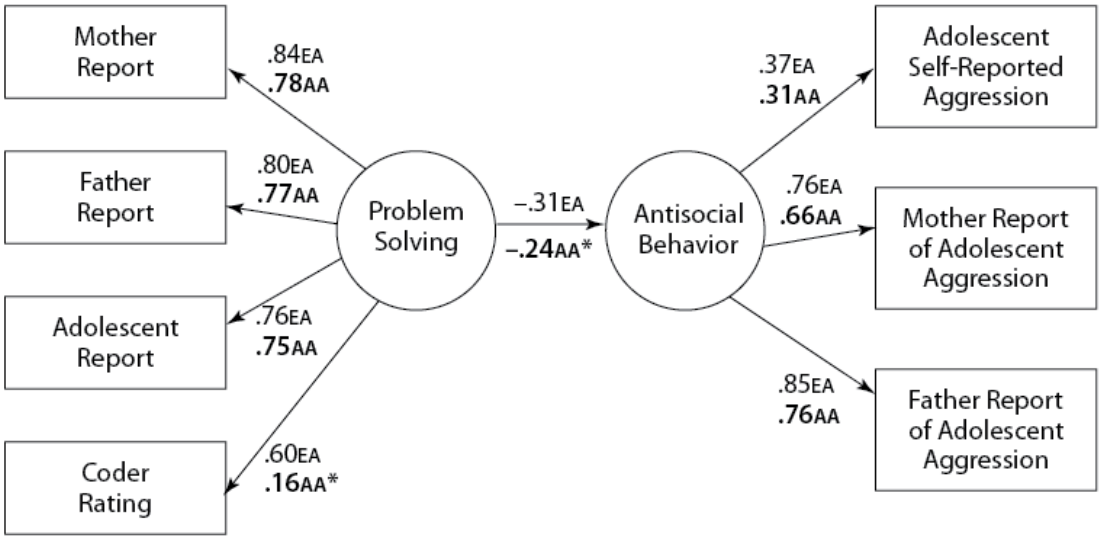
Model Fit:
N=617
$\chi^2(34) = 50.99$, $p = .03$, TLI = .97, CFI = .98,
SRMR = .07, RMSEA = .04
*$p < .05$, **$p < .01$, all other loadings significant at $p < .001$.
Loadings for European American participants denoted by subscript EA.
Loadings for African American participants denoted by subscript AA, in bold.

Note: Standardized values are reported.

Figure 10. Predictive validity of problem solving on drug use.

Antisocial Behavior. Structural equation modeling was used to formally test the hypothesis that problem solving at age 16-17 predicted antisocial behavior in late adolescence (age 18-19) for both AA and EA families. A multiple group analysis was conducted to test if the hypothesized model exhibited good fit for each of the two ethnic groups represented in this study. The first set of analyses allowed the correlation between the two latent constructs, problem solving and antisocial behavior, to vary across ethnic groups. This model exhibited adequate fit, χ^2 (35) = 65.97, p = .001, SRMR=.09, TLI=.94, CFI=.95, RMSEA=.05. A second model constrained the relationship between

problem solving and antisocial behavior to be equal across both ethnic groups. Similarly, this model, $\chi^2(36)=66.30$, $p = .002$, SRMR=.09, TLI=.95, CFI=.95, RMSEA=.05, exhibited adequate fit. However, the difference in fit between models is non-significant, $\Delta\chi^2(1)=.33$, $p=.56$, which suggests that the regression path between from problem solving to antisocial behavior is equivalent across both ethnic groups. As such, no significant difference in the predictive validity of problem solving on antisocial behavior, as a function of ethnicity, is evident. In both African American ($\beta=-.24$, $p=.04$) and European American groups ($\beta=-.31$, $p<.001$), high levels of problem solving in adolescence were modestly predictive of low levels of antisocial behavior in late adolescence (see Figure 11).



Model Fit:
N=617
$\chi^2(35) = 65.97$, $p = .001$, TLI = .94, CFI = .95,
SRMR = .09, RMSEA = .05
*$p < .05$. All other loadings significant at $p < .001$.
Loadings for European American participants denoted by subscript EA.
Loadings for African American participants denoted by subscript AA, in bold.

Note: Standardized values are reported.

Figure 11. Predictive validity of problem solving on antisocial behavior.

CHAPTER IV

DISCUSSION AND CONCLUSIONS

Measurement of family management skills is a centerpiece to intervention and prevention agendas, yet there has been very little research on the validity of these constructs across ethnic groups. This study compared direct observation of parenting practices with mother, father and adolescent reports. Questionnaire measures have been commonly used to study adolescent adjustment and parenting skill. Observational methods are useful in measuring family change as a function of intervention (Eddy, Stoolmiller, & Dishion, 1998) and serve as a guide to adaptive and tailored family interventions (Dishion & Stormshak, 2007). The inclusion of direct observations allows for an objective, specific, and time limited analysis of family change processes. The goals of this study were to expand past research on parent-adolescent interactions in three important ways: (1) By specifically examining the convergent validity of two constructs, monitoring and problem solving, as a function of reporting agent (mother, father, adolescent and coder informants), (2) by examining the predictive validity of these constructs on substance use and antisocial behavior, as a function of ethnicity (African American and European American), and lastly by (3) examining if these constructs could predict microsocial interaction patterns, such as observed negativity, between parents and adolescents.

Cultural Variance

Ethnicity of the family was of particular interest in this study, and hypothesized to influence the convergent and predictive validity of self-report and observational coding

measures. This study is grounded on the hypothesis that family management skills may be executed differently between African American and European American participants, thereby introducing a source of measurement error and possible bias.

Convergent Validity

Contrary to expectation, the convergent validity among measures of parental monitoring was found to be equivalent in both European American and African American families. The construct of parental monitoring was modestly correlated amongst mother/adolescent/father and coder observations, in both ethnic groups, at approximately the same level. Overall, the convergent validity amongst informants was equivalent for both ethnic groups. Structural equation modeling, however, did reveal modest variations in the measurement model, such that macro level coder ratings of monitoring load more strongly for European American families than for African American families.

While these differences in coder ratings may be suggestive of ethnic bias, it is important to note that in this study, the convergent validity of parental monitoring was assessed via two measurement models, where one model demonstrated equivalent convergence of parental monitoring amongst participants. It is more likely that the discrepancies in coder ratings result from observable differences in parental monitoring between participating families. In this study, coder observations of the "Monitoring and Listening" interaction task were used to create a *family* monitoring construct, where coders rated items such as "does each family member participate in the discussion?," "does the parent effectively gather important information about the child's activities?" and "does the parent control his/her reactions to allow the child to finish talking?" One

alternative interpretation is that this difference in coder ratings could result from African American families exhibiting more unidirectional (i.e. parent to child) processes regarding rule adherence and monitoring (Kerr & Stattin, 2000). It is possible that because the process of monitoring is observably different between ethnic groups, coders were more attuned to recognizing monitoring skill when it presented as dyadic and more bi-directional. This interpretation is guided by previous work in the literature suggesting that cultural schemas play a role in interpreting parenting skill (Deater-Deckard et al, 1996; Okazaki & Sue, 1995; Ji, 2005, Weisz et al., 1988). This suggests that parental monitoring may be differentially construed as more dyadic for the European-American subset of participants, when measured via global coder observation ratings.

Similarly, Dishion and Bullock (2002) discuss observational findings showing that successful (i.e. normative) African American families were rated as having lower limit setting skill, and speculate that this finding may be influenced by a European-American definition of limit setting that is not consonant with what limit setting looks like in African American families. In fact, Yasui and Dishion (2008) found that experimentally manipulating and matching the ethnicity of the coder with that of the family under observation increased the external validity of observational ratings, thereby reducing potential biases in operationalizing family management skills. When examining the differential loading of coder ratings for one ethnic group over the other, it is important not to lose sight of the larger picture, namely that irrespective of these coder ratings, assessment measures in this study indeed captured some of the key domains involved in defining parental monitoring in both these cultural groups.

Similarly, the convergent validity among measures of family problem solving was found to be equivalent in both European American and African American families. In both ethnic groups, the construct of problem solving was modestly correlated amongst mother/adolescent/father and coder observations, at approximately the same level. As discussed previously with the construct of parental monitoring, similar measurement biases were observed with problem solving, such that coder ratings loaded more strongly for European American participating families than for African-American families. This suggests that European American families were perceived (and rated by coders) as higher in problem solving ability. However, the convergent validity of problem solving was assessed via two structural equation models, one of which revealed equivalent convergence amongst the two ethnic groups. These variations in the measurement model may not be adequately classified as ethnic biases per say. Descriptive analysis, in fact, reveal a significant main effect of ethnicity, with African American mothers, fathers and adolescents, *all*, reporting higher mean level problem solving ability than European American participants. This discrepancy in problem solving ratings may reflect that coders and European American participants agree more on what problem solving is. Work by Darling and Steinberg (1993), who propose that parenting may be parsed into separate subcomponents (i.e. stylistic or behavioral), may help unravel these disparate findings. One interpretation could be that the construct of problem solving may be partitioned into two camps—a stylistic, perhaps even cognitive domain, and a more behaviorally-prescribed, observable one. It could be that coding methodology is more attuned to observable behavioral proxies of problem solving skill, while African

American reports may instead reflect more inferential qualities (i.e. cognitions or culturally-specified styles). It may be that European American participants have greater alignment between stylistic and behavioral schemas of their problem solving skill. This could then explain why African American participants perceive themselves as high in problem solving, yet are rated as less so by coders when observed interacting with their adolescents.

It bears mentioning that the problem solving questionnaire completed by participants in this study queried the following four items: "How much did you agree on a solution?," "Do you think you solved this problem during this discussion?," "How satisfied are you with this discussion?," and "Did your family decide to take some action as a result of this discussion?." One interpretation that is guided by looking at items on this questionnaire, specifically those asking about *agreement* on a solution and *satisfaction* with the discussion, is that perhaps for African American families feelings of *satisfaction/agreement* need not be indicative of *solving* the problem. That is, it could be that this problem solving questionnaire is instead measuring problem *sharing* (i.e. satisfaction derived from sharing the problem/venting), or problem *agreement* (i.e. agreement on a problem, rather than agreement on a solution). Coder observation ratings for the "Family Problem Solving Task" were used to construct a *family* problem solving rating, where coders rated items such as "are family members actively involved in problem solving?," "does any one family member dominate the problem solving discussion?," and "does the parent consider and include the child's interests and concerns in the discussion?." As previously discussed, it could be that items on this observational

measure load highly only on some, but not all, of the key domains involved in defining problem solving in this cultural group. This suggests that additional, specific items may be needed to capture other relevant aspects of problem solving in African American families.

Discriminant Validity

Discriminant validity refers to the amount of overlap between two theoretically distinct constructs. In this study, structural equation modeling revealed that for African American participants monitoring and problem solving represent distinct parent management skills. In contrast, with European American participants there was a moderate relationship between the construct of parental monitoring and problem solving, suggestive of some overlap between these two parenting skills. If problem solving and monitoring are indeed compartmentalized and cognized as separate abilities by African American participants in this study, it then follows that the behavioral correlates of these skills may similarly present as distinct. From an intervention perspective, this may suggest that certain family management skills may be less transferable across parenting domains for African American participants, a finding that would likely impact the overall effectiveness of an intervention. Clinical agendas and programs may need to pay keen attention to the specificity of a given parenting strategy, and provide participants with information on how to modify and implement that strategy or skill across different contexts (i.e. “when problem solving” or “when monitoring”) (Collins et al., 2004).

Predictive Validity

Parental monitoring has been consistently identified as a strong predictor of adolescent adjustment. This study examined the predictive validity of parental monitoring on observed negative interactions among parents and adolescents. In this study high levels of parental monitoring were related to low levels of observed negativity in European American families. However, monitoring and negativity showed virtually no relation to each other in African-American participants. As previously discussed, it is possible that monitoring has a different function, and is weighted differently in African American participants. For instance, Tsai and Chentova-Dutton (2002) argue that there is evidence suggesting that even when the same factors are important in describing a condition (i.e. depression), they may cluster and/or factor differently as a function of the salience that different elements hold in the culture. So too, Deater Deckard and colleagues (1996) discuss findings revealing that harsh parenting has a differential impact on adolescent adjustment and aggression, as a function of ethnicity, in large part as a result of culturally-prescribed interpretations, where punitive parenting, for instance, is perceived as well-intentioned and fair. Guided by this body of literature, it could be that the constructs of parental monitoring and negativity are subject to these same cultural forces. This alternate interpretation would suggest that even if the same monitoring elements are reliably assessed in both cultural subsets, they may not be equally relevant and significant in understanding and predicting observed negativity in both ethnic subsets.

In contrast, when assessing the predictive validity of problem solving on observed negativity in both ethnic groups, findings reveal that high levels of problem solving are related to low levels of observed negativity, but only in the African-American group. This finding with African American families is in line with work by Forgatch (1989), which suggests that negative affect disrupts problem solving outcomes. However, it was also expected that European American families would exhibit a similar trend between problem solving and negative affect. Relevant to this finding, Forgatch (1989) suggests that some families may opt to avoid discussing topics that result in conflict. It bears noting that the problem solving task used in this study relied on a pre-selected problem of the parent's choosing. However, parents and adolescents with stabilized patterns that involve *mutual disengagement*, where the parent does not have any influence over their adolescent, may opt for avoiding highly salient topics as a coping strategy, making it unlikely that a "higher-order problem" is selected for discussion, and consequently, there will be little conflict or negativity (Forgatch & Stoolmiller, 1994). Similarly, Dishion and Granic (2004) highlight that a trademark of distressed relationships (marital/family), is the use of avoidant behavior to prevent interacting in ways that are known to result in family conflict. It is easy to speculate that perhaps some discussions between parent and adolescents were off-topic and deviated from the discussion task. If this were the case, it is unclear if these results on observed negativity between ethnic groups reflect differences in *what* was discussed rather than *how* it was discussed.

This study similarly examined the predictive validity of monitoring and problem solving, respectively, on adolescent substance use and antisocial behavior. The construct

of parental monitoring was found to be highly predictive of future drug use in both European American and African American families. In both ethnic groups, high levels of monitoring were related to low levels of drug use in early adulthood, at ages 18 to 19. So too, high levels of problem solving in both ethnic groups were modestly related to low levels of drug use at ages 18-19. In this study, drug use was indexed by frequency of tobacco, alcohol and marijuana use. Furthermore, parental monitoring and problem solving were equally predictive of antisocial behavior at age 18-19 in both ethnic groups, in the expected direction. That is, higher levels of monitoring, and higher levels of problem solving ability, respectively, were modestly predictive of lower levels of antisocial behavior in early adulthood. This finding replicates research across the field, demonstrating that high levels of monitoring are related to low levels of substance use and initiation (Dishion & McMahon, 1998). However, one key contribution and strength of this study was the use of multiple indicators and methods to measure the latent construct of parental monitoring.

Understanding the role of problem solving and parental monitoring in family management processes requires that interpretations of these results be discussed in relation to: 1) conceptual equivalence—whether the concept of problem solving and parental monitoring have equivalent meaning across participants and 2) functional equivalence—whether problem solving and parental monitoring serve the same role, and/or are associated with the same processes across cultures. Either of these interpretations has direct bearing on construct formation.

From a methodological standpoint, one could argue that elements of the instruments used to study problem solving and monitoring may lack conceptual equivalence for African American families, on account of measurement variance showing differences in what coders captured and rated as problem solving and monitoring, when compared to what participants self-reported. Notwithstanding a possible lack of conceptual equivalence, it is noted that *key* aspects of problem solving and monitoring, respectively, are being captured in spite of possible conceptual gaps. Furthermore, when interpreting findings on the predictive validity of monitoring on observed negativity, the functional equivalence of the construct is more likely suspect. As previously discussed, monitoring may serve a different role and may not be equally relevant in predicting negativity in African American participants.

A clear finding in this study was that the measurement variance observed in family management skills among African American and European American families seems irrelevant to the impact of parenting on longer term outcomes, as evidenced by the strong predictive validity of monitoring and problem solving on measures of adolescent substance use and antisocial behavior. The strengths of observational measures lie in the independent nature of the reporting agent, as well is in the unique ability to capture dyadic processes as they unfold in real time. It is typical for observational methodologies to include a macro level code as a supplement to the more rigorous, and time intensive, microsocial code (Dishion & Granic, 2004). These findings suggest that monitoring and problem solving skill are well suited for macro-level coding analyses, which has obvious benefits in terms of cost effectiveness and labor-intensiveness. That is, this study found

that these two family management skills can be reliably and validly captured at the macro level. Collectively, these findings suggest that monitoring and problem solving have equivalent convergent and predictive validity in this subset of African American and European American participants. So too, these findings address previous concerns in the literature over method factors, by including different informants and different assessment types. Furthermore, while self-reported items may not hold equal meaning across informants and vary in how they are executed in real time interactions, these constructs hold validity and are important components to clinical interventions targeting adolescent substance use and antisocial behavior in both African American and European American ethnic groups. In short, monitoring and problem solving constructs hold measurement consistency—such that convergent and predictive validity were consistent across reporting agents (mother/father/adolescent), assessment methodologies (report/observational) and group affiliation (European American/African American).

Limitations

In this sample, consisting of European-American and African-American individuals, it is possible that the concept of culture and ethnicity is *not* best operationalized by a dichotomized variable. Additional measures of culture are necessary, especially when considering the acculturative forces at work. Measures of acculturation and ethnic identity would provide additional contextual frames to understand between-group differences, or lack thereof. If indeed individuals shift lenses, so to speak, between one culture and the other, assuming a single "lens" that affects perception would

erroneously lead to the notion that a single cultural filter is operative *all* of the time (Hong, 2000; Tsai et al., 2001). Methodologically, capturing familial change may have more to do with measuring the tangible *adjustments* made by the individual. In this study, the observation assessment itself can be seen as a "prime," in the sense that a relevant repertoire of parenting skills and coping responses was elicited and captured when parents and adolescents were asked to discuss monitoring and problem solving. It is possible that this context of assessment can differentially hinder or facilitate the behavioral expression of family management skills in the lab. As argued by Hong (2000), individuals may be primed to respond to culturally salient cues and symbols.

Future Directions and Suggestions

Construct formation on problem solving skill and monitoring could be further informed by both inferential and observable behavioral indicators, specifically as they relate to different cultural schemas on parenting. The use of focus groups is one first step in defining the schema of problem solving, for instance, across African American and European American groups. So too, it is proposed that analyzing the behavior stream in African and European American families may reveal behavioral *components* and correlates that have significance for that cultural group (Hawkins, 1982), thereby defining the larger tasks of "agreement on a problem" and "resolving the problem" into much more meaningful component parts. These suggestions have direct relevance to the day to day minutiae of working with diverse families in a clinical environment, where attunement to these stylistic differences may translate into increased therapeutic alliance and rapport.

Concerns about the artifacts of measurement can be addressed, for instance, by increasing the length of the five-minute discussion task, thereby widening the window for capturing family interaction processes and patterns. This could control for the possibility that insufficient time was allotted towards *solving* the problem under discussion, and that results instead reflect warm-up processes related to broaching the problem.

From an intervention perspective, familial change can be conceptualized as the cumulative product of multiple levels of influence. From an ecological perspective, the individual is nested within a larger system that includes family, peer, school and neighborhood/community levels. It is plausible that family management skills may be *expressed* differentially as a function of the contextual cues that hold most saliency at each of these levels. That is, intervention work captures constructs that are far from static, and it is this malleable context that features prominently in the understanding of change. The onus lies on examining the *context of assessment*, and engaging in continual efforts to develop appropriate methodological tools that bridge theorized models of family change with the currency of intervention: observable behavior.

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