

RETROSPECTIVE REPORTS OF PERCEIVED PARENTING STYLE AND
CURRENT ALCOHOL USE IN A COLLEGE SAMPLE

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RETROSPECTIVE REPORTS OF PERCEIVED PARENTING STYLE AND
CURRENT ALCOHOL USE IN A COLLEGE SAMPLE

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A Thesis

Submitted to

the Graduate Faculty of

Auburn University

in Partial Fulfillment of the

Requirements for the

Degree of

Master of Science

Auburn, Alabama
May 10, 2008

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THESIS ABSTRACT

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CURRENT ALCOHOL USE IN A COLLEGE SAMPLE

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Master of Science, May 10, 2008
(B.A. Georgia State University, 2003)

76 Typed Pages

Directed by Elizabeth Brestan Knight

The effects of parenting style on behavioral outcomes have been well examined in early and middle childhood. Using Baumrind's typology of parenting (warmth and control), studies have shown that parents who report using an Authoritative parenting style (high warmth and high control) also report the most positive outcomes for their children. Conversely, parents who report using a Neglectful parenting style (low warmth and low control) report the most negative outcomes for their children. Few studies have examined the long term effects of parenting style beyond early adolescents. Those that have suggest positive outcomes such as academic success, lower drug and alcohol use, and lower problem behavior.

During the late adolescents and early adulthood, alcohol drinking increases. Several models describe the development of adolescent drinking; with many pointing to the role of the environment, peers, and the family as contributing factors. However, it remains unclear as to what accounts for the varying patterns of drinking. Preliminary

research on parenting style and adolescent drinking suggests that positive parenting behaviors such as high support and high control reflect the most favorable outcomes. The purpose of this study was to gain more information about the link between parenting style and young adult drinking patterns in a college sample. Undergraduates ($n = 196$) reported on their perception of how they were raised and their current drinking behaviors and consequences related to their drinking. Results showed that undergraduates who reported their parents as using an Authoritarian or Midrange parenting style also reported more problematic drinking patterns and more consequences related to their drinking. Linear regressions to assess which component(s) of parenting style (warmth, control, or autonomy) were predictive of drinking patterns were not significant. Stepwise regressions suggested that for the RAPI control and autonomy were predictive of drinking related problems. Overall, the results suggest that early parenting continues to affect behavior in early adulthood. More research is needed to evaluate the specific pathway by which parenting affects drinking. Implications include early interventions for drinking that include active participation of parents.

ACKNOWLEDGEMENTS

I would like to thank my committee members, Elizabeth Brestan Knight, Christopher Correia, and Steven Shapiro, for their assistance, support, and patience during the completion of this project. In addition, I would like to acknowledge Alejandro Lazarte for his assistance with statistical procedures. I also owe much gratitude to the graduate students and undergraduate students who assisted me in data collection. Finally, I thank my husband, Nakia Brooks, and my parents and family for their continued support and encouragement.

Style manual used:

Publication Manual of the American Psychological Association, 5th edition (2001)

Computer software used:

Microsoft Word 2007

Statistical Packages for the Social Sciences 16.0

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INTRODUCTION

Many studies have linked parenting style to behavioral outcomes (Baumrind, 1966; Pedersen, 1994, Rothbaum & Weisz, 1994). However, most of these studies have focused broadly on how parenting relates to psychosocial outcomes in elementary aged children. Few studies extend this theory to adolescence and young adulthood, which is thought to span beyond the teenage years into the early twenties. According to some theorists (Jessor & Jessor, 1977), adolescence is a time of transition. This theory posits that social values and expectations vary with age. In addition, a more advanced age is congruent with advanced social status. In adolescence, teens are expected to adhere to more adult-like values but are not able to engage in adult behaviors that are seen as socially unacceptable for a teenager. According to Jessor and Jessor (1977), this provides a transition-prone environment which can encourage negative behavioral outcomes such as early sexual activity and substance use.

Schulenberg and Maggs stated in their 2002 review of alcohol use, “alcohol use and heavy drinking are culturally embedded in the experience of adolescence and in the college experience in particular” (p.55). Current survey data echo the need to examine alcohol use during the adolescent developmental period. The 2005 National Survey on Drug Use and Health (NSDUH, 2006) reported that 51.1% of adolescents age 18-20 and 67.4% of young adults age 21-25 currently use alcohol. Together, adolescents and young adults between the ages of 18-25 report more alcohol use than any other age group. This

age group also reported higher rates of heavy drinking and binge drinking (NSDUH, 2006). The negative consequences associated with underage drinking are widespread (including social, physical, familial, and academic implications). In addition, research has suggested that these alcohol related problems continue into young adulthood (Orlando, Tucker, Ellickson, & Klien, 2005). One article goes as far as to refer to drinking in this population as a “public health problem” (no author, p.111). Although many risk and protective factors are likely related to alcohol use among young adults, the link between parenting and adolescent alcohol use has been largely neglected in the scientific literature.

Parenting Style

When considering the context in which children grow up, the manner in which they were parented should be addressed. Parenting style has typically been classified along two dimensions: warmth and control. Using these dimensions, Baumrind (1966) identified three parenting styles: permissive, authoritarian, and authoritative. According to Baumrind, permissive parents can be characterized by their acceptance of child behavior and nonpunitive style. They provide few demands and responsibilities, allowing the child to regulate his or her own activities. Authoritarian parents are characterized by their strict adherence to high standards. Their goal is to teach their children obedience and responsibility in a highly ordered and structured environment. The child is expected to accept parental instruction and guidance without question and parents often exert their control through punitive measures (Baumrind, 1966). Lastly, authoritative parents are characterized as having a more rational approach. These parents are firm while allowing their children to express their own opinions. Authoritative parents value both

self-will and compliance in their children. These parents set firm limits but allow for freedom and autonomy (Baumrind, 1966). In 1983, Maccoby and Martin highlighted the importance of distinguishing between parents that exercise low control but vary in their level of warmth. In this manner, neglectful parenting was created to capture parents that showed low warmth and low control as opposed to permissive parents that show high warmth and low control. The four classic parenting styles are formed by classifying parents as high or low on each dimension (see Table 1). Parents classified as "high" within a dimension fall in the highest tertile of that dimension. Similarly, parents classified as "low" within a dimension fall in the lowest tertile of that dimension.

More recent research has suggested expanding Baumrind's classification. In 1991, Baumrind proposed a more comprehensive classification particularly useful in describing parent-child relationship patterns during adolescence (Baumrind, 1991). Some of the changes included further splitting the permissive parenting type and adding directive and democratic to account for control and autonomy. Parents were then classified based on ratings on three scales: directive control, assertive control, and supportive control. One additional scale, intrusive, provides a subdivision for directive type parenting style. This resulted in families being identified as six types: authoritative families, democratic families, directive families (which is further divided into two types; authoritarian directive and nonauthoritarian directive), good-enough families, nondirective families, and unengaged families. These additional differentiations recognized the need to include moderate parenting behaviors in classification.

Although autonomy has repeatedly appeared as an important parenting variable (e.g., Lamborn et al., 1991; Schafer, 1965; Steinberg, 1990), it has not often been used in

classifying parenting style. Slicker (1998) evaluated the usefulness of including autonomy when evaluating parenting style. In addition, she included “midrange parenting” and “authoritative plus” parenting in her 1998 study. Midrange parenting represents parents who did not score high or low on the demandingness and/or responsiveness dimensions. Authoritative plus incorporates autonomy (or democracy) as an additional dimension. In her 1998 study, Slicker’s results suggested that autonomy alone did not provide more information on parenting behaviors that related to behavioral outcomes. However, another study found a mediating role of parenting practices on behavioral outcomes (Goldstein et al.,2005). These more recent results suggest that adolescents who are not provided with increasing autonomy in the family context might find other ways to obtain autonomy, such as via a peer group. As such, the influence of peers appears to be directly related to behavioral outcomes (Goldstein, Davis-Kean, & Eccles, 2005). Overall, research is still inclusive on the role of autonomy in problem behavior. The parenting style literature generally excludes this variable when classifying parenting style and therefore more research is needed to explore autonomy’s role in child behavioral outcomes.

For parenting types that do not lie at the extremes, Slicker (1998) found that including midrange parents captured a type of parenting that was previously dismissed when parents were only classified as high or low on each dimension. Slicker reported that midrange parents were qualitatively different from parents who were at the extremes of and the evaluation of behavioral outcomes of their children reflected these differences. The proposed study will therefore focus on the four classic parenting styles and midrange parenting (also referred to as "good enough" parenting by Baumrind (1991)).

Parenting Style and Behavioral Outcomes

Research has supported a link between coercive parenting style and negative child outcomes (Baumrind, 1966). In an early study, Hoffman, Rosen, and Lippitt (1960) proposed that parental coercion may arouse feelings of hostility and thus, children may feel a need to assert themselves in response to this parental control. They further proposed that when provided autonomy, the child could assert itself and feel a balance in the power distribution. Hoffman et al. hypothesized that boys who experienced parental coerciveness (i.e., punishment) but were allowed autonomy (i.e., the ability to make decisions without adult supervision) would show an appropriate level of assertiveness in a school setting. In this early investigation of parenting and behavioral outcomes, Hoffman et al. surveyed 211 third through sixth grade boys. Questionnaires administered to the boys assessed parental coerciveness and autonomy. In addition, teachers rated the children's social likeability compared to classroom peers. The results suggested that children in the high coerciveness and high autonomy group performed better than the other groups including a high coerciveness only group and high autonomy only group (Hoffman et al., 1960). These results pointed to a balance between parental coerciveness and child autonomy as demonstrating the most favorable child outcomes. In her review of the literature, Baumrind (1966) found similar evidence that when moderated by a positive variable, control did not have such harmful effects. For instance, when parents set firm limits that were consistent with the environment, they characterized their children as less rebellious and less aggressive. In addition, when firm control and autonomy were used together, children did not show the negative effects associated with firm control alone (Baumrind, 1966).

Beyond these early studies, Baumrind continued to lead the field in this research area. Her 1991 study was one of the first comprehensive studies to examine the long-term influence of parenting style on child behavior. This longitudinal study reviewed data from the Family Socialization and Developmental Competency longitudinal program of research (FSP) conducted in San Francisco. This study included items related to child and adolescent "...physical fitness, maturational status, nutritional status, cognitive and emotional functioning...political and social attitudes, moral judgment level, alcohol and drug use, health practices, intellectual ability and personal problem behavior" (Baumrind, 1991, p. 74). Trained researchers used the FSP data along with interviews and observations to rate participants on personality, problem behavior, and alcohol and drug use. Participants were assessed at ages 4, 10, and 15. Parenting style was assessed along three dimensions resulting in six parenting types (See previous parenting style section for list of dimensions and parenting styles). Consistent with hypotheses and previous data, Baumrind found that adolescents from authoritative and democratic homes (characteristically high on assertive control and high on supportive control) fared better than adolescents from other parenting style homes. Children from these homes reported low problem behavior, high support and warmth, and high motivation. Adolescents from directive homes also reported low problem behaviors but experienced their home as restrictive (which is consistent with reports of high assertive control but low supportive control). Adolescents from nondirective homes were less achievement oriented and displayed more problem behaviors than those from authoritative and democratic homes. Consistent with hypotheses and behavioral outcomes, parents that used a nondirective style were viewed as lenient but responsive by their children and reported using less

directive and assertive control, but high supportive control. Although this early research was limited in scope, focusing mostly on Caucasian middle class children, it has since expanded to include various age groups, ethnicities and community locations (Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Slicker, 1998; Steinberg, Elmen, & Mounts, 1989).

Lamborn et al. (1991) were one of the first to expand Baumrind's (1991) research on the effects of parenting style on adolescent behavioral outcome. The aim of their study was to replicate Baumrind's study using a larger and more diverse sample. In addition, it was one of the first studies to use self-report measures to classify parenting style. The sample included 4081 ninth through 12th graders from nine schools in Wisconsin and California. This provided a diverse sample with regard to ethnicity, family structure, socioeconomic status and type of community. Participants filled out a demographic questionnaire in which they reported gender, ethnic identification, family structure, and parent education. An index of parenting was developed based on Baumrind's (1966) and Maccoby and Martin's (1983) dimensions of responsiveness (warmth) and demandingness (control). Exploratory factor analysis revealed three factors: acceptance/involvement, strictness/supervision, and psychological autonomy. Only acceptance/involvement and strictness/supervision were used to assess parenting style in this study (autonomy was excluded). Participants were grouped according to where they fell along the two dimensions. To ensure that the groups did not overlap, Lamborn et al. used only the upper and lower tertiles of each dimension. Participants who received scores in the highest tertile for involvement and the highest tertile for strictness were grouped as experiencing an authoritative parenting style. Those who scored in the

highest tertile for strictness but the lowest tertile for involvement were grouped as experiencing an authoritarian parenting style. Participants who scored in the highest tertile for involvement but the lowest tertile for strictness were grouped as experiencing an indulgent parenting style. Finally, participants who scored in the lowest tertile for involvement and the lowest tertile for strictness were grouped as experiencing a neglectful parenting style. Participants who fell in the middle tertiles were excluded. The following outcome variables were assessed: self-reliance, work orientation, social competence, GPA, school orientation, academic competence, psychological symptoms, school misconduct, drug use, and delinquency.

The results from Lamborn et al.'s study indicated that children from authoritative homes performed better across all outcome measures. Compared to all groups, participants from authoritative homes showed significantly higher levels of academic competence and psychosocial development and lower levels of problem behaviors and fewer psychological and somatic symptoms. However, on outcomes that were primarily related to high control, children from authoritative and authoritarian homes did not significantly differ. For example, children from authoritative homes did not differ from children from authoritarian homes for GPA, drug use, and delinquency. Similarly, in outcome areas related to high warmth (such as self-reliance and social competence), children from authoritative and children from indulgent homes did not differ. As expected, the results also indicated that children from neglectful homes performed worse across all outcome measures. However, they did not differ from relative to children from authoritarian homes in the areas of self-reliance, social competence, and academic competence. They also did not differ on behavior problems, GPA, school orientation,

self-reliance or somatic symptoms relative to children from indulgent homes. In general, children from authoritarian and indulgent homes fell somewhere in between children from authoritative and neglectful homes. Both parenting styles presented strengths and weaknesses. For instance, children from authoritarian homes reported less school misconduct, less drug use, fewer somatic symptoms and more positive school orientation. Children from indulgent homes reported greater social competence, more self-reliance, and academic competence. Although the results obtained appear to be mixed (children from authoritarian and indulgent homes present some positive outcomes), clearly authoritative parenting is related to the most advantageous outcomes for children.

Slicker (1998) used this foundation of research (inclusion of a diverse sample) on parenting and child outcomes as a starting point for her study, which further increased knowledge in this area by including adolescents beyond the high school years. Previous studies, as aforementioned, used middle childhood and early adolescent samples. The sample included 2250 graduating high school seniors from 14 high schools in suburban and rural communities. Participants provided gender, ethnicity, SES, and family structure information. In addition, they completed a problem behavior scale (which assessed school misbehavior, alcohol use (two items), drinking problems (nine items), drug use (five items), deceit/theft, sex risk, aggression, and delinquency) and the Conventional Behavior Scale (assessed academic aspirations and religiosity). Participants also responded to a modified parenting style measure created by Steinberg (1991) which assessed parental behavioral control, acceptance, and democracy. Parenting style consisted of six groups: the classic four, (i.e., authoritative, authoritarian, indulgent, neglectful), midrange (neither high nor low on both dimensions of warmth and control),

and authoritative plus (includes autonomy/democracy as a dimension). Results suggest that children from authoritative and authoritative plus homes showed the most favorable outcomes while children who rated their parents as neglectful or indulgent reported significantly more problem behaviors and less conventional behavior. Children who rated their parents as midrange fell between children from authoritative and children from neglectful homes in regards to their psychosocial functioning, reporting moderate behavioral problems. Children of authoritarian homes were more similar to children from authoritative homes in that they fared better than children from midrange and indulgent homes. However, they consistently fared worse in most areas when compared to children from authoritative and authoritative plus homes. For instance, children of authoritarian parenting engaged in more problem behavior and held less conventional views than children from authoritative homes. This study is significant in the literature because it provided preliminary evidence that the relationship between parenting style and behavior continues beyond early adolescents into early adulthood.

Although research on parenting style is largely consistent, socialization literature has pointed to the need to understand how a family's physical, social, and economic situation influence parenting and therefore parenting outcomes. Maccoby and Martin (1983) suggest that a family's socioeconomic and ethnic background may be the most influential. Dodge, Pettit and Bates (1994) explored factors that might influence parenting style and child behaviors. Particularly, they examined the relationships between socioeconomic status (SES) and socialization factors (harshness of discipline, exposure to violence, peer stability, mother's social support, mother's aggressive values, mother's warmth to child and cognitive stimulation) in a kindergarten sample. They included

teacher ratings of externalizing behaviors, and peer nominated aggression scores. Dodge et al. reported a negative correlation between externalizing problems and SES. SES was also related to several socialization factors. Children in the lower SES brackets reported harsher discipline, lower maternal warmth, and an increased exposure to violence. Their mothers also reported more life stressors and decreased social support. Harshness of discipline seemed to be a relevant socialization factor. It was not only related to SES but also to teacher rated problem behaviors and the peer nominated aggression score. Several race effects were found between African American and Caucasian children in that the African American children in this sample received harsher discipline, were exposed to more violence, had lower peer stability and their mothers had higher aggressive values. This is likely due to the correlation between race and SES since the effects were no longer significant when SES was controlled. These findings suggest a potential difference in parenting (specifically, harshness and warmth) based on socioeconomic status. As this study reports and others have shown (Maccoby & Martin, 1983), SES is highly correlated to race, therefore, this finding likely has implications for parenting across various ethnic groups.

Continuing to assess the implications of social factors, Steinberg, Mounts, Lamborn and Dornbusch (1991), evaluated the effects of parenting style on behaviors of adolescents from different ecological niches using the same data set from the Lamborn et al. 1991 study. Ecological niche was defined along three variables: ethnicity (Caucasian, African American, Asian, and Hispanic), socioeconomic status (middle class or working class), and family structure (intact or nonintact). This resulted in 16 possible ecological niches. Four measures were used to assess adjustment: school performance,

self-reliance, psychological distress, and delinquency. When compared across ecological niches, differences between authoritative and nonauthoritative homes were most consistent for white, middle class, and intact families. However, over all niches, results indicated that adolescents reared in authoritative homes performed better across all four measures of adjustment.

These studies consistently show a link between parenting style and behavioral outcomes. Specifically, authoritative parenting is associated with positive adjustment and well-being across domains (e.g., psychologically, socially, and behaviorally). In addition, this effect has been demonstrated across gender, ethnicity, and SES, and from childhood through young adulthood. This research speaks to the continued importance of parental roles and the influence of parenting practices in diverse populations and past the age in which parents were thought to have influence. As such, the proposed study will seek to continue to expand the research of parenting practices in a college sample.

Why use Self-report?

Most studies on parenting style and child behavioral outcomes have used parent self-report, child report, and other informants, such as teachers. However, these studies suggest that child reports differ from adult reports. Powers, Welsh, and Wright (1994) suggest using an affective model (grounded in Bronfenbrenner and Couter's person-process-context model) in understanding child behavioral outcomes. This model proposes that an adolescent's subjective understanding (affect) of an event is determined by several variables, such as individual differences and ecological differences. Affect is described as "include[ing] feeling states associated with the event, an appraisal of the purposes or intent of the event, and an appreciation of the significance of the event" (Powers et al.,

1994, p. 586). Accordingly, adolescents in the same home may interpret the same event differently. The “event” in this context is the particular parenting practice characteristic of each parenting style. Gaylord, Kitzmann, and Coleman (2003) also recognized that differences in how a child perceives their parents (and parenting) might differ along the lines of gender. Additionally, some discrepancy between parent report and child reports may be developmentally appropriate, especially in older adolescents. However, extreme differences in parent and child reports may suggest family dysfunction and are related to negative outcomes (Gaylord et al., 2003).

Gaylord et al. (2003) assessed parental behavior (using both parents if available), psychosocial adjustment, and differences in parent/child perceptions. Children were administered the Cornell Parent Behavior Inventory (CPBI), parents received a modified version of the CPBI, and classroom behavior was assessed using the Teacher Report Form. The results indicated that parents perceived themselves as more supportive than reported by their children. For the dimension of control, girls perceived their fathers as more controlling than boys, but boys reported more parental discipline. Discrepancies between mother and child for discipline, and father and child for control, were related to internalizing behaviors. Further, Gaylord et al. performed regression analyses testing each of the independent variables. Their findings indicated that the child's report of maternal and paternal behavior did not provide further information after considering the parent's self-reports for internalizing or externalizing behaviors. Overall, they found mixed results. However, parent and child reports were congruent for parental control and discipline. Gaylord et al. hypothesized that these differences may be because of the inconsistent ways that these concepts are reported. This coincides with Maccoby and

Martin's report that "frequently... parents may not be aware of certain aspects of their own behavior (1983; p17)." For instance, support is a more subjective construct, therefore there are likely to be differences in parent and child ratings. However, punishment and control are more objective because of their observable nature; therefore, reports were more similar. In general, supportive parenting was related to lower externalizing scores and control and punitiveness were related to higher externalizing scores. Gaylord et al. (2003) also found gender differences in children's perceptions of control and support. This study is important because the analyses supported their hypotheses that 1: there are discrepancies between parent and child reports and 2: larger discrepancies may be indicative of poor family relationships for children in middle childhood. Similarly, Paulson and Sputa (1996) found that adolescent perceptions of parenting differed significantly from their parents. Parents (mothers and fathers) consistently rated themselves higher on demandingness and responsiveness. In addition, child ratings changed from reports in 9th grade versus 12th grade reports. In 12th grade, adolescents rated their parents as less responsive (ratings did not change for demandingness). The authors suggest these changes are related to emerging autonomy in adolescences, which is consistent with lower parental demandingness and responsiveness.

Alcohol Use

There are several models that describe the development of adolescent drinking. Orlando et al. (2005) identified five trajectories of adolescent alcohol and cigarette use. Their longitudinal study assessed participants of a drug use prevention program at ages 13-16, 18, 23, and 29. At each time point participants reported frequency of alcohol and cigarette use in the past month and past year. In addition, at age 23, they also reported

engagement in deviant behavior. At 29 they reported overall physical health, life satisfaction, mental health, and problems and arrests related to alcohol or drug use. Latent growth models were used to identify homogeneous groups, resulting in the five trajectories. The five groups were: 1. normative users, 2. Smoking quitters/Drinking maintainers, 3. Steady increasers, 4. Early increasers, and 5. Early highs. Results showed that nonusers were the least likely to engage in deviant behavior, reported better overall health, fewer physical symptoms, and had lower ratings of life dissatisfaction. After nonusers, the normative use group reported the most favorable outcomes. The question that remains unanswered from this study is what accounts for these differing patterns of drinking? Many point to the role of the environment, peers, and the family. One such theory developed by Barnes (1990) places family and peers at the center of child socialization. Barnes stated "...parent-child relationships are particularly potent... [and]...the tie is enduring throughout the child's development; and even during the child's adulthood..." (p.139). Barnes describes several aspects of parental socialization that influence drinking including parental modeling and support and control. Of particular interest, as it relates to the proposed study, is Barnes' review of the importance of support and control which helped to confirm the claim that parental support and firm control are related to less alcohol use (for a review see Barnes, 1990).

Barnes and Farrell's (1992) study specifically examined the relationship between parental support and control and adolescent drinking. Participants included 699 adolescents age 13-16, from diverse backgrounds. Participants and their parents were interviewed and completed several measures including items related to regular drinking patterns, peer orientation, drug use, deviance, and parental support and control. Regular

drinking was assessed based on reports of frequency and quantity of alcohol consumed. Results indicated that, in general, parental support was significantly related to all outcomes. Specifically, high parental support was related to the lowest levels of regular drinking. However, parental control had mixed results. Coercive control (for fathers only) and Parental monitoring strongly affected adolescent drinking (lower levels of drinking), however, inductive control and parental rules showed no relationship to drinking patterns (Barnes & Farrell, 1992). Although a formal classification system was not used to group parents into a parenting style, the dimensions of support and control were evaluated for their influence of adolescent drinking behaviors.

Other research investigators found similar results in the broader substance use literature. Coombs and Landsverk's 1988 study addressed the relationship between parenting style and substance abuse during childhood and adolescence. They interviewed 443 children ages 9-17 and their parents to assess the dynamics of parent-child sentiment and parent-child power. Parent-child sentiment is most closely related to warmth. It is defined as closeness to the parent, wanting to be like the parent, perceived parental trust, perceived parental encouragement and praise, and ease of talking with parents. Parent-child power is mostly related to the dimension of control and was defined as parental strictness, parental limit-setting, parental punishment for disobedience, and parental involvement in making decisions. In addition, children reported substance use, which included consumption of alcoholic beverages and other drugs. Based on self-report, they were divided into four groups, those that: 1. abstained all their life, 2. abstained during the past month, 3. used infrequently during past month, and 4. used every day or several times a week. Multiple regressions were used to identify which variables predicted

substance use. Age, gender, ethnicity, and social class were also included as predictor variables. Of these, age was the only significant predictor of substance use groups, with 14-17 year olds endorsing more frequent use relative to 9-13 year olds. In regards to positive sentiment, children who reported feeling close to their parents endorsed less substance use. Children who reported their parents as strict and setting firm limits also reported less substance use. A stepwise regression further supported these findings. When age, father-child positive sentiment, number of family rules, and dependence of advice and guidance were entered into the model, father-child positive sentiment accounted for 27% of the variance. These results consistently point to the importance of a positive parent-child relationship, which includes firm limits, in preventing or limiting substance use in youth.

Baumrind's 1991 study, which used FSP data, also assessed the influence of parenting type on early adolescent substance use. Using the same six parenting types previously mentioned, adolescents were classified according to parenting type and into five substance use groups based on their endorsement of alcohol and marijuana use. 1. nonuser, 2. recreational user (of alcohol but nonuser of cannabis), 3. experimental/casual user of cannabis (not a heavy user of alcohol), 4. heavy user (alcohol and/or cannabis), and 5. drug dependent user. An analysis of variance comparing the relationship between substance users and parenting types found results that were consistent with externalizing behaviors being influenced by parenting type. Children from authoritarian homes and authoritative homes were more likely to be nonusers. Results suggested that parents of nonusers were conforming, directive (low control) and conventional. Nonusers had a high general competence, cognitive competence, and communal behavior as is characteristic

of children raised in authoritative homes. Similarly, Type 2 users were as competent as nonusers. They showed more concern for adult approval and were more prosocial. Their parents were less conventional and conforming as compared to nonusers. Parents of Type 3 users were also less conventional, but provided as much control as type 1 user parents. Parents of Type 4 users were unconventional, undemanding and offered less structure. Type 4 users were described as emancipated from adult authority and lacking cognitive motivation. Type 5 users showed more problem behaviors and less overall competence. Their parents did not assert control and were non-supportive. The parenting practices associated with Type 4 and Type 5 users are most similar to children from non-directive and unengaged homes, in which parents are not demanding or supportive and is consistent with an increased possibility of engaging in unacceptable and harmful behavior.

Weiss and Schwarz (1996) expanded this area of research to the post high school and college age population when “parental support and prohibitions [control] are less ubiquitous” (p.2102). In this study, parental warmth and control were measured using the CRPBI and PBF (Parental Behavior Form). Based on these scales, participants were classified according to Baumrind’s (1991) six parenting types. In addition, participants filled out the Social Attitude Questionnaire (SAQ), which was used to assess attitudes towards substance use, politics, religion, gender roles, and sexual permissiveness. (This measure is similar to Baumrind’s concept of conventionality). More specific to substance use, the Cigarettes, Alcohol, and other Drugs measure (CAD) was adapted and used to assess average daily consumption of substances and perceived problems related to substance use. Personality, academic achievement, and adjustment were also included as

outcome variables. Multiple regressions were used to identify if parenting type and gender predicted the behavioral outcomes of interest. In almost all domains, participants that were reared in authoritative homes endorsed the most favorable outcomes. For instance, they were more agreeable and open to experience (personality domain), had a higher GPA (specific to males), and endorsed less substance use. As previous research has suggested, participants reared in unengaged homes endorsed the least favorable outcomes. They reported more overall maladjustment, less conformity to social norms, and a higher frequency of alcohol use. Although participants from authoritative homes fared well in general in the domain of alcohol use, they were not significantly different from participants reared in other types of homes. However, when the data were analyzed at the freshman level and senior level, differences were evident. By senior year, participants reared in authoritative homes endorsed much lower use than all other groups. Weiss and Schwarz suggest that when first entering college, situational cues may lead to drinking patterns that are similar across groups. However, by senior year, drinking patterns may be more related to family type differences. This is consistent with other data suggesting that drinking is normative among individuals entering college (no author, 2004/2005). Implications of this study suggest that parenting style continues to have a long-term effect on adolescence, beyond peer and environmental factors, even after adolescents are no longer directly under parental supervision. This study reflects the progress that has been made in understanding the influence of parenting style on behavior outcomes for older adolescents. However, the direct assessment of alcohol use and alcohol related problems are not the focus. Instruments that directly and specifically measure alcohol use and alcohol related problems are needed to provide a stronger link to

parenting style.

Alcohol use in adolescents and young adults is a growing public concern due to the negative consequences experienced by users and the society at large. Rates of alcohol use in people between the ages of 18-25 has consistently remained high. It is clear from the research that parenting style has an effect on child internalizing and externalizing behaviors. Even when assessing a specific behavior such as alcohol use the premise remains; parenting style and parenting practices affect child behavior outcomes. However, there is not a strong link between retrospective reports of perceived parenting and current alcohol use. Most parenting style research focuses on younger age groups, parental reports of parenting style, or a wide array of behaviors. Research on alcohol use has focused on peer influence or the influence of family history of alcohol use and subsequent adolescent use. Within the literature that has evaluated parenting style and alcohol use, the assessment of alcohol use has been limited to a few items or incorporated broadly into reports of substance use. In addition, little research has been conducted to evaluate which components of parenting style are most influential in drinking behaviors as the older adolescent gains more autonomy and requires less direct parental supervision. The present study had three aims: 1. to obtain an older adolescent perspective on parenting style, 2. to assess how that perspective is related subsequent alcohol use, and 3. determine which factor(s) (warmth, control, or autonomy) of parenting style are most significant in predicting alcohol use.

Hypotheses

1. The psychometric properties (validity and reliability) of the CRPBI and Parenting Measure were assessed first.
 - a. It was hypothesized that the CRPBI and the Parenting Measure would each show good internal consistency for a college undergraduate sample. Items within a subscale would be intercorrelated with each other, and it was predicted that items between scales would show little or no correlation.
 - b. Although the CRPBI has been evaluated for reliability and validity, these data are significantly dated. Conversely, the Parenting Measure, although newer, lacks specific testing for its validity. It was hypothesized that the CRPBI and the Parenting Measure would be positively correlated, reflecting concurrent validity.
2. Upon support of hypothesis 1b, only the Parenting Measure was used in further analyses.
 - a. It was hypothesized that undergraduates who rate their parents as more authoritative would endorse a lower number of alcohol related problems (reflected by lower scores on the RAPI, which was used as a continuous variable indicating level of alcohol problems). In addition, it was hypothesized that undergraduates who rated their parents as authoritative would be least likely to obtain a significant score on the AUDIT (a score greater than or equal to 8 is considered significant), indicating a non-problematic drinking pattern. In this hypothesis, the Parenting Measure was used as a continuous variable with parents being categorized as using more or less of an authoritative approach.

b. It was hypothesized that undergraduates who rated their parents as authoritative or authoritarian would endorse fewer alcohol related problems (as measure by the RAPI) and will be less likely to exhibit problematic drinking patterns (as measured by the AUDIT) when compared to undergraduates who rated their parents as indulgent, neglectful, or midrange. In this hypothesis, the Parenting Measure was used categorically to classify parents into one of five groups.

3. Similarly, linear regressions were used to assess if scores on each of the three parenting dimensions (control, warmth, and autonomy) predict alcohol use and alcohol related problems. Although a strong link between autonomy and alcohol use has not been shown in previous studies, it is important to include. Research has shown that a lack of adolescent autonomy at home has been related to the formation of deviant peer groups and subsequently an increase in risk taking behaviors. Similarly, studies have shown that when adolescents are not adequately supervised they are more likely to engage in problem behaviors (Goldstein et al., 2005). The dependent variable for the regression were undergraduate's alcohol use and alcohol related problems and the predictor variables were parental levels of warmth, control, and autonomy as measured by the subscales of the Parenting Measure. In addition, a stepwise regression was used to evaluate the variance that could be explained by each dimension individually in predicting alcohol related problems.

- Regression: Predictor variables 1. acceptance/rejection, 2. psychological autonomy/psychological control, 3. lax control/firm control.

METHOD

Participants

Participants were undergraduate students enrolled in a Psychology course at Auburn University. Participation was limited to students 19 to 25 years of age ($M = 20.37$ years, $SD = 1.44$). The demographics were as follows: 25 % were male, 75 % were female, 18.3% African American, 78.9% Caucasian, 1.4 % Asian, less than one percent were of Hispanic origin, and less than one percent indicated multicultural or “other” backgrounds. Most participants reported growing up with both biological parents representing an intact family structure (79.6%).

Procedure

Recruitment and data collection proceeded in two phases. In both phases, participants were recruited through an online study participation program called SONA. Participants viewed a brief introduction to the study and if they qualified (within age range of 19 to 25), they were able to sign up for a session time. In the first phase, sessions took place in small groups during designated meeting times with the researcher present. The researcher provided a basic overview of the study and allowed the participants to ask questions if clarification was needed. Participants read an information letter before beginning the survey packet. Packets were completed and returned to the experimenter. All information from the packets were anonymous. In the second phase of data collection, students also signed up using the SONA system, however, instead of

signing up for a designated meeting time, participants followed a web address linking them to the study. The first page of the website was the information letter. If they agreed to participate, they could click next to proceed to the website and the surveys. In this phase, all surveys were completed independently by the participants online. The measures were the same in phase one and phase two. Measures included in the survey packet (and online) were: a demographic questionnaire, CRPBI (two forms: mother and father), and Parenting Measure (two forms: mother and father), the RAPI, and the AUDIT. Participants were given 1 hour of extra credit in their psychology course as compensation. In addition to the measures used in the analysis in this study, participants also completed two stress questionnaires and an additional alcohol survey.

Online surveys were used in an effort to expedite data collection. Although, the online method was successful in expediting data collection, some integrity of the data were compromised. For example, in the second phase, participants often failed to adequately complete measures or save the form so that their data was not sent to the external database and subsequently not saved. Because of these issues, there are substantial missing data for these participants particularly for the demographic survey (e.g., only 35 of the 100 surveys completed online included demographic information). Less than ten percent of the data for the independent and dependent variables are missing for most items. Of the 219 participants, 208 had complete data on the Parenting Measure warmth scale, 211 had complete data for the Parenting Measure control scale, and 211 had complete data for the Parenting Measure autonomy scale. For the dependent variables, 204 participants had complete data for the AUDIT sum and 196 had complete data for the RAPI total problem score.

Measures

Demographic Questionnaire. The demographic questionnaire included items requesting the following information: gender, date of birth, ethnicity, level of education, family structure (biologically intact, single parent, stepfamily), number of siblings, and birth order. In addition, participants were asked to report current and childhood (for ages 10-18) parental marital status, parental occupation, parental level of education and estimated parental yearly income.

Children's Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965). The original CRPBI, developed by Schaefer, was comprised of 26 scales each with 10 questions designed to measure two dimensions: love vs. hostility and autonomy vs. control. Each question was rated by the child on a 3-point likert scale (Like, Somewhat like, and Not like). Schaefer's (1965) sample included 165 Caucasian children (85 boys and 80 girls) and a comparison group of 81 delinquent boys (which included both African-American and Caucasian children) ages 12-18. Using the Kuder Richardson formula, Schaefer (1965) reported good reliability for the love and hostility scales ($r=.84$ and $r=.78$ respectively) and acceptable reliability for the autonomy and control scales ($r=.69$ and $r=.66$). Scale validity was tested by evaluating if the scales could discriminate between the normal and delinquent groups. However, Schaefer notes that the groups were not matched on variables that may have affected their reporting and they were not representative of the normative population. Scores were compared for both groups using maternal and paternal reports, therefore 52 comparisons were made (26 maternal scales and 26 paternal scales). Using the Mann Whitney test, Schaefer found that 40 of the 52 comparisons showed a significant difference between groups. In addition, significant

differences were found between maternal and paternal report suggesting that mothers and fathers should be analyzed separately (Schaefer, 1965). Further analysis (correlation matrices) suggested that most of the variance could be accounted for by three of the four factors. Subsequently, three dimensions were identified: acceptance/rejection, firm control/lax control and psychological autonomy/psychological control (Schaefer, 1965).

Further research by Schludermann and Schludermann (1970) investigated the reliability and validity of a shortened CRPBI (CRPBI-S). Schludermann and Schludermann selected 18 scales (see Table 2) with the highest reported reliability to be included in the shortened version. The CRPBI-S included 108 questions. More recent versions of the CRPBI-S have used 30 questions (Forehand & Nousiainen, 1993) and 28 questions (McIntyre & Dusek, 1995). These further abbreviated versions have no reported validity or reliability. However, overlap in some of the items on scales and dimensions suggest that a shortened version may be useful (Schludermann & Schludermann, 1970). In this study, the 28-item version of the CRPBI was used. The questions were modified to reflect behaviors that took place in the past providing a retrospective report.

Parenting Measure Items for the Parenting Measure (Steinberg, 1991) were developed based on Baumrind's (1977) and Maccoby and Martin's (1983) dimensions of responsiveness (warmth) and demandingness (control). The original version was comprised of 36 items. An exploratory factor analysis revealed three dimensions: acceptance/involvement, firm control, and psychological autonomy and each dimension showed good reliability ($r = .72$, $r = .76$, and $r = .72$ respectively). Since 1991, the questionnaire has been revised and now consists of 22 items. The first 18 items assess

parental involvement and psychological autonomy. These items are ranked on a 4-point scale ranging from *strongly agree* to *strongly disagree*. The remaining eight items assess parental strictness and supervision. The Parenting Measure can be used as a continuous variable of parenting style in which parents are rated along a continuum of low to high authoritativeness. It can also be used as a categorical variable (parents classified as high or low on each dimension and then grouped accordingly). Although the questionnaire has been used in several studies, there are currently few data supporting its reliability or validity. In this study the Parenting Measure was also modified to reflect behaviors that took place in the past.

Classification of parenting style. Based on the scoring scheme used by Slicker (1998), parents were classified into five parenting styles: Authoritative, Authoritarian, Permissive/Indulgent, Neglectful and Midrange. Parents that fall at least one-half standard deviation above the sample mean on the control domain were classified as high control. Based on participant ratings, parents who received a score at least one half standard deviation below the mean on the control domain were classified as low control. Similarly, parents who received a score one-half standard deviation above and below the mean on the acceptance/warmth domain were classified as high and low warmth respectively. As stated previously, based on their scores on each domain (high/high, high/low, low/low and low/high) parents were grouped into one of the four classic parenting styles. The remaining parents who received a score between one-half standard deviations above and below the mean on both domains were classified as midrange (see Figure 1). Using this classification system 9.9% ($n = 21$) parents were classified as Neglectful, 9.4% ($n = 20$) were classified as permissive/indulgent, 14.6% ($n = 31$) as

Authoritarian, 17.8% ($n = 38$) as Authoritative, and 48.4% ($n = 103$) as Midrange. It was expected that Midrange would be the largest group as scores of parents classified as midrange differ very little from the mean.

Substance Use Questionnaires. The Rutgers Alcohol Problem Index (RAPI; White & Labouvie, 1989) was used as a continuous variable to measure problems related to alcohol use. This measure consists of 23 items ranked on a five point likert scale from 1=*never* to 5=*always* or *almost always*. Scores for each item are tallied to obtain a total problem score. White and Labouvie tested this measure across two time periods. They found good internal consistency for both time points T1: ($r = .92$) and T2: ($r = .93$). Items on the RAPI assess social problems (e.g., “friends or neighbors avoided you.”), academic problems (e.g., “not able to do homework or study for a test.”), and legal problems (e.g., “charged with driving under the influence.”) related to drinking.

Alcohol Use Disorders Identification Test. The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, Fuente, & Grant, 1993) is a screening instrument developed to measure problematic drinking patterns. A total of 1888 participants were included in the initial AUDIT Study. Participants were classified as non-drinkers (36%), drinkers (48%), and alcoholics (16%). Only the drinkers group was used to formulate this measure. Data collection included items related to alcohol consumption, drinking behavior, family history of alcoholism, and biological markers of alcohol consumption. Four domains were identified: drinking behaviors, adverse psychological actions, alcohol problems, and alcohol consumption. Reliability for these scales ranged from adequate ($r = .65$) to high ($r = .93$). The final measure was composed of 10 items. Questions are scored on a scale of 0-4, with an overall score ranging from 0-

40. Validity was assessed by comparing the non-drinkers, drinkers, and alcoholic groups. Results indicated that the measure was able to distinguish between groups using a cut-off score of 8 or 10 which indicates possible hazardous drinking patterns and abnormal drinking behavior.

RESULTS

Prior to analysis, the dependent variables the AUDIT sum score and the RAPI total problem score were assessed for normality, skewness, and kurtosis. Because the RAPI problem score did not follow a normal distribution, a square root transformation was performed. The transformation was useful in helping the RAPI approach normality. Both the RAPI and AUDIT showed small positive skew; however, kurtosis was minimal.

Descriptive statistics and correlations for the independent variables (warmth, control, and autonomy) and dependent variables (RAPI total problem score and AUDIT sum score) can be found in tables 3 and 4 respectively. Preliminary analyses were conducted using several demographic variables to determine possible covariates that might influence the association between the independent variables and dependent variables. The following demographic variables were entered as correlates: gender, ethnicity, family structure, class standing, and income. Ethnicity ($n = 140$) was significantly correlated with the AUDIT sum score ($n = 204$, $r = .232$, $p = .011$) with Caucasian students reporting higher scores. Similarly, combined parent income ($n = 126$) was positively correlated with the AUDIT ($n = 204$, $r = .237$, $p = .007$). This correlation may also be due to a significant negative skew for income. According to 2005-2006 US census data, 68% of families in this sample would be considered in the upper quintile.

Psychometric Properties of the CRPBI and Parenting Measure

In regards to hypothesis one, interitem correlations were tested for all subscales. Overall, the CRPBI showed good reliability for the warmth scale ($\alpha = .767$) and for the control scale ($\alpha = .708$). For the Parenting Measure, reliability ranged from adequate to high with $\alpha = .962$ for the Warmth scale, $\alpha = .698$ for the control scale, and $\alpha = .797$ for the autonomy scale. Contrary to the hypothesis, two subscales on the Parenting Measure were significantly correlated. Warmth and Autonomy showed a correlation of $.549, p = .001$.

The CRPBI and Parenting Measures were significantly correlated for all subscales (warmth, control, and autonomy). For the Warmth subscales a positive correlation was found ($r = .158, p = .031$). For the control scales on the Parenting Measure and CRPBI, a negative correlation was found ($r = -.312, p = .001$). It should be noted that the control subscales for these measures are scored in reverse of each other. On the CRPBI, high scores on the control subscale reflect lax control or low control. Conversely, high scores on the control scale on the Parenting Measure reflect strict control or high control. Therefore, a negative correlation is consistent with the subscales similarly measuring levels of control. Likewise, the Autonomy scales are also reversed score, therefore, the negative correlation ($r = -.205, p = .005$) reflects similar measurement of autonomy. Because these measures purport to measure the same construct, the correlations provide some support of current validity for both measures. Analyses that follow will only use participant's reports of their mother on the Parenting Measure.

The psychometric properties of the RAPI and AUDIT were also evaluated. The RAPI showed good internal consistency ($\alpha = .832$) as did the AUDIT ($\alpha = .907$). In addition the RAPI total problem score and AUDIT sum score were highly correlated ($r = .807, p < .001$). This suggests that these measures were able to reliably evaluate drinking patterns and drinking related problems in this sample.

Analysis of Authoritativeness as a continuous variable

A Pearson correlation was performed to assess if participants that rated their parents as having a more authoritative style differed from participants that rated their parents as using a less authoritative style on measure of drinking patterns (AUDIT) and drinking related problems (RAPI). In these analyses, items on the Warmth and Control subscales were summed. Higher values indicated a parenting style more similar to Authoritative parenting such as high control and high warmth. It was expected that high scores on Authoritativeness would be negative correlated with low scores on the RAPI and AUDIT sum score. This hypothesis was not supported for the AUDIT sum score, $r = -.040, p = .920$ or for the RAPI total problem score, $r = -.007, p = .920$. For the AUDIT cut-off score, a t-test was used to evaluate if participants above the cut-off score of 8 and below the cut-off score of 8 differed on levels of Authoritativeness. It was expected that participants below the cut-off would have higher scores of Authoritativeness. No support was found for this hypothesis $t(195) = .914, p = .362$.

Analysis of Parenting Style Groups

Analyses of Variance were conducted to examine group differences for scores on the RAPI and AUDIT based on parenting style used as a categorical variable. Parenting style was a composite variable using the control and warmth subscales of the Parenting

Measure. Participants were classified into one of five groups: Authoritarian, Authoritative, Midrange, Permissive, or Neglectful. Using ANOVA, the RAPI was significant indicating group differences on reported parenting ($F(4, 191) = 2.831, p = .026$). Graphical evidence suggests that students that classified their parents as Authoritarian or Midrange, reported greater consequences associated with drinking (See Figure 2). Contrasts revealed that Authoritative parenting was significantly different from Midrange parenting ($F(1, 191) = 6.300, p = .013$) and Authoritarian parenting ($F(1, 191) = 6.133, p = .014$). Also, significant differences were found ($F(4, 199) = 3.301, p = .012$) for the AUDIT. Similar to the RAPI, graphical evidence of the AUDIT suggested that participants who rated their parents as Authoritarian and Midrange reported a more problematic drinking pattern (See Figure 3). Contrasts confirmed that Authoritative parenting was significantly different from Midrange ($F(1, 199) = 6.018, p = .015$) and Authoritarian parenting ($F(1, 199) = 5.225, p = .023$). Because ethnicity was significantly correlated with the AUDIT sum score, analyses were re-run with ethnicity as a covariate. The ANCOVA remained significant after entering ethnicity into the model suggesting that differences were detected based on reports of parenting style, not income. ANCOVAs were also conducted with combined parent income as a covariate. These analyses were not significant. This might be due to low power as income was a demographic variable that was not completed by most participants in phase two. As a result, some parenting styles had only 2 or 3 participants after the inclusion of income information.

Regressions

Using parenting style from the Parenting Measure as the independent variable and the RAPI total problem score and AUDIT sum score (separately) as the dependent variables, linear regressions and stepwise regressions were performed. In the stepwise regressions, the control scale was entered in the first step, the autonomy scale was entered in the second step, and the warmth scale was entered in the third step. Linear regressions for the AUDIT sum score were not significant ($p = .471$). In addition, each step of the stepwise regressions was not significant (See Table 4). Linear regression for the RAPI full model was not significant, $F(3, 187) = 1.965, p = .121$; however, the stepwise regression revealed that control significantly contributed to the prediction of drinking behavior based on parenting style ($p = .034$) (See Table 6). To take into account the covariates, stepwise regressions were re-analyzed with ethnicity and income entered in the first block (See Tables 5 and 7). The following blocks (2, 3, and 4) proceeded as follows: control, autonomy, and then warmth. For the AUDIT, with inclusion of the covariates all models were significant. However, further analyses reveal that only income and ethnicity contribute significantly to the models. For the RAPI, all models were significant with the inclusion of the covariates. Further analyses revealed that within each model ethnicity remained significant. In addition, in the fourth block, which included all variables, autonomy was also significant ($p = .048$).

DISCUSSION

The first goal of this study was to evaluate the psychometric properties of the two modified measures of parenting behavior. The CRPBI and Steinberg's Parenting Measure were modified to reflect retrospective reports of parenting behavior and were administered to an older adolescent/young adult population. Interitem correlations for the subscales suggest adequate to high scale reliability (ranging from $\alpha = .698$ to $\alpha = .962$ for the Parenting Measure and $\alpha = .708$ to $\alpha = .767$ for the CRPBI). These alphas are consistent with reliability data found for these measures in younger populations (Steinberg, Mounts, Lamborn, & Dornbusch, 1991; Forehand & Nousianen, 1993; Stice & Barrera, 1995). The warmth and control subscales were not correlated reflecting scale independence. However, the Autonomy and Warmth subscales showed a negative correlation. As higher scores on the Autonomy scale reflect low autonomy, the correlation indicates that high control is related to low autonomy. In their 1991 study, Steinberg and colleagues reported a similar significant correlation between the Parenting Measure Warmth scale and the Parenting Measure Autonomy scale, $r = .25$ (Steinberg, Mounts, Lamborn, & Dornbusch, 1991).

These results also provide some initial evidence that parenting measures can be modified (reflecting past parent behaviors) and used with a college sample. To assess validity, Pearson's correlations were run on congruent subscales between the measures. The subscales were significantly correlated, providing preliminary evidence of concurrent validity. This study extends the current research by obtaining retrospective reports from an older population. In addition, this study provides initial reliability and validity data for

the two parenting measures.

The second goal of the study was to assess if older adolescent/young adult's perspectives on how they were raised earlier in life would be related to their drinking behaviors during their college years. From the literature, it was expected that adolescents who perceived their parents as warm but firm would engage in less drinking and exhibit fewer problems related to drinking. However, the results were mixed.

For parenting style as a composite variable it was expected that participants that reported an Authoritative or Authoritarian parenting style would obtain the lowest scores on the AUDIT and RAPI. One way ANOVAs with parenting style as the independent variable and drinking measures as the dependent variables were significant. However, contrasts revealed that Authoritative parenting differed from Authoritarian and Midrange parenting for the AUDIT and RAPI. Graphs showed that Authoritarian and Midrange parenting resulted in a more problematic drinking pattern and drinking related problems. This is contrary to the hypothesis that Authoritarian parenting style would result in lower scores. These results suggest that merely adequate parenting and overly controlling parenting styles like Authoritarian parenting resulted in greater alcohol related problems for this sample of undergraduates. In addition, Neglectful and Permissive parenting did not differ from Authoritative parenting. This was not expected given that research reports the most negative outcomes for these parenting groups (Baumrind, 1991; Lamborn et al., 1991; Slicker, 1998). Weiss and Schwarz's (1996) replication of Baumrind 1991 found similar results in that Authoritative parenting did not significantly differ from other parenting styles (although in general, participants that reported an Authoritative parenting style performed better on measures of competence, which

includes drug use). Also similar to the present study, the parenting style that included parental support but lax control (similar to Permissive parenting) reported favorable outcomes such as high grade point averages and positive social adjustment. These findings suggest there is a link between ratings of parental support and control and drinking behaviors

In addition to analyzing parenting style as a categorical composite variable, reports of parenting were analyzed along a continuum of Authoritativeness with higher scores reflecting a parenting style more similar to Authoritative parenting and lower scores reflecting a parenting style less similar to Authoritative parenting. The expectancy was that individuals that rated their parents as less authoritative would be more likely to receive higher scores on the AUDIT sum score, RAPI total problem score, and they would be more likely to be above the AUDIT cut-off score. This hypothesis was not supported. Participants rating their parents as using a more Authoritative style did not differ on likelihood of problematic drinking (AUDIT cut-off score) or for scores on the AUDIT sum score and RAPI total problem score which were evaluated as a continuous variables.

To gather more information on how early parenting style is related to later drinking behavior, regressions were utilized to assess which parenting style variables (warmth, control, and autonomy) significantly contribute to the prediction of drinking patterns and drinking related problems. Linear regressions were used in an assumption that each variable contributes equally to the prediction. Stepwise regressions were used in an assumption that some variables may be more influential in predicting drinking patterns and drinking outcomes. The results showed that support, control, and autonomy

did not significantly contribute to the prediction of drinking patterns (as measured by the AUDIT). This finding is surprising given that analyses that used parenting style as a composite variable were significant but the individual components that comprise parenting style were not able to significantly predict drinking patterns. These contradictory findings suggest that it is the unique combinations of warmth and control interacting together that contribute to understanding drinking patterns versus warmth and control individually. In their 2005 study, Engels, Vermulst, Dubas, Bot, and Gerris, found that parenting practices were only useful in understanding problematic drinking when they were examined together and in concert with other family variables. Individually, parenting practices such as affection and control were unable to predict drinking. The present study provides further support that parenting style, as a composite, can be a useful construct for understanding college drinking particularly if used in conjunction with other variables. One study of college drinking behavior that utilized parenting style as a composite found that Authoritative parenting was related to greater drinking control, lower alcohol use, and less alcohol related problems (Patock-Peckham & Morgan-Lopez, 2006). They also reported that Authoritarian and Permissive parenting were related to decreased drinking control, increased alcohol use, and more alcohol related problems. The current study found similar results in regards to Authoritarian parenting but not Permissive parenting.

In the final model of the RAPI stepwise regression (with the inclusion of covariates), autonomy was also a significant predictor of reports of drinking related problems. In the parenting style literature autonomy has been largely overlooked, so it is unclear as to how autonomy may be related to behavior outcomes. The health and

prevention literature has begun to evaluate the link between autonomy and risk taking behaviors. In Spear and Kulbock's (2005) concept analysis of autonomy, autonomy is defined as a state of being independent or self-governing. The studies they reviewed linked autonomy to decision making and risk taking in adolescents. The research suggests that adolescents that are given appropriate autonomy are more likely to make good decisions in regards to smoking, drinking and sexual activity. Based on this information, Spear and Kulbock purport that adolescent autonomy should also be related to decisions about other health behaviors. In this study, adolescents that reported a Neglectful or Permissive parenting style also reported the greatest levels of autonomy. This is not surprising given the lack of parental control and thereby greater opportunities for self-governance. Autonomy, although it may not be developmental appropriate autonomy, may serve as a protective factor for young adults from a Permissive and Neglectful parenting style. Therefore, adolescents that have been afforded greater autonomy may have an advantage as compared to peers that are gaining independence for the first time upon entering college.

Although the individual subscales of the parenting measures did not contribute to the prediction of drinking behaviors in the linear regressions, demographic variables that were entered as covariates during step regressions were able to significantly predict drinking behavior. For example, income and ethnicity were better able to account for more variance and were more predictive of drinking patterns and drinking related problems. The substance use literature and parenting literature has suggested greater negative outcomes such as increased drinking and harsher parenting for individuals based on socioeconomic status and ethnicity. Particularly, Caucasian individuals are more

likely to drink compared with African American individuals (Jackson, Sher, & Park, 2006). Barnes et al., (1992) in their study reported that African Americans as compared to Caucasians were less likely to initiate alcohol use and increase use over time, which may explain the higher scores on the AUDIT for Caucasian students. However, this relationship may also be due to the skewed number of Caucasian students represented in the sample. Our analyses of ethnicity were consistent with the literature in that Caucasian participants reported more drinking than African American participants. In regards to income, the analyses did not fully follow the direction of the association presented in other studies. For instance, in our sample, higher income was associated with higher levels of problematic drinking. However, the correlation may be due to a significant negative skew for income. According to 2005-2006 US census data, 68% of families in this sample would be considered in the upper quintile.

Other studies have evaluated support and control separately to assess risk and protective factors for substance use. Although the current study points to the importance of the interaction between warmth and control, evaluating these components separately can provide additional useful information. Studies that assess risk and protective factors of alcohol use suggest that parental warmth and support and high control (parental monitoring) act as protective factors. In their 1992 review, Hawkins and colleagues reported several risk factors associated with poor and inconsistent family management such as inconsistent discipline, poor parent-child interactions, poor monitoring, and a lack of trust, warmth, and involvement. Protective factors included clear guidelines for behavior and responsive parents (Hawkins, Catalano, & Miller, 1992). In the present study, no link was found between parental support and drinking behaviors. Inspection of

the graph of frequency/percentages of parental support show bi-modal distribution with more participants at high and low ends of the continuum, rather than in the middle. This distribution may explain why parent support was not significant in the regressions. Stepwise regression analysis for the RAPI total problem score revealed that only control was significant in predicting problems related to drinking. Not surprising, many other studies have reported the role of control, such as the effects of parental monitoring and supervision, in substance use (Barnes & Farrell, 1992; Veal & Ross, 2006; White, McMorris, Catalano, Fleming, Haggerty, & Abbot, 2006). Veal and Ross (2006) found a direct link between parental monitoring and quantity and frequency of drinking. Similarly, Fleming and colleagues (2006) found that high parental monitoring served as a protective factor against increased drinking. Specifically, high school students who reported high parental monitoring also reported a decrease in heavy drinking six months later.

Very few studies have addressed the effect of parenting practices on a young adult population. Aquilino and Supple (2001) provide one of the few studies that have extended this research beyond the adolescent years. Their results also suggested that parental warmth and support were not predictive of adult drinking behaviors; however, parental supervision and restrictiveness were predictive. Similar to the present study, the authors conclude that early parenting behaviors (particularly supervision, monitoring, and control) continue to play a role in young adult lives.

Implications

Adolescent and young adult substance use is a well studied topic as is the effect of parenting practices on behavior outcomes. Less well studied is how parenting style may influence later young adult drinking behaviors. Studies that have utilized parenting style have focused mostly on younger children. This study and others point to continued importance of early parenting experiences on behaviors outcomes later in life (Aquilino & Supple, 2001, Strage & Brandt, 1999). Because of increased drinking during emerging adulthood and the consequences associated with alcohol use many prevention and intervention programs have been developed. Wallenstein and colleagues reported that due to the severity “congress has passed resolutions asking college presidents to address this problem and the US Surgeon General has place[d] a priority on the reduction of college drinking by 50% by the year 2010” (Wallenstein, Pigeon, Kopans, Jacobs, and Aseltine, 2007). Current interventions at the college level have focused heavily on intervening at the level of the individual and suggest programs that increase awareness through the presentation of information (knowledge of consumption, financial costs and social cost of drinking) and cognitive behavior strategies (challenging drinking expectations and motivational interviewing) (Shim & Maggs, 2005, Saltz 2006). In his review of prevention for college drinking, Saltz (2006) concluded that although intervention at the individual level is most often used, it has the least support. Current research suggests using a comprehensive approach combining treatments that affect several factors related to drinking such as peers, family, school, and the community. Programs that extend involvement to college campus (e.g., alcohol free dorms, Friday classes) and the community (e.g., increased drinking age laws and enforcement of laws)

have been more effective (Saltz, 2006).

Although treatment and intervention at the college level is important, research has suggested that treatment gains are not maintained in the long term and treatment is not cost effective (Hawkins, Catalano, & Miller, 1992). This suggests the need for early intervention and treatment. In their review of parenting programs for substance use, Petrie, Bunn, and Byrne (2006) reported that interventions were generally most effective during the transition from primary school to secondary school (age 11 or 12). Programs continued to be effective during adolescence, although the effects were not as robust. Overall, Hawkins and colleagues identified the most important factors for program effectiveness as the inclusion of skill development (versus a sole focus on prevention of substance use) and parent participation. Taken together, the research on college prevention programs and parenting programs highlight the importance of comprehensive programs that focus on more than individual behavior change. The concept of utilizing a comprehensive approach is not new. Komro, Stigler, and Perry (2006) stated that "...to achieve a more substantial and sustained intervention affect an increasingly adopted approach to prevention...[is] the use of more comprehensive strategies that combine two or more single components into a multiple component intervention." (p. 207). Komro and colleagues reviewed comprehensive prevention interventions for adolescents. Of the studies and projects reviewed, almost all included a parent component, a control group, and a reduced treatment model that did not include all treatment components. All interventions that included a parent program were effective in reducing alcohol use and were significantly different than the control group and reduced treatment models (which did not include a parent component). In addition, some programs that included parent

components showed additional benefits. For instance, participants within the Seattle Social Development Project not only reported decreased drinking but also increased family bonding, increased family communication, and increased family involvement. Similar, participants of Project SAFE (Strengthening America's Families and Environment) reported lower alcohol use and increased positive parenting skills and positive family relationships (Komro, Stigler, & Perry, 2006). The reviews of effective interventions at the college level and during adolescence are similar in that they utilize a comprehensive approach. They differ in the combination of components that comprise the approach (college interventions often include the community while interventions during adolescence involve parents). Although at the college level it may not be feasible to incorporate parents in prevention and treatment, it is clear that parents play a significant role in treatment effectiveness during adolescence. However, the present study and other research in the substance use literature emphasize the continued influence of parents and parenting behavior during the college years. Parental involvement in treatment and prevention should began early and programs should focus not only on the child, but how parent behaviors (warmth, control, participation) affect drinking behaviors and the effectiveness of the treatment of drinking problems.

Limitations

Although this paper met its most basic goal of demonstrating a link between parenting style and behavior in young adulthood, it does not address causality or the pathways through which the associations develop. In addition, it does not begin to address other factors that may influence drinking such as peers and family factors. Understanding drinking behaviors is a complex process and should include information

that takes into account environmental, genetic, and individual characteristics. One major limitation of the present study is the lack of inclusion of a family history of drinking problems. Particularly, it would have been beneficial to assess if participants were children of alcoholics. The literature suggests children of alcoholics are more likely to drink and engage in drug use. In their 2004 study, King and Chassin found that children of alcoholics perceived less parental support and less parental discipline. In addition, the researchers reported an indirect link between parental alcoholism and subsequent child drug use. Specifically parental alcoholism was related to poor discipline which was predictive of development of a drug disorder diagnosis. Interestingly, no link was found between perception of parental support and subsequent drug use, which is consistent with the results of the present study. Given the research in this area, we would expect children of alcoholics to be overly represented in the neglectful and indulgent parenting groups due to their perceptions of low warmth and low control. In the present study, these groups did not differ in their drinking behaviors from the Authoritative group which reported high support and high control. More research directly assessing family history of drinking is needed to be able to rule out the effects on later young adult drinking patterns.

Developmental theory states that development is multidimensional and multidirectional. Previous research has suggested that not only do parental behaviors influence child characteristics/behavior, but child characteristics/behavior also influence parenting behaviors. For instance, Van der Vorst and colleagues reported that parental monitoring was related to decreased drinking behaviors and that less frequent drinking behavior was related to decreased parental control (Van der Vorst, Engels, Meeus, Dekovic, & Vermulst, 2006). In addition to bidirectional effects, mediator and moderator

effects have been examined. In the substance use literature, research points to the indirect effects of parental support and control through the study of risk and protective factors (Hawkins, Catalano, & Miller, 1992). Other research has suggested mediational models. For example, Patock-Peckham and Morgan-Lopez (2007) found that parents who were Authoritative showed increased positive bonds with their children, which was associated with lower depression and subsequently lower alcohol related problems. In this case, parenting behaviors affected drinking through parent-child bond and decreased child psychopathology. These are a few examples, but they suggest the complex interplay of multiple factors that affect parenting and drinking behaviors. The influence of parenting practice and parenting style should be evaluated in context and not used as a sole determinant.

Another weakness of this paper includes the large amount of missing demographic data. The missing data are a direct result of difficulties with data collection methods in this study. Due to the amount of missing demographical data, it was difficult to adequately analyze family factors (e.g., income, family structure, and siblings), which may have provided additional evidence for understanding the complex interactions between parenting and the larger family environment and college drinking. Also, the sample is not representative of the larger population. This sample was largely comprised of middle to upper income, Caucasian, intact families. Therefore, caution should be taken when generalizing results to other samples. However, although the sample is skewed, it is representative of University in which it was conducted. Another limitation is the limited ranges for the RAPI total problem score and AUDIT sum score. Although analyses using these variables were significant, the range of

responses was limited. This indicates that in general, participants reported few problems related to drinking and low levels of alcohol consumption. However, it should be noted that mean scores include participants that reported abstaining from drinking. One possible solution may be to analyze the data without the inclusion of participants that indicated they abstained from drinking. In this manner, differences in drinking behavior based on parenting style may be evaluated only for participants that report drinking.

Future Directions

Previous research has suggested that the increased drinking during adolescence and early adulthood is transitional (White & Labouvie, 2005, Caswell, Pledger, & Pratap, 2002). As such, longitudinal research is needed to examine whether these patterns persist after students leave college and enter into more adult roles such as the work force and beginning a family. This study was not longitudinal and can not assess the stability of the relationships found. Although one study found that parenting practices do not influence drinking behaviors over time (Engels, Vermulst, Dubas, Bot, & Gerris, 20005), more research is needed to assess the relationship that early parenting has on adult drinking behavior.

As college students are a select sample, future research should examine whether the link between parenting style and drinking persists with young adults who are not in a college setting. Studies have examined the stability of drinking patterns in college and noncollege students but to date, they have not included parenting style as a variable. One such study by White and Labouvie (2005) found that college bound students reported lower alcohol problems (as measured by the RAPI). However, compared to their noncollege peers, college students increased their drinking between the ages of 18-21, but

decreased drinking between 21 and 30. No differences were found for the quantity and frequency of drinking behaviors. Similarly, White et al., found that adolescents in college reported increased drinking as compared to non college peers (White, McMorris, Catalano, Fleming, Haggerty, & Abbott, 2006). Although these studies suggest differences in drinking behavior based on college enrollment, it is not clear how parenting practices may affect these groups differently. Future research should include a longitudinal research method to address the stability of drinking, perceived parenting practices, and the interactions of both variables among a diverse sample of young adults.

Table 1. Classic Parenting Types

Classic Parenting Styles		Warmth	
		High	Low
Control	High	Authoritative	Authoritarian
	Low	Indulgent/permissive	Neglectful

Table 2. Comparison of Parenting Scales

Scales (Schaefer, 1965)	Scales (Schludermann & Schludermann,
Extreme Autonomy (3)	Extreme Autonomy (3)
Lax Discipline (3)	Lax Discipline (3)
Positive Evaluation (1)	Acceptance (1)
Sharing activities, plans, and interests	Positive Involvement (1)
Encourages independence (1)	Acceptance of individuation (1)
Child-centeredness (1)	Child-centeredness (1)
Possessiveness (1,2)	Possessiveness (1)
Intrusiveness (2)	Intrusiveness (2)
Strictness (2,3)	Enforcement (2, 3)
Punishment (2,3)	Hostile control (2)
Control through guilt (2)	Control through guilt (2)
Nagging (1,2)	Instilling persistent anxiety (2)
Rejection (1)	Rejection (2)
Neglect (1)	Hostile detachment (1,2)
Ignoring (1)	Withdrawal of relations (2)
Moderate Autonomy (1)	Control (2, 3)
Protectiveness (1,2)	Inconsistent discipline (2)
Parental Direction (2)	Non-enforcement (3)
Emotional support (1)	
Equalitarianism (1)	
Intellectual stimulation (1)	
Encouraging Sociability (1)	
Suppression of aggression (2)	
Expression of affection (1)	
Negative evaluation (1,2)	
Irritability (1)	

Scales and factor loadings. 1=acceptance/ rejection, 2=psychological

autonomy/psychological control, 3-firm control/lax control.

Figure 1. Cutoffs for Parenting Typology

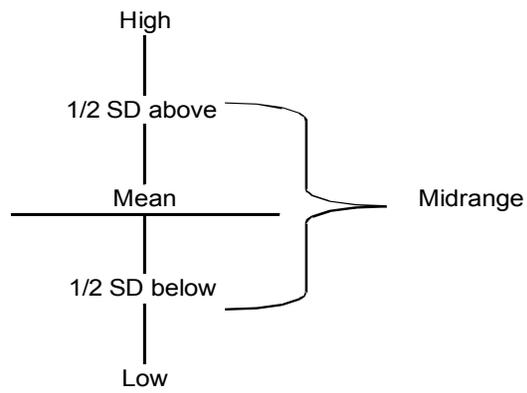


Table 3. Descriptives for Measures and Questionnaires.

Measure	Mean	SD	range
CRPBI Warmth	31.90	5.35	12 - 62
CRPBI Control	12.98	2.96	8 - 23
CRPBI Autonomy	15.00	3.73	8 - 24
Parenting Measure Warmth	23.90	10.09	9 - 36
Parenting Measure Control	13.99	3.39	0 - 22
Parenting Measure Autonomy	23.23	6.21	10 - 36
RAPI	4.41	6.79	0 - 41
AUDIT	6.92	5.58	0 - 22

Table 4. Correlations for the Parenting Measure and CRPBI subscales

Correlations for Parenting Measure and CRPBI subscales

	CRPBI Warm	CRPBI Control	CRBBI Autonomy	PM Warm	PM Control	PM Autonomy	AUDIT sum score	RAPI total problem score
CRPBIWarm	-	.097	-.382*	.158*	.153*	.154*	.074	-.077
CRPBIControl		-	-.062	-.103	-.312*	-.013	.105	.137
CRPBI Autonomy			-	-.130	-.014	-.215*	.138	.191*
PMWarm				-	.064	.549*	.003	.065
PMControl					-	.075	-.104	-.141
PMAutonomy						-	.043	-.046
AUDIT sum score							-	.807*
RAPI total problem score								-

* = $p > .05$

Figure 2. RAPI Total Problem Score and Parenting Style

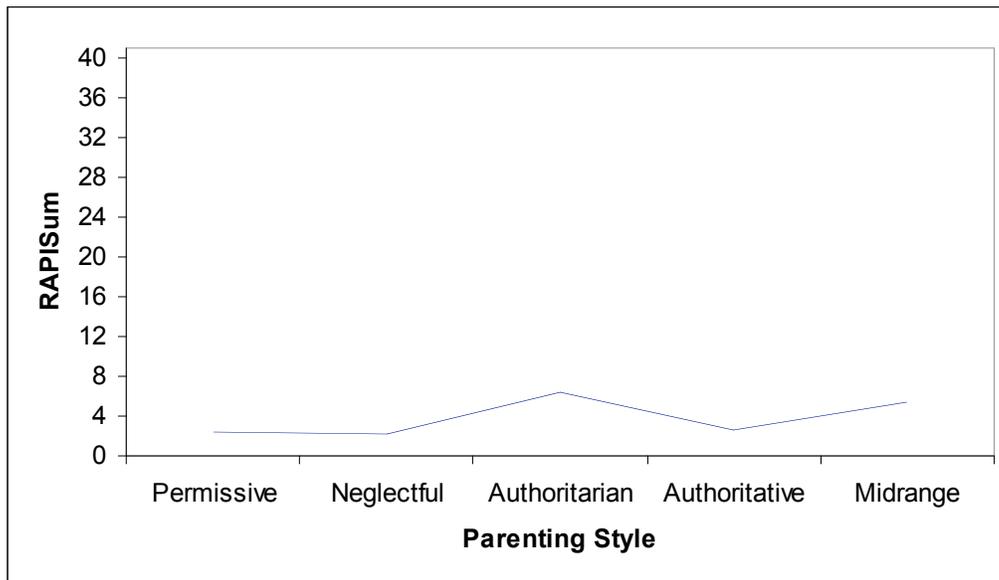


Figure 3. AUDIT Sum Score and Parenting Style

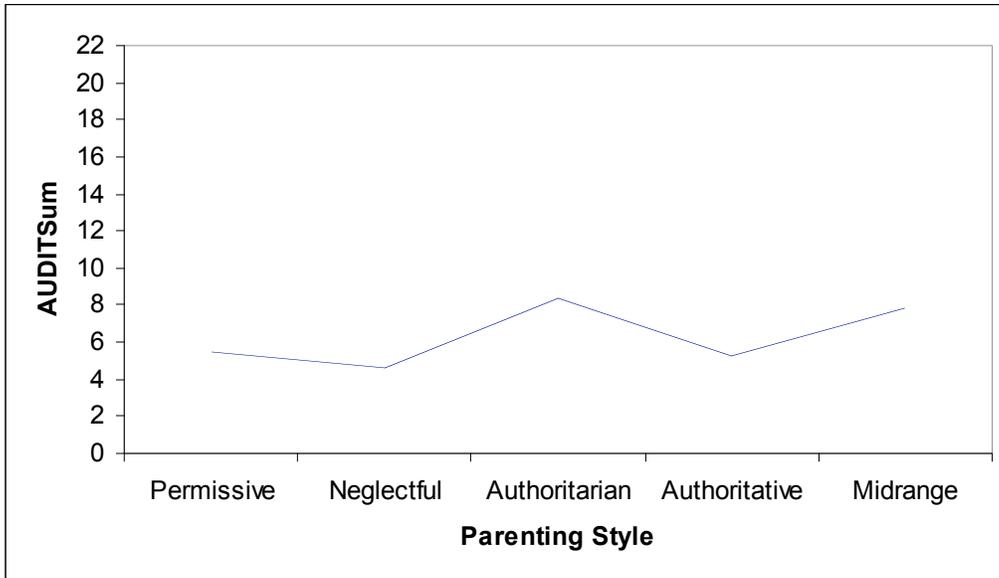


Table 5								
Stepwise regression with Parenting Measure and AUDIT								
Block	Variables	ΔR^2	R^2	df	ΔF	_(step 1)	_(step 2)	_(step 3)
1		0.01	0.01	1,195	1.899			
	Control					✓ -.098		
2		.002	0.012	1,194	0.397			
	Control						✓ -.102	
	Autonomy						✓ .045	
3		0.001	0.013	1,193	0.253			
	Control							✓ -.102
	Autonomy							✓ .071
	Warmth							✓ -.044

* $p < .05$

Table 6									
Stepwise regression with AUDIT and Covariates									
Block	Variables entered	ΔR^2	R^2	df	ΔF	_(step 1)	_(step 2)	_(step 3)	_(step 4)
1		0.081	0.081	2, 120	5.281				
	Combined Parent income					.197*			
	Ethnicity					.174			
2		.003	0.084	1, 119	.412				
	Combined Parent income						.193*		
	Ethnicity						.179*		
	Control						-.057		
3		0.001	0.085	1, 118	.073				
	Combined Parent income							.194*	
	Ethnicity							.179*	
	Control							-.054	
	Autonomy							-.024	
4		0.001	0.086	1, 117	.173				
	Combined Parent income								.189*
	Ethnicity								.175
	Control								-.063
	Autonomy								-.047
	Warmth								.045

* p < .05

Table 7								
Stepwise regression with Parenting Measure and RAPI								
Block	Variables	ΔR^2	R^2	df	ΔF	(step 1)	(step 2)	(step 3)
1		0.024	0.024	1,189	4.561			
	Control					-.154*		
2		.001	0.024	1, 188	0.123			
	Control						-.151*	
	Autonomy						-.025	
3		0.006	0.031	1, 187	1.227			
	Control							-.153*
	Autonomy							-.077
	Warmth							.095
* p < .05								

Table 8									
Stepwise regression with RAPI and Covariates									
Block	Variables entered	ΔR^2	R^2	df	ΔF	_(step 1)	_(step 2)	_(step 3)	_(step 4)
1		0.081	0.081	2, 116	5.115				
	Combined Parent income					.061			
	Ethnicity					.268*			
2		.020	0.101	1, 115	2.537				
	Combined Parent income						.049		
	Ethnicity						.269*		
	Control						-.141		
3		0.013	0.114	1, 114	1.673				
	Combined Parent income							.057	
	Ethnicity							.274*	
	Control							-.130	
	Autonomy							-.115	
4		0.023	0.137	1, 113	3.065				
	Combined Parent income								.032
	Ethnicity								.254*
	Control								-.167
	Autonomy								-.204*
	Warmth								.186
* p < .05									

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