PARENTS, PEERS, AND ADOLESCENT ALCOHOL USE AND DEPRESSIVE SYMPTOMS

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CHAPTER I

INTRODUCTION

Adolescence is a time of significant change and growth emotionally, cognitively, and socially. During this time, adolescents begin to form their own identity, establish group affiliation, and gain independence from parental authority as they progress through adolescence. There are various environmental factors that have an impact on adolescents' behaviors and outcomes such as parent/child relationships, neighborhoods, parental economic status, sibling relationships, and victimization by peers (Pendry & Adam, 2007; Strohschein, 2005; Sullivan, Farrell, Kliewer, Vulin-Reynolds, & Valois, 2007; Reitz, Prinzie, Delovic, & Buist, 2007).

In addition, biological factors such as heritability and hormonal levels have been linked to subsequent adolescent behaviors and outcomes (Haynie & Piquero, 2006). Even though most changes in behavior and outcomes during adolescence are viewed as positive, the degree to which these factors can influence adolescents' behaviors and outcomes positively is based on the positivity of the factors measured. This research will turn its focus on how adolescents can experience negative behaviors and outcomes which have been enhanced by negative behaviors of parents and peers. In the next section, terms for this research will be defined.

This study intends to display a pathway of adolescent behaviors in the areas of alcohol use and depressive symptoms. The goal of this study is to expose how parent behaviors in the adolescent's original environment set the stage for future adolescent behaviors and peer associations and behaviors. This study intends to provide an examination of concrete parental involvement behaviors. Concrete parental involvement behaviors are parents' physical involvement in activities with adolescents, and the effect on adolescents' behaviors. This study focuses on mutuality in conversation between parents and adolescents. For Wave 1 and Wave 2, this study will establish a foundation within the family systems theory.

Definitions

For this research, parent behaviors within the parent-adolescent relationship will be explored in the areas of involvement and communication. Parent involvement behaviors will be defined as parent physical participation in activities with adolescents. Parental communication behaviors will be defined as conversations of mutuality or inclusion of the adolescents.

Problem Statement

Parental involvement has been consistently associated with adolescent behaviors; however, the gap in research is to operationalize parental involvement with more direct or concrete constructs. The current study will identify and document actual parental involvement behaviors which to date have been conceptualized with abstract terms such as trust, warmth and responsiveness, alienation, parental negativity, support, and understanding (Feinberg, Button, Neiderhiser, Reiss, & Hetherington, 2007; McElhaney, Porter, Thompson, & Allen, 2008; Button, Scourfield, Martin, Purcell, & McGuffin,

2005). Also, a gap can be found by way of research design. A great deal of research on parental involvement is comprised of cross-sectional studies (Williams & Kelly, 2005; Finley, Mira, & Schwartz, 2008; Phares, Fields, & Kamboukos, 2009). Cross-sectional research is a wonderful opportunity to gather information on present associations between variables but this type of research does not allow any future predictors to be examined.

This research will examine the particular parent behaviors of involvement as actual physical involvement in activities with the adolescent along with communication of mutuality and their influence on adolescent alcohol use and depressive symptoms. This study will take a longitudinal look exposing a continuous pathway from parent behaviors to adolescent behaviors on into behaviors with other adolescents.

Purpose of the Study

The present study will provide necessary research documenting adolescent report of parent communication and involvement behaviors by asking specific questions of the adolescent. This research will also examine peer behaviors based on information provided by the adolescents. In addition, this study will also contribute new and useful information regarding the linkage between parent and peer behaviors and adolescent alcohol use and depressive symptoms.

This study will utilize a longitudinal design in that data was collected during both 1995 (Wave 1) and 1996 (Wave 2). A significant amount of research has been conducted using cross-sectional data on the interactions that occur in parent-child relationships and adolescent alcohol use and depressive symptoms. This longitudinal study will further enhance research by establishing a pattern of outcomes over a period of time. Brody,

Murry, McNair, Chen, Gibbons, Gerrard, and Wills (2005) found the more parents are involved with their adolescents the less their adolescents will express alcohol use. Wave 1 data will be used for the first portion of this research. The focus will be on parent behaviors found within involvement and communication that may be associated with adolescents' vulnerability to participate in alcohol use and display depressive symptoms (path 1). Next, this study will look at the relationship between parent behaviors of involvement and communication (Wave 1) and peer alcohol use (Wave 2) (path 2).

Also, this research examines how the adolescents' behaviors assessed in Wave 1 are related to increased negative peer behaviors in Wave 2 (path 3). This current study will examine peer alcohol use and the connection to increased adolescent alcohol use and depressive symptoms (path 4). Also, the relationship between parent behaviors in Wave 1 and adolescent behaviors in Wave 2 (path 5) will be assessed. Finally, this research will examine the relationship between adolescent behaviors in Wave 1 and adolescent behaviors in Wave 2 (path 6).

This can be seen in the hypothesized model 1.

Insert Figure 1 Here

CHAPTER II

REVIEW OF LITERATURE

Theoretical Framework

For this research, a family systems theory approach will be used. Family systems theory states a family system is more than just the basic individuality of its family members but the behaviors and beliefs that are and have become transactional (Infante, Rancer, & Womack, 1990). According to Madden-Derdich and Herzog (2005), each family unit has its own individualistic characteristics and behaviors that are specific and different from other families. Within the whole system, subsystems are organized which are smaller sets of family members who have a special "function" aside from but within the family system (Madden-Derdich, Estrada, Updegraff, & Leonard, 2002). In other words, each individual member of a family system brings more than just individual differences and behaviors that are displayed during interactions such as peers. These individual differences and behaviors are influenced by each other as well as being influenced by other systems. This can be seen in the area of Isomorphism.

Isomorphism states that when looking at the characteristics of two different systems, such as parent/adolescent and adolescent/peer, the characteristics of each system are found to correspond with each other (Whitchurch & Constantine, 1993). The adolescent likely associates with peers who engage in the same types of behaviors present

in the family system. Nash, McQueen, and Bray (2005) found even though peers have significant influence on adolescent drinking behaviors positive parenting behaviors such as supervision and known expectations have a significant impact on the reduction in the adolescents' alcohol use and associations with peers who drink alcohol. The previously mentioned literature reinforces the impact a positive family environment has for encouraging adolescents' confidence not to engage in risk behaviors such as alcohol and maintain the family norms for behavior.

Therefore, this reveals how both systems the adolescent participates in are more akin than different keeping a balance in the boundaries or openness to change established by the two systems. Boundaries can be appropriate and productive or they can become skewed and represent a pattern of negative interaction. This can be seen in an intergenerational patchwork of behavior where the family system is not working for the beneficial development of its members and will likely be reflected in all systems in which the members participate (Macfie, McElwain, Houts, & Cox, 2005).

The important concept within a family system of the openness to change from outside influence sets the framework for additional systems membership for the adolescent as well as other family members (Massey, 1986). The degree to which a family is open to change depends on behaviors within the family system such as cohesiveness, involvement, and the emotional connectedness (Constantine, 1986; Olson, Sprenkle, & Russell, 1979). Within the realm of open and closed aspects of a family's operating system, the idea of family functioning is important as long as it is not too enmeshed—no differentiation between members—or disconnected—too much differentiation between members. The degree of openness allows for the development of

the identity and autonomy of the individual family members (Manzi, Vignoles, Regalia, & Scabini, 2006). This degree of allowance for change will be reflected in the adolescent/peer system as well. The experiences of the family system between parent and child set the stage for a process in a child's development called individuation which begins during adolescence.

The path of individuation is reliant on the parent/child behaviors and interactions established early and influence how the individuation process progresses during adolescence (Bray, Adams, Getz, & Baer, 2001). According to Glynn and Haenlein (1988), an adolescent's travel through the individuation process productively hinges on the particular parent behaviors—nurturing, attachment, and conflict resolution—a child is exposed to during parent/child interactions within the family system. The two most significant elements of the individuation process are the risk element and the protective element. The risk element is the outcome of separation—emotional and physical—from parents, and the protective element is how the adolescent's autonomy develops within the family system—intergenerational individuation (Baer & Bray, 1999). According to Bray, Getz, and Baer (2000), positive family processes within the family system such as parent-adolescent communication and less family negativity have a profound impact on whether or not the adolescent chooses to engage in risk behavior such as drinking alcohol alone and with peers during separation. This environment of origin—the family system—enhances the adolescent's confidence to make more positive choices.

Therefore, the early foundation of behavior and interaction patterns between parent and child within the family system influence the adolescent's individuation process. The process of this early foundation into future behaviors of the adolescent can

be examined using the hypothesized model (figure 1).These early behaviors and interactions within the family system set the stage for the degree of change an adolescent will allow in regard to the behaviors and interactions within the adolescent/peer system.

Parenting behaviors and adolescent behaviors

There are various avenues in which parents' influence the degree of positive or negative behaviors that an adolescent engages. Parenting behaviors in the area of coercion, manipulation, psychological control, and lack of affection and warmth are all examples of parenting behaviors that likely influence an adolescent's behavior (Brendgen, Dione, Girard, Boivin, Virtaro, & Perusse, 2005). Adolescents who are subjected to depressed parents are also more likely to engage in adverse behaviors and reflect a diminished mental health state (Garber & Flynn, 2001; Capaldi, DeGarmo, Patterson, & Forgatch, 2001). The extent to which an adolescent perceives the effectiveness of parental supervision/monitoring in their social life is associated with an adolescent's likelihood to participate in risk-taking behaviors (Deslandes & Bertrand, 2005; Minke & Anderson, 2005).

Hair, Moore, Garrett, Ling, and Cleveland (2008) found adolescents who experience positive parent behaviors have more positive outcomes into adulthood and experience less negative behaviors during adolescence into adulthood. Wang, Peterson, and Morphey (2007) found parent behaviors are more important than peer behaviors for life-time effects and influence as reported by adolescents. This is reflective of the family systems framework in which a correspondence between the parent/adolescent system and the adolescent/peer system would be found. Also, this previous study found those same

adolescents reported peer behavior influence was significant for short-tem outcomes and choices.

Antognoli-Toland (2001) using Add Health data with a sample size of 5, 201 found parent behaviors of connectedness, presence, and involvement in activities are negatively associated with adolescents' feelings of loneliness and have more positive outcomes than those whose parents did not display such parenting behaviors. When parents use positive behaviors such as mutuality; cooperation; awareness; and attentiveness, parents likely encourage positive outcomes and behaviors for their adolescents (Loukas & Roalson, 2006). This can be reflected in adolescents' degree of self-regulation or self-control in reference to emotional and behavioral states which may be traced back to parental behaviors (Hill, 2002). Parents who are not warm and receptive to their adolescents create a negative affect which may stimulate a lack of self-control and encourage delinquent behaviors (Brody, McBride-Murry, McNair, Chen, Gibbons, Gerrard, & Wills, 2005).

Adolescents who experience such negative parent behaviors as inconsistency, coercion, non-acceptance, and being ignored are more likely to display antisocial behavior and depressive symptoms (Capaldi, Pears, Patterson, & Owen, 2003). Adolescents who are subjected to negative parenting behaviors are more susceptible to risk taking and may not have the tools or skills necessary to contemplate the present or future effects of such risk behaviors. Adolescents' motivation towards participating in deviant behaviors is developed through negative parent behaviors which do not encourage emotion-or self-regulation within the adolescents (Sharp, Caldwelll, Graham, & Ridenour, 2006).

The research in the aforementioned section really does establish how specific parent behaviors can enhance and contribute to adolescent behaviors and outcomes. For this research, the parent behaviors to be examined are involvement and communication. According to Loeber and Farrington (2000), the most significant impact on adolescents' choice to partake in risk-taking behaviors is parent behaviors in the areas of involvement and communication. Negative parent behaviors in the areas of communication, involvement, and warmth and responsiveness increase the likelihood for adolescents to engage with negative peers in destructive behaviors regardless of ethnicity or sex (Pearson, Muller, & Frisco, 2006). The next section will look at parent involvement behaviors specifically and how those parental involvement behaviors affect adolescent behaviors and outcomes.

Involvement behaviors. In reference to involvement, the behaviors of whether or not parents actively participate in activities with adolescents will be examined. Chen, Dornbusch, and Lie (2007) found parental involvement behaviors such as autonomy granting and parental participation in school work is positively associated with adolescent peer selection and academic achievement. Therefore, positive parent involvement behaviors increase the probability that adolescents will select positive, high achieving peers and display positive outcomes. Crawford and Novak (2007) state family participation or interaction in family activities helps establish the cohesiveness within the family system and is negatively associated with adolescent participation in maladaptive behaviors.

Involvement behaviors such as time spent together in activities are reflected in the adolescent's ability to establish positive interaction and relationship behaviors (Overbeck,

Stattin, Vermulst, Ha, & Engels, 2007). Dishion, Nelson, and Bullock (2004) state parents' reduction in involvement is positively associated with increased maladaptive behaviors and peers by their adolescents. Conley, Votruba-Drzal, and Shindler (2008) using a sample of 3,317 found direct parental involvement with the adolescents in family activities is negatively associated with increased adolescent alcohol use and continues to be a protective factor for adolescent involvement in substance use overall.

The above mentioned research on parent involvement behaviors establishes a strong foundation for the significant influence parental involvement has on adolescent behaviors and outcomes. Again, this research will conceptualize parental involvement into a more concrete construct as actual physical involvement. Along with parental involvement behaviors, communication behaviors have been shown to affect adolescent behaviors and outcomes.

Communication behaviors. In a study conducted by Pardini and Loeber (2008), communication behavior was defined as mutuality between parent and adolescent in all areas of conversation such as problem-solving and daily discussions. The above mentioned study found no mutuality or parent dominated communication between parent and child is strongly linked to negative adolescent outcomes in reference to maladaptive behaviors.

According to Dixon, Graber, and Brooks-Gunn (2008), some of the behaviors they used to measure communication were attentive listening, not interrupting, acknowledgement, and cooperation. These types of behaviors represented less reported conflict between parent and adolescent. Also, the previously mentioned study found these types of communication behaviors reflected an increased likelihood for adolescents to

participate in productive behaviors. A parent with positive communication behaviors will likely have adolescents who reflect more positive adjustment than adolescents who are exposed to parents that reflect negative communication behaviors (Grusec, Goodnow, & Kuczynski, 2000).

The aforementioned research concerning parental communication behavior established overwhelming evidence that parents' behavior during communication with their adolescents enhances either positively or negatively adolescent behaviors. Parental behaviors that influence specific adolescent behavior such as alcohol use will be discussed in the next section.

Parent behaviors and adolescent alcohol use

According to Reitz, Dekovic, and Meijer (2006), parenting behaviors have a strong impact on the externalizing behaviors of adolescents when it comes to developing self-government which increases the probability that adolescents will likely take part in risk-taking behaviors such as alcohol use. Rose and Dick (2004) state negative environmental influences such as poor parent behaviors strongly predict the initiation of alcohol use during adolescence. Negative parent behaviors create a stronger tendency in adolescents to display negative behaviors and the likelihood to participate in delinquent activities such as drinking alcohol (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). Parent alcohol behavior has a strong correlation to adolescents' alcohol behaviors increasing their probability to take part in risk-behaviors while under the influence of alcohol (Leadbeater, Foran, & Grove-White, 2008).

Positive parent behaviors are consistent with encouragement for adolescents to gain higher self-esteems, increase confidence, and enhance social competence along with

the knowledge of high parental expectations that discourage the likelihood for alcohol use (Velez-Pastrana, Gonzalez-Rodriguez, & Borges-Hernandez, 2005). Therefore, adolescents who experience positive parent behaviors are more inclined to associate with positive peers and participate in more beneficial activities than those who experience negative parent behaviors. This is consistent with the family systems theory concept of Isomophism which explains that two systems have similar characteristics in order for the adolescent to function in both systems. Parents who take significant efforts to be actively involved with their adolescent and use communication styles that promote adolescent input is negatively correlated with the adolescent beginning and maintaining risk behaviors such as alcohol use (DiClemente, Wingood, Crosby, Sionean, Cobb, Harrington, Davies, Hook, & Kim, 2001).

Minority adolescents with a positive ethnic pride and identity reflect less negative behaviors such as alcohol use even when these adolescents face stressors and adversity daily such as discrimination (Yasui & Dishion, 2007). According to Marino, Ellickson, and McCafffrey (2008), African American and Hispanic youth are negatively associated with alcohol first use and continued alcohol use when compared to White adolescents. Using Add Health data, Watt and Rogers (2007) found African American youth are negatively associated with alcohol use when compared to White youth along with African American females drink less and have fewer friends who use alcohol than White females. The previously mentioned study suggests that other factors such as parents working out of necessity, less disposable income, and more family knowledge of experiencing stressful life events is negatively associated with African American alcohol use when compared to White adolescents.

When parent behaviors reflect negative involvement and communication behaviors with the adolescent, the expected pattern of behavior is established within the family system. Therefore, the framework for future systems corresponds and includes the same boundary pattern for the adolescent established in the original family system. Parent behaviors can also have a significant impact on adolescent mental health states. This can be seen in the next section.

Parent behaviors and adolescent depressive symptoms

Negative parent behaviors have been positively correlated with negative adolescent development and emotional growth increasing the likelihood for poor mental health (Deslandes & Bertrand, 2005; Minke & Anderson, 2005). Therefore, adolescents who are exposed to negative parent behaviors are at an increased probability to display depressive symptoms. Wu (2007) using a panel design three year longitudinal study with a sample of 1343 adolescents found harsh parenting behaviors during involvement are positively linked to poor adolescent mental health states; also, the results show that an elevation in mother's harshness reflects increased levels of poor mental health in the adolescent.

Those adolescents who feel less accepted, understood, or have parents who lack positive communication and involvement behaviors are at an increased risk for depressive mental states (Ma & Huebner, 2008). Depressive symptoms are internalizing traits that can affect adolescents throughout the life span (Gutman & Sameroff, 2004). With that in mind, adolescent females are more likely to express or display depressive symptoms than adolescent males due to among other things hormonal changes (Shih, Eberhart, Hammen, & Brennan, 2006; Rutter, Caspi, & Moffitt, 2003).

This would indicate depressive states that begin in adolescence can carry over into other relationships and aspects of adolescents' lives; therefore, reflecting that isomorphic quality within the family system corresponding to the adolescent/peer system. Research indicates the onset of depressive states during adolescence can be associated with negative events and behaviors (Galambos, Leadbeater, & Barker, 2004).

These negative events may likely be negative parent and peer behaviors which stimulate those depressive mental states for the adolescents. Association and participation with negative peers and those influences will be explained in the next section.

Adolescent and Peer Behaviors

During this time of development, adolescents are forming their identity within a peer group affiliation which is an important and influential aspect of their life (Newman & Newman, 2001). This can be seen in various areas of adolescents' lives from what they choose to wear, music they listen to, and activities in which they participate. Friendship is the most significant association during adolescence where influence can be seen in adolescents' leisure time activities, academics, and social competence (Hartup & Abecassis, 2002).

Adolescents are inclined to associate with peers whose behaviors reflect their own behavior tendencies due to the established and expected behaviors carried over from the parent/adolescent system. An adolescent's participation in risk-taking behaviors such as alcohol use, sexual activity, and illicit drug usage gave been found to be associated with negative peer associations (Stueve, O'Donnell, 2005; Galambos, Leadbeater, & Barber, 2004).

Adolescents who participate with negative peers in negative behaviors are more likely to develop a positive attitude toward the negative behavior and continuous participation in the negative behavior will occur (Shoal, Gudonis, Giancola, & Tarter, 2007). Adolescent risk- taking behavior is significantly influenced and enhanced by peer activities (Tucker, Ellickson, Orlando, Martino, & Klein, 2005). These unfavorable peers may further stimulate or contribute to adolescents' detrimental traits.

Deviant peer behaviors play a significant role in the vulnerability of adolescents to participate in deviant activities as well (Blomeyer, Schmidt, & Laucht, 2008). The more loyalty adolescents have toward their friends the more susceptible they are to participating in deviant or negative behaviors (Ozbay & Ozcan, 2008). This loyalty to peers regardless of behavior reinforces how effective peer influence is during adolescence. The effects of peer influence can be seen in adolescence as young as age eleven in reference to participation in risk-behaviors (Milton, Woods, Dugdill, Pocellato, & Springett, 2007).

Peers are such an important part of adolescent life, and their deviant conduct has an overwhelming effect on adolescents in the areas of decision making, feelings, and activities (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2007). There is an underlying knowledge between friends for mutual acceptance based on individuality and affiliation (Laursen & Hartup, 2002). Basically, adolescents are more likely to associate with peers and participate in the same types of peer behaviors in which the adolescent's family system corresponds. This is important for the adolescent to maintain peer acceptance and identification even when participation is harmful such as drinking alcohol which will be discussed in the next section.

Adolescent and peer alcohol use. Alcohol consumption is a right of passage for most adolescents. Research states the rate of adolescents trying alcohol for the first time before tenth grade to be around 75% for U.S. teens (Rose, Dick, Viken, & Kaprio, 2001). When adolescents use alcohol, they are more likely to associate with friends who take part in alcohol related activities (Cleveland, Wiebe, & Rowe, 2005). Fowler, Shelton, Lifford, Rice, McBride, Nikolov, Neale, Harold, Thapar, and Van Den Bree (2007) found both genetic influences and environmental factors such as close peers has a significant correlation with adolescents' alcohol use.

Adolescents whose peers consume alcohol on a regular basis are more likely to consume alcohol regularly as well (Wiesner, Silbereisen, & Weichold, 2008). Dick, Pagan, Holliday, Viken, Pulkkinen, Kaprio, and Rose (2007) found the environmental influences of peer alcohol behavior are the pathway by which adolescents are most likely to consume alcohol. Adolescents' early participation in risk-taking behaviors such as drinking alcohol can be linked to peer relationship behavior influences among other things (Stueve & O'Donnell, 2005).

In a study conducted by Curran, Stice, and Chassin (1997), they found adolescents' alcohol use is positively correlated to peer alcohol use and over time both the adolescents' and peers' alcohol use increases. As stated previously, peer influence has a significant effect in reference to adolescent behavior, acceptance, and identification within a peer group. The greater number of peers within a particular group association that participate in alcohol use increases the probability of adolescents' use and continued use of alcohol (Juvonen, Martino, Ellickson, & Longshore, 2007).

Peer group association has a vital impact on adolescents' free-time; and if those peers are involved in destructive behaviors such as alcohol consumption, adolescents are more likely to debut or strengthen the negative behaviors of alcohol use and depressive symptoms (Larson, Wilson, Brown, Furstenberg, & Verma, 2002). In reference to substance use, research has indicated when considering alcohol use White adolescents are more likely to drink alcohol in social settings for both boys and girls when compared to African American youth; however, there seems to be no differences in regards to extreme or severe drinking or illegal substance use (Watt & Rogers, 2007). Girls are more likely to use illegal substances especially marijuana when their friends have an encouraging attitude about such use (Agrawal, Lynskey, & Bucholz, 2007). Participation in and with such negative peer behaviors is likely to lead to poor mental health states for all adolescents.

This relationship between negative peer and adolescents' behavior can lead to poor mental health outcomes for those adolescents. In the next section, the participation by the adolescent with negative peers and in negative behaviors may increase or instigate adolescent depressive symptoms will be discussed.

Peer alcohol use and adolescent alcohol use and depressive symptoms

The importance of peer acceptance for positive mental health during adolescence is significant throughout adolescence (Heaven, Ciarrochi, & Vialle, 2007). As stated previously, adolescents so strongly identify with their peers that when those peers engage in negative behaviors adolescents are more inclined to demonstrate those same negative behaviors regardless of how those behaviors effect them physically, mentally, or

emotionally. Adolescents who associate with peers and engage in risk behaviors are more likely to display depressive tendencies (Gerard & Buehler, 2004; Green & Ritter, 2000).

In a study conducted by Fowler, Shelton, Lifford, Rice, McBride, Nikolov, Neale, Harold, Thapar, and Van Den Bree (2007), the results indict that peer influence encompasses more than just the best friend. A small group, in this case the three best friends, are positively linked to adolescents' alcohol behavior. Also, this study reinforces the environmental influence in adolescents' drinking behavior is peer behavior. All of this negativity will likely increase the susceptibility for the expression of depressive symptoms. In a two year longitudinal study, Ritakallio, Koivisto, von der Pahlen, Pelkonen, Marttunen, and Kaltiala-Heino (2008) found associating with and in negative peer behaviors girls are more inclined to continue in adverse behaviors and display a continuation in their poor mental health states than were boys.

The individual becomes an adolescent who is mobile and seeks out peers who display those same negative behaviors such as drinking alcohol which will likely further exacerbate adolescents to express depressive symptoms. Peer affiliation is significantly related to adolescents' depressive states especially in the context of participation in deviant activities which may lower self-esteem and increase the occurrence of a depressive disorder (Connell & Dishion, 2006). The involvement in deviant activities and negative peer behaviors can contribute to feelings of insecurity (Pedersen, Vitaro, Barker, & Borge, 2007). The risk behavior of using alcohol influenced by poor peer-adolescent behaviors may increase the tendency for the development of depressive symptoms (Buehler, 2006).

Alcohol use is a likely culprit for an increased tendency in adolescents to express a poor mental health state. Alcohol use behaviors in which adolescents and peers may participate increases the possibility of depressive states for adolescents due to decreasing self-esteem (Connell & Dishion, 2006; Gerard & Buehler, 2004). This risk behavior has a strong correlation to internalizing behaviors such as depressive symptoms (Beitchman, Adlaf, Atkinson, Douglas, Masak, & Kenaszehuk, 2005). The use of alcohol is a likely pathway to poor mental health vulnerability and outcomes for adolescents. This negative risk behavior encourages a lowered self-value for adolescents in all aspects of their life such as home, school, and community (Fergusson, Horwood, & Swain-Campbell, 2002).

The effects of parents and peers can be seen in various aspects of an adolescent's life as the adolescent tries to determine which avenues and activities to participate (Daddis, 2008). The hypothesized model (see Figure 1) is representative of the pathway establishing the association between parental behaviors and adolescent as well as peer behaviors. Also, the hypothesized model demonstrates the pathway of the relationship between parental, adolescent, and peer behaviors to increased adolescent behaviors.

Overall, the aforementioned literature establishes a foundation of influence on adolescent behaviors beginning with parent behaviors which can be explained using the family systems theory. Based on the previously mentioned literature, this research set within the family systems theory expects to find similar results indicated that a pattern of early environment behaviors will correspond to future adolescent behaviors. In accordance with the above mentioned literature, this research expects to support the following hypotheses.

Hypotheses:

1. Adolescent perceived parental involvement and parental communication in Wave 1 would be negatively associated with adolescent alcohol use and depressive symptoms in Wave 1 (path 1).
2. Adolescent perceived parental involvement and parental communication in Wave 1 would be negatively related to peer alcohol use in Wave 2 (path 2).
3. Adolescent alcohol use and depressive symptoms in Wave 1 would be positively related to peer alcohol use in Wave 2 (path 3).
4. Peer alcohol use in Wave 2 would be positively associated with adolescent alcohol use and depressive symptoms in Wave 2 (path 4).
5. Adolescent perceived parental involvement and parental communication in Wave 1 would be negatively related to adolescent alcohol use and depressive symptoms in Wave 2 (path 5).
6. Adolescent alcohol use and depressive symptoms in Wave 1 would be positively related to increased adolescent alcohol use and depressive symptoms in Wave 2 (path 6).
7. Female adolescents would report lower alcohol use and more depressive symptoms than males.
8. African American and Hispanic adolescents would report lower alcohol use and more depressive symptoms than White adolescents.

CHAPTER III

METHODOLOGY

Method

Data

The data is from the National Longitudinal Study of Adolescent Health (Add Health). This data concentrates on the adolescents lives in reference to their health and their health behaviors. Further details in reference to this data set can be found at http://www.cpc.unc.edu/projects/adhealth. The Wave 1 sample collected in 1994 to 1995 includes 20, 745 adolescents in grades 7 through 12 ranging in age from 11-18 from across the United States. For this research, the sample consisted of 12,889 White (7,949), African American (3,102) and Hispanic (1,838) adolescents who completed full parent and adolescent data for Wave 1 and Wave 2. The final sample consisted of 134 high schools.

The data was collected from teens, parents, and school administrators using self-report surveys taken with a pencil and computer assisted interviewing to increase respondents comfort for such sensitive subject matter. The mother provided the information to the interviewer 93% of the time with the father providing information the other times. The sample included 56% White, 22% African American, 14%, Hispanic, 7% Asian, and approximately 1% Native American. The sample also

consisted of 51% males and 49% females. A minimal percentage of mothers (14.1%) and fathers reported less than a high school education and 24.4% of households fell below the poverty line. The majority of adolescents (84%) stated residing with their biological mothers compared to 56% who stated residing with the biological fathers.

Measures

Parent communication behaviors. Perceived parent-adolescent communication was measured by a scale consisting of 6 questions focused on conversations about the adolescent's personal life and school. The questions were asked of the adolescents about both parents. If adolescents reported having a single parent, total parental communication scores were doubled. The questions ask of the adolescents included topics of conversation during the past four weeks in which you and your parent "Talked about someone you're dating or a party you went to, personal problems, school work or grades." The range of response was 0=no, 1=yes for each question. The six items were than summed to create a composite measure ranging from 0 (low level) to 6 (high level). The Cronbach's alpha for this scale was .86. Similar items were used to measure perceived communication behaviors using the Add Health data (Crosnoe & Elder, 2002).

Parental involvement behaviors. The 8-item parental involvement measure focuses on adolescents' perceived level of parental involvement in activities such as leisure time activities and school activities. The questions were asked of the adolescents about both parents. If adolescents reported having a single parent, total parental involvement scores were doubled. Adolescents were asked to indicate which of the following activities they had participated in with their mother and/or father in the past 4 weeks: (a) went shopping, (b) played a sport, (c) worked on a project for school, and (d)

went to a movie, play; museum; concert ; or sports event?" The responses for this scale ranged from 0=no, 1=yes. In a previous study conducted by Hawkins, Amato, and King (2006), these items from the Add Health data were used to measure parental involvement behaviors. The Cronbach's alpha for this parental involvement measure was .69.

Adolescent depressive symptoms. Depressive symptoms were measured both in 1995 and 1996 using 18 items of a depression scale (Center for Epidemiological Studies Depression Scale – CES-D; Radloff, 1977) tapping adolescents' feelings of distress (e.g., "bothered by things that usually don't bother him/her," "could not shake off the blues," "felt depressed, tired, and sad," "felt people disliked you," "felt you were just as good as other people," "trouble keeping your mind on things," "enjoyed life"). These items were rated on a scale ranging from 0 (never/rarely) to 3 (most/all of the time). Scores for items expressing positive affect were reverse-coded to make them consistent with the scores for items assessing depressive symptoms. Radloff's research using the CES-D demonstrates that it is a psychometrically sound instrument for the measurement of adolescent depressive symptoms (Radloff, 1991). The Cronbach's alpha for the depressive symptoms measure in both Wave 1 and Wave 2 was .86.

Adolescent alcohol use scale. This measure consisted of the same 3 questions asked of the adolescent in both Wave 1 and Wave 2. The questions asked the adolescents: "During the past 12 months, on how many days did you drink alcohol?, "Over the past 12 months, on how many days did you drink five or more drinks in a row?", and "Over the past 12 months, on how many days have you gotten drunk or 'very, very high' on alcohol?" This measure was previously used by Biehl, Natsuaki, and Ge (2007) to assess adolescent drinking behavior among adolescents in the Add Health data set. The response

range for each question ranged from 0=none to 6=everyday or almost every day. Therefore, the possible range of responses on the alcohol use scale ranged from 0 to 18, with higher scores indicating greater alcohol use. The Cronbach's alpha for this measure was .87.

Peer alcohol use scale. This is a single question which asked adolescents to self-report about their peers' alcohol use. This question was asked of adolescents in both Wave 1 and Wave 2. Adolescents were asked the following question, "Of your three best friends, how many drink alcohol at least once a month?" The rating of this scale is 0=no friends 1=one friend, 2=two friends, and 3= three friends. This particular question has been used previously by Broman, Li, and Reckase (2008) to assess peer alcohol usage using Add Health data.

Parent Educational level. Parental education was measured by summing both mother's and father's level of formal education and dividing by two to create a mean value for parental education. For single-parent families, parental education was computed by doubling the single parent's level of education and dividing by two. Education categories ranged from 0 to 4, with 0 = did not graduate high school; 1 = high school graduate or GED; 2 = attended college, but did not graduate; 3 = college or university graduate; 4 = training beyond four year college degree.

Age. Adolescent age at Wave 2 was measured as a continuous variable that ranged from 12-19 years old.

Race/ethnicity. A set of two dichotomous variables (coded 0 and 1) were used to contrast race/ethnicity categories of African Americans and Hispanics against Whites, which served as the reference group.

Data Analysis

Basic descriptive statistics were computed using the Statistical Package for the Social Sciences software (SPSS release 15.0.0, 2006, SPSS Inc, Chicago, IL). Correlations among all study variables were assessed in order to establish associations among key study variables. Next, means and standard deviations were computed in order to assess the distributions of each of the study variables.

In addition, linear regression was used to examine the relationship between predictor variables and outcome variables in this study. The following analyses were used to test the hypotheses in this study:

Hypothesis 1: Adolescent perceived parental involvement and parental communication in Wave 1 are negatively associated with adolescent alcohol use and depressive symptoms in Wave 1. Parental involvement and parental communication as well as demographic variables such as gender, race/ethnicity, and age were included as predictor variables in the same block in a regression analyses to determine whether these variables were significantly associated with alcohol use and depressive symptoms.

Hypothesis 2: Adolescent perceived parental involvement and parental communication in Wave 1 are negatively related to peer alcohol use in Wave 2. Linear regression was used to examine the relationship between predictor variables parental involvement and communication and the outcome variable, peer alcohol use in Wave 2. In model 1, parental involvement and communication are examined. Next, alcohol use, depressive symptoms, and previous peer alcohol use Wave 1 are entered in model 2 to determine whether controlling these variables impacts the relationship between parental involvement and parental communication on peer alcohol use in Wave 2.

Hypothesis 3: Adolescent alcohol use and depressive symptoms in Wave 1 are positively related to peer alcohol use in Wave 2. Adolescent alcohol use, depressive symptoms, and peer alcohol use in Wave 1 are entered as predictor variables, in addition to parental involvement and communication to examine whether adolescent alcohol use and depressive symptoms in Wave 1 significantly predict peer alcohol use in Wave 2.

Hypothesis 4: Peer alcohol use in Wave 2 is positively associated with adolescent alcohol use and depressive symptoms in Wave 2. Peer alcohol use in Wave 2 is entered as a predictor variable in a model controlling for parental involvement, parental communication, peer alcohol use in Wave 1, adolescent alcohol use in Wave 1, depressive symptoms in Wave 1, and other demographic variables.

Hypothesis 5: Adolescent perceived parental involvement and parental communication in Wave 1 is negatively associated with adolescent alcohol use and depressive symptoms in Wave 2. Controlling for all other study variables, perceived parental involvement and parental communication in Wave 1 are entered as predictor variables to assess the relationship with adolescent alcohol use and depressive symptoms in Wave 2.

Hypothesis 6: Adolescent alcohol use and depressive symptoms in Wave 1 are related to increased adolescent alcohol use and depressive symptoms in Wave 2. Controlling for all other study variables, adolescent alcohol use and depressive symptoms in Wave 1 are entered as predictor variables to assess the relationship with adolescent alcohol use and depressive symptoms in Wave 2.

Hypothesis 7: Female adolescents would report lower alcohol use and more depressive symptoms than males. Controlling for all other study variables, sex of the

adolescent is entered as a variable to examine the presence of a main effect on adolescent alcohol use and depressive symptoms.

Hypothesis 8: African American and Hispanic adolescents would report lower alcohol use and more depressive symptoms than White adolescents. Controlling for all other study variables, African American (1 = African American, 0 = White) and Hispanic (1 = Hispanic, 0 = White) dummy codes are entered simultaneously as variables to examine the outcomes of adolescent alcohol use and depressive symptoms compared to the reference group, White.

CHAPTER IV

FINDINGS

Descriptive Statistics

Zero-order correlations were conducted on all variables within this study (Table 1). Parental involvement was positively correlated with parental communication ($p < .01$). Parental involvement was negatively correlated with both adolescent and peer alcohol use ($p < .01$). In addition, parental involvement was found to be significantly correlated to adolescent depressive symptoms at wave 1 and wave 2 ($p < .01$). Adolescent reported parental communication was positively correlated with African American status $p < .01$), indicating parental communication is higher for African Americans compared to Whites. Adolescent alcohol use in both Wave 1 and Wave 2 was positively correlated peer drinking at Wave 1 and Wave 2 ($p < .01$). Adolescent depressive symptoms are positively correlated with peer drinking at wave 1 and wave 2 ($p < .01$). This finding suggests that the more adolescents engage with peers who display drinking behavior the more adolescents will express depressive symptoms. Both female and African American status is positively correlated with depressive symptoms at Wave 1 and Wave 2 ($p < .01$).

Insert Table 1

Table 2 reveals the means, standard deviations, and ranges of study variables Parental Involvement has a mean value of 3.15 (SD = 1.85). The mean level of parental communication is 2.61 (SD = 1.80). The mean level of alcohol use among adolescents in Wave 1 is 1.97 (SD = 3.92) and in Wave 2 the mean is 2.51 (SD = 4.80). Mean levels of reported peer alcohol use from Wave 1 to Wave 2 is relatively similar (1.07 and 1.16, respectively). These means would indicate that on average, adolescents report that at least one of their three best friends drinks alcohol at least once a month. The mean level of parent education is 1.68 (SD = 1.19).

Insert Table 2

Regression Analyses

Table 3 presents the unstandardized regression coefficients for the factors predicting adolescent alcohol use and depressive symptoms in Wave 1. Parental involvement was shown to be significantly associated with adolescent alcohol use (B = -0.36, p<.001) and adolescent depressive symptoms (B = -0.87, p<.001). Parental communication is significantly associated with adolescent alcohol use (B = -0.19, p<.001) and depressive symptoms (B = -0.14, p<.001). The higher the perceived parental involvement and communication is, the lower the level of self-reported alcohol use and depressive symptoms. African Americans (B = -0.90, p<.001) and Hispanics (B = -0.26, p<.001) use less alcohol than Whites; however, African Americans (B = 0.59, p<.001) and Hispanics (B =1.15, p<.001) report a greater number of depressive symptoms than Whites. Females report less alcohol use than males (B = -0.30, p<.001); however,

females report a greater number of depressive symptoms than males (B = 1.68, p<.001). An increase in parent education is significantly associated with a decrease in the number of reported depressive symptoms (B = -0.16, p <.001). Parental education was not significantly associated with adolescent alcohol use. An increase in age was associated with both an increase in alcohol use and depressive symptoms (B = 0.36, p<.001 and B = 0.43, p < .001, respectively). The variables in Table 3 explained a total of 5% of the total variance in alcohol use among adolescents. Regarding depressive symptoms, the variables explained 7% of the total variation in depressive symptoms.

The results in this section support the hypotheses that parental involvement and parental communication are negatively associated with adolescent alcohol use and depressive symptoms. The results also support the hypotheses of this research that African American and Hispanic adolescents consume less alcohol but display more depressive symptoms than White adolescents. Finally, in accordance with this study's hypothesis, females drink less alcohol but display more depressive symptoms than males.

Insert Table 3

Table 4 presents the unstandardized regression coefficients for the factors predicting peer alcohol use during Wave 2. In Model 1, parental involvement and parental communication were entered as predictors to examine their potential relationship with peer alcohol use. Parental involvement was a significant predictor of peer alcohol use (B = -.08, p<.001). Parental communication did not significantly predict an increase or decrease in peer alcohol use. In Model 2, the variables of prior peer alcohol use (Wave

1), adolescent alcohol use, and adolescent depressive symptoms were added. The results indicate that parental involvement remains statistically significant (B = -0.05, p<.01) even after controlling for the variables in model 2. Peer alcohol use during Wave 1 is a significant predictor of peer alcohol use at Wave 2 (B = 0.40, p<.001). Adolescent alcohol use during Wave 1 significantly predicts greater peer alcohol use in Wave 2 (B = 0.12, p<.001). Adolescent depressive symptoms did not significantly predict peer alcohol use at Wave 2. In Model 3, race/ethnicity, female status, parent education, and age were added to the model. An increase in parental involvement again remained a significant predictor of a decrease in peer alcohol use (B = -0.06, p< .001). African Americans (B = -0.22, p<.001) and Hispanics (B = -0.10, p<.001) both reported significantly lower peer alcohol use than Whites. Females (B = -0.08, p<.001) reported a lower number of their friends using alcohol than males (B = -0.08, p<.001). An increase in age is a significant predictor of increased reports of peer alcohol use among adolescents (B = 0.07, p<.001). The variables in Model 3 explained a total of 24% of the total variance in peer alcohol use.

The results in this section support the hypothesis that parental involvement is negatively associated with peer alcohol use. However, the hypothesis that parental communication is negatively associated with peer alcohol use was not supported. The hypothesis that adolescent alcohol use is positively associated with peer alcohol use was supported by the results; however, adolescent depressive symptoms did not show significance in predicting peer alcohol use which contradicts the hypothesis of this study.

Insert Table 4

Table 5 presents the unstandardized regression coefficients for the factors predicting adolescent alcohol use in Wave 2. In Model 1, parental involvement and parental communication were tested. Parental involvement Wave 1 was found to be a significant predictor (B = -.16, p<.001) for adolescent alcohol use in Wave 2, indicating the more parents are physically involved with their adolescents in wave 1 the lower their alcohol use in Wave 2. Parental communication was not a significant predictor of adolescent alcohol use in Wave 2. Parental involvement explained approximately 3% of the variance in Wave 2 alcohol use.

In Model 2, the variables of peer alcohol use, adolescent alcohol use (Wave 1), and adolescent depressive symptoms were added. The results of Model 2 revealed that when the three new variables were added parental involvement was no longer a significant predictor of adolescent alcohol use in Wave 2. However, peer alcohol use in Wave 2 (B = .96, p<.001) and Wave 1 (B =0.30, p<.001), and prior adolescent alcohol use (B = 0.14, p<.001) are significant predictors of Wave 2 adolescent alcohol use. Therefore, the significant relationship between parental involvement and adolescent alcohol use in Wave 2 yielded in Model 1 appears to be mediated by prior alcohol use and/or peer alcohol use. Model 2 explains 11% of the variation in Wave 2 alcohol use.

Model 3 includes adds all demographic variables. African Americans report a significantly lower level of alcohol use than Whites (B = -0.80, p<.001). There are no significant differences in alcohol use among Hispanics and Whites. Age was a significant predictor of Wave 2 adolescent alcohol use (B = 0.12, p<.001). For every 1.0 unit increase in age, adolescent alcohol use will increase 0.12. The total R^2 for the model was 0.13.

The results indicate that initially parental involvement was negatively associated with continued adolescent alcohol use which is consistent with the hypothesis of this study. However, when adolescent alcohol use, peer alcohol use, and adolescent depressive symptoms were added parental involvement was no longer a predictor for adolescent alcohol use which is not in accordance with the hypothesis of this study. The fact that parental communication was not significant as a predictor for continued adolescent alcohol use was not consistent with the hypothesis of this study. The finding that adolescent and peer alcohol use is positively associated with adolescent future alcohol use supports the hypothesis of this research.

Insert Table 5

Table 6 presents the unstandardized regression coefficients for the factors predicting adolescent depressive symptoms in Wave 2. In Model 1, parental involvement ($B = -0.83$, $p<.001$) and parental communication ($B = -0.13$, $p<.001$) were shown to be significant predictors of adolescent depressive symptoms. These two variables explained 4% of the total variance in Wave 2 adolescent depressive symptoms. In Model 2, parental involvement remains a significant predictor of depressive symptoms ($B = -0.24$, $p<.001$) even after controlling for additional variables added to the model. However, parental communication no longer significantly predicts depressive symptoms, indicating that this initial significant relationship in Model 1 was the result of not controlling for prior depressive symptoms. An increase in peer alcohol in Wave 1 predicted an increase in depressive symptoms in Wave 2 ($B = 0.11$, $p<.05$), even after controlling for current peer alcohol use. Model 2 explains 35% of the variance in Wave 2 depressive symptoms.

In Table 6, Model 3 demographic variables are added to the model. Parental involvement remains a significant predictor of depressive symptoms, even after controlling for all other study variables. This indicates that parental involvement has a unique direct effect on depressive symptoms independent of the other variables examined in the study. Relationships between prior depressive symptoms, peer alcohol use and depressive symptoms in Wave 2 remain relatively unchanged from Model 2. African Americans and Hispanics both report an increased number of depressive symptoms compared to Whites ($B = 33$, $p<.05$ and $B = 0.68$, $p<.001$, respectively). Females report a greater number of depressive symptoms than males ($B = 0.74$, $p<.001$) and higher levels of parent education significantly decrease the number of depressive symptoms among adolescents ($B = -0.06$, $p<.001$). The age of an adolescent during Wave 2 is not associated with depressive symptoms in Wave 2 after controlling for all other study variables. The total explained variance for the complete model was 0.37. This means that 37% of the variance in Wave 2 depressive symptoms can be explained by all the variables in Model 3.

The results of this section are consistent with the hypotheses of this research except for parental communication which was no longer a predictor for adolescent depressive symptoms when other variables were included. Parental involvement is negatively associated with adolescent depressive symptoms. This finding is in accordance with the hypothesis of this research. Also, the hypothesis that African Americans and Hispanics would display more depressive symptoms than Whites was supported by the results of this study. Females display more depressive symptoms than males are in accordance with the hypothesis of this research. Adolescent prior depressive symptoms

are positively associated with future expression of depressive symptoms which is consistent with the hypothesis of this research. Adolescent previous alcohol use was not a significant predictor for future adolescent depressive symptoms which did not support the hypothesis of this study. Current peer and prior peer alcohol use is positively associated to adolescent depressive symptoms which supports the hypothesis of this study.

Insert Table 6

CHAPTER V

DISCUSSION

Predictors of Adolescent Alcohol Use and Depressive Symptoms Wave 1

Adolescent parental involvement was shown to be positively associated with a decrease in adolescent alcohol use and depressive symptoms. This finding is in agreement with the hypothesis of this study in which the more parents are involved and use communication that promotes mutuality between parent and child the less adolescents will drink alcohol. Previous research has indicated that parents who are involved have adolescents who reduce substance use even when the adolescents are genetically predisposed for substance use (Brody, Beach, Philibert, Chen, Lei, McBride-Murray, & Brown, 2009).

This can be seen in the family systems theory as a family which is described as having an open system. A family that is open to change is more cohesive and emotionally connected. This cohesiveness and emotional connectedness allows for the parent and adolescent to increase more quality time for appropriate boundaries to be maintained (Richmond & Stocker, 2006). Parental communication Wave 1 appeared to be positively associated with a decrease in adolescent alcohol use and depressive symptoms in Wave 1.

This can also be displayed within the family systems theory in which family functioning allows openness for acceptance between parent and adolescent. The family system is not so enmeshed and rigid but flexible adapting to change which allows for the adolescent's individuation, identity formation, and independence. Previous research conducted by Lansford, Criss, Pettit, Dodge, and Bates (2003) as well as Nash, McQueen, and Bray (2005) state parent dominated decision making which excludes mutuality of conversations between parent and adolescent increases adolescent negative behaviors.

Also, adolescents who are African American or Hispanic drink less alcohol when compared to White adolescents (Duncan, Duncan, & Strycker, 2006; Watt, 2004) as well as females consume less alcohol then males. This finding is in accordance with previous research reporting that White adolescents and being male drink more alcohol than African American or Hispanic adolescents (Blum, Beuhring, Shew, Bearinger, Sieving, & Resnick, 2000). Previous research indicates cultural differences such as African American adolescents being reared in a more parent influenced environment as opposed to a peer influenced environment which are positively linked to less alcohol use for African American adolescents (Giordano, Cernkovich, & DeMaris, 1993). Yan, Beck, Howard, Shattuck, and Kerr (2008) report Hispanic adolescents have decreased alcohol use when parents are involved physically with school and there is an overall family connectedness in which the adolescent finds strength and support. This finding would indicate family connectedness within the family system is positively associated with less negative behaviors for Hispanic adolescents.

However, being African American or Hispanic increases the display of depressive symptoms. Previous research has indicated adolescents who face more stressful life

events due to increased poverty or communities consisting of adversity have increased depressive symptoms (Natsuaki, Ge, Brody, Simons, Gibbons, & Cutrona, 2007; Wickrama, Merten, & Elder, 2005). There is not a positive association for adolescents to decrease alcohol use but there is a positive association for a decrease in depressive symptoms when there is an increase in their parent's education level at Wave 1. This may be a result in the parent's of higher education having more resource opportunities in the way of social capital, health care opportunities, and living in neighborhoods with less adversity and stressful situations to be encountered by the family (Boyce, Davies, Gallupe, & Shelley, 2008).

Also, the older an adolescent is the more they display alcohol use and depressive symptoms. This finding is consistent with prior research reporting as adolescents' age the more they partake in alcohol use as well as their peers (Bot, Engel, Knibbe, & Meeus, 2005; Garber, Keiley, & Martin, 2002). As adolescents get older the opportunities to be separate from parents is greater due to maturity, transportation opportunities, and possible employment for available cash.

Predictors for Peer Alcohol Use in Wave 2

The finding indicates the more parents are involved with their adolescents the less the adolescent's peers will drink. This factor can be seen in the Isomorphic concept of the family systems theory which states that in order for two systems to correspond the characteristics must be similar (Whitchurch & Constantine, 1993). If within the family system parents are physically involved with the adolescent promoting appropriate boundaries and also promoting productive individuation processes for the adolescent, the

adolescent will likely maintain the "status quo" of the system of origin within the family by participating within a like peer system.

Also, peer and adolescent alcohol use are significant in predicting peer alcohol use. As hypothesized by this study, the more peers and adolescents drink the more peers drink. This finding is in accordance with previous research indicating that peers drinking behavior is positively linked to adolescent continuous drinking behavior (Andrews, Tildesley, Hops, & Li, 2002). This can also be explained with the family system theory as a framework. The peer system is one in which the adolescent experiences individuation and will maintain the status quo of the peer system. If drinking alcohol is an activity of the system or an expected behavior of that system, then peer and adolescent alcohol use will predict future peer alcohol use.

This finding is in accordance to prior research. Simpkins, Eccles, and Becnel (2008) state peers who express deviant behaviors encourage deviant behaviors of adolescents across development. Within the family systems theory, adolescent individuation occurs, and the separation from the parental system comes into play. Adolescents who separate positively are less likely to engage in unhealthy behaviors with peers such as alcohol use (Bray, Adams, Getz, & McQueen, 2003). Also, the older the adolescent is the more his or her peers will consume alcohol. Adolescent depressive symptoms Wave 1 were not found to be significant.

Predictors of Adolescent Alcohol Use Wave 2

The finding for parental involvement was mixed in reference to the hypothesis for this study. This research expected to show that parental involvement and communication to be negatively related to adolescent alcohol use, and peer and adolescent alcohol use to

be positively related to adolescent alcohol use. Parental communication was not shown to predict adolescent alcohol use at any time point which is not in accordance with the hypotheses of this current study. Once peer and adolescent alcohol use were controlled for, parental involvement was no longer a predictor for adolescent alcohol use at the future time point. This leads to the likelihood that peer and adolescent alcohol use may mediate the relationship between parental involvement and adolescent future alcohol use.

Pilgrim, Schulenberg, O'Malley, Bachman, and Johnston (2006) also found peer associations and behaviors mediated the effect of parental involvement for substance use and deviant behaviors. In previous research, openness to communication involving both parent and adolescent was significant in adolescent report of self-regulation in restraining from negative behavior (Berzonsky, Branje, & Meeus, 2007).

The affect of peers as mediators can be found in prior research in reference to parental behaviors on adolescent alcohol use. Jones, Hussong, Manning, and Sterrett (2008) as well as Olds and Thombs (2001) found peer alcohol consumption was a stronger predictor of adolescent alcohol use than parental behaviors. Also, the findings indicate that African American adolescents are less likely to drink than White adolescents. This finding can also be explained within the family systems theory during the process of individuation. Within individuation, the area of separation occurs. It is during the separation process in which adolescents are away from the direct influence of their parents and are faced with making choices of behavior on their own that choices to participate in adverse behaviors occurs (Baer & Bray, 1999). As stated previously, older adolescents continue to increase alcohol use when compared to younger adolescents which can be reflected in older adolescents having more freedom.

Predictors for Adolescent Depressive Symptoms Wave 2

Parental involvement is a significant predictor for adolescent depressive symptoms. This finding indicates that the more physically involved the parent is with the adolescent the less an adolescent will display depressive symptoms. According to the family systems theory, the process of which an adolescent can productively progress through the individuation process during the separation from parents depends on how effectively the parents prepared their adolescent in such areas as autonomy. This finding also supports the expectations of this research; however, parental communication was found to not be significant as a predictor for adolescent depression once adolescent and peer alcohol use along with previous adolescent depressive symptoms were controlled for in this research. This finding did not support this study's hypothesis that parental communication was related to adolescent depressive symptoms.

Previous adolescent depressive symptoms and peer alcohol use overall significantly predict adolescent depressive symptoms. These findings indicate the onset of depressive symptoms for the adolescent at an earlier time and the more an adolescent's peers drink the more an adolescent will display depressive symptoms. Therefore, decreasing the influence and association with deviant peers leads to a decrease in negative adolescent behaviors (Glynn & Haenlein, 1988; Bray, Adams, Getz, & Baer, 2001). This finding is also consistent with previous research on the effects of deviant peers and adolescent maladjustment (Ingoldsby, Shaw, Winslow, Schonberg, Gilliom, & Criss, 2006). Fleming, Mason, Mazza, Abbott, and Catalano (2008) state an adolescent's expression of depressive symptoms has a significant relationship over time for the

continued expression of depressive symptoms. This finding supports the hypothesis of this study indicating that peer behaviors are related to adolescent behaviors.

African American and Hispanic adolescents display more depressive symptoms when compared to White adolescents (Costello, Swendsen, Rose, & Dierker, 2008; Romero, Marinez, & Carvajal, 2007). Also, female adolescents express more depressive symptoms than male adolescents. This finding that females are express more depressive symptoms than males is in accordance with prior research (Wight, Aneshensel, Botticello, & Sepulveda, 2005). According to Milne and Lancaster (2001), girls progressing through the individuation process are more likely to experience depressive symptoms when their parents—especially mothers—are more intrusive, and the family is enmeshed regardless of parental warmth and nurturance. Parental educational level was also significant in predicting adolescent depressive symptoms wave 2. The results indicate the higher the parents educational level the less adolescents will display depressive symptoms.

Limitations

While this study does expand on information and results from the adolescents' perspective and being that patterns of behavior—parent and adolescent—have been reflected through longitudinal means, questions were asked of the adolescents only concerning parent involvement and communication behaviors. Questions asked of the parents might have reflected results with more in depth information from the parents' perspective therefore allowing for a comparison to the adolescents' perceptions. Also, adolescents were asked about peer alcohol use. Including peer answers about their own alcohol use would have provided more informed results. Bot, Engels, Knibbe, and Meeus

(2005) found that when comparing adolescents and their peers perceptions of alcohol use a more precise picture was presented with a significant finding in reference to a best friends alcohol use being related to an adolescent's alcohol use short and long term.

This study did increase the knowledge and understanding of the powerful influence peers have on adolescents even when parents display positive behaviors in the relationship with their adolescent such as being physically involved and incorporate conversations based on mutuality. Peers were found to continue to be a mediator between parental involvement and communication. Other possible mediators not tested are marital conflict, family composition, sibling relationships, and heritability factors (Buchanan & Heiges, 2001; Coleman, Ganong, & Fine, 2000; Snyder, Bank, & Burraston, 2005; Hammen, Shih, & Brennan, 2004). However, regardless of the limitations to this study, the large sample group and the ability to pull information from a longitudinal stand point gives this research a continuous pattern of behavior to examine.

Implications

An implication of this research can be found in the area of peer influence and the individuation process during adolescence which occurs according to the family systems theory. Specifically, the separation process during individuation should be considered carefully. The first step would be to expand on the knowledge of what adolescents are experiencing emotionally and cognitively during separation from parents. But even more than that, researchers should examine the thought processes children in late childhood are experiencing about being alone with peers in a variety of places and situations.

Discovering the feelings and thoughts of children on the verge of adolescence about peers and parental expectations may enlighten parents, teachers, and researchers on

specific areas to target which could enhance the influence of parents before the separation occurs. It is during this separation process where risk behavior seems to peak and occur. Research has indicated that adolescence is a time of risk-taking as a developmental trajectory. Getz and Bray (2005) state productive parenting behaviors that occur prior to or during the individuation process especially during separation decrease continued and exacerbated alcohol use by adolescents. The issue at hand is not experimentation but the continued use of alcohol and continuation of displaying depressive symptoms.

Another implication from this research is the role of autonomy which is the other process that occurs during individuation plays a role in adolescent decision making. The role of parents during the building of the adolescents' autonomy is significant in understanding what pathway the adolescent has taken in terms of self-esteem and their belief system. This can be found in prior research indicting that regardless of the positive relationship with parents and having a secure attachment adolescents did not differ significantly in their peer qualities for support and attachment to friends (Liu, 2008). This reinforces the need to look at what is occurring during autonomy building that decreases positive separation during individuation for long term adolescent negative behaviors such as alcohol and depressive symptoms. Kruse and Walper (2008) state the process of individuation is reciprocal in that adolescents whose parents promote productive autonomy and adolescents who exude strong self-efficacy fair better during the individuation-separation process but are still at a slight risk for negative adjustment.

This brings to light the need for researchers to investigate adolescent thought processes and feelings about how they evaluate and perceive time without parents in the presence of peers. This also gives some awareness to what specific parental behaviors can

promote more confident adolescents before adolescence occurs in further enhancing positive autonomy within the adolescent to make more life productive choices when separated from their parents. Also, researchers can expand knowledge in the area of more concrete parental involvement with adolescents and the effect it has on adolescent behaviors.

An additional implication for this current study is in the area of parental involvement. Concrete or direct parental involvement continued to be positively related to a decrease in peer alcohol use and depressive symptoms. This finding implies that more focus in research needs to investigate the importance of direct parental involvement during adolescence. Further research in this area could reveal the significance of parents to be more than just supportive, warm and responsive, or understanding by expressing how they feel or doing things for their adolescent but physical involvement in a direct way decreasing time with negative peer and peer activities. Concrete parental involvement could incorporate opportunities for the adolescent to feel more comfortable in discussing issues related to peer behaviors in an environment where parent and adolescent are playing a sport together or shopping. The conversations could be casual in manner helping to create a less parent dominated role allowing the adolescent time to think and discuss with the parent while participating in activities together.

This concrete physical involvement by the parents would lead to those adolescents having more tangible time of interaction with their parents. This would provide the opportunity for parents to continue setting examples appropriate behavior in a social setting, how to properly engage in sport participation, how to handle disappointment, and how important time with their adolescent really is to them first hand.

This would also allow the adolescent to get to know his or her parent more intimately and develop the attitude based on direct physical involvement that my really does care about me because we are spending time together decreasing feelings of isolation and tendencies to express depressive symptoms. This direct parental involvement could therefore decrease the intention to associate with negative peers and expression of depressive symptoms by the adolescent.

Also, adding to the implications of this research, reducing the opportunities for adolescents to have continued use of alcohol which would help decrease the expression of depressive symptoms. This study reflects the negative impact on the mental health of adolescents who continuously consume alcohol. This study displayed the outcome for future depressive symptoms displayed by adolescents who were using alcohol at Wave 1 and Wave 2. The findings of this study could help to prepare parents, clinicians, and teachers to talk and provide material to adolescents on the negative consequences that alcohol use has on their mental health which could affect their educational and career opportunities plus interrupt their development overall hindering many aspects of their lives.

Conclusions

Overall, the findings within this study add to the research on adolescent development of alcohol use and depressive symptoms. This current study establishes concrete constructs for parental involvement which indicate how important direct parental physical involvement is in decreasing peer alcohol use and adolescent depressive symptoms at present and future times. However, direct parental involvement was not significant in later alcohol use for adolescents once peers were included as a factor which

reinforces previous research that peers become more influential as time progresses regardless of how positive the parental involvement.

The family systems theory allows us to examine the areas of adolescent alcohol use and depressive symptoms through the processes of family functioning and individuation. Research has indicated that the parent/adolescent and peer/adolescent behaviors within the relationship are more significant than the whole of the relationship because the behaviors work indirectly and influence the relationship (Demuth & Brown, 2004). Also, parents, teachers, and clinicians can use the information from these findings that alcohol use may lead to the expression of depressive symptoms to increase adolescents' knowledge in order to make better choices.

This research opens the door for future examination of processes that take place developmentally in late childhood and even before as children prepare to separate from parents. According to Reitz, Dekovic, and Meijer (2006), another important aspect is to look into the effect of reciprocity between parenting behavior effects on adolescent's depressive symptoms and adolescent's depressive symptoms effect on parenting behaviors. This open door will help researchers to discover what is essential in enhancing the adolescent's travel through the individuation process with direct parental involvement. This will likely build a stronger and more productive autonomy to help ensure a more successful separation process from their parents reducing adolescent alcohol use and depressive symptoms.

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Table 1. *Zero order correlations among study variables (N = 12,889)*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Parental Involvement												
2. Parental Communication	.17**											
3. Adolescent Alcohol Use (W1)	-.11**	-.07**										
4. Adolescent Alcohol Use (W2)	-.04**	-.06**	.18**									
5. Peer Alcohol Use (W1)	-.14**	.09**	.38**	.22**								
6. Peer Alcohol Use (W2)	-.09**	-.01	.28**	.30**	.46**							
7. Depressive Symptoms (W1)	-.19**	-.02*	.13**	.05**	.18**	.11**						
8. Depressive Symptoms(W2)	-.16**	-.02*	.09**	.05**	.15**	.12**	.58**					
9. African American	-.11**	.03**	-.08**	-.08**	-.06**	-.10**	.04**	.04**				
10. Hispanic	-.03**	-.02*	.01	.01	-.01	-.01	.06**	.06**	-.21**			
11. Female	-.01	.12**	-.03**	-.01**	-.04**	-.04**	.12**	.12**	.03**	-.01		
12. Age	-.23**	.13**	.18**	.12**	.26**	.22**	.14**	.11**	-.02**	.07**	-.05**	
13. Parent Education	.07**	.03**	-.01	.01	-.01	-.01	-.10**	-.09	.04**	-.16**	-.01	-.04**

*p<.05. **p<.01.

Table 2. *Descriptive statistics for study variables (N = 12,889)*

Variable	*M*	*SD*	*Range*
Parental Involvement (W1)	3.15	1.85	0.00-8.00
Parental Communication (W1)	2.61	1.80	0.00-6.00
Adolescent Alcohol Use (W1)	1.97	3.92	0.00-18.00
Adolescent Depressive Symptoms (W1)	11.33	7.60	0.00-57.00
Peer Alcohol Use (W1)	1.07	1.17	0.00-3.00
Adolescent Alcohol Use (W2)	2.51	4.80	0.00-18.00
Adolescent Depressive Symptoms (W2)	11.27	7.65	0.00-57.00
Peer Alcohol Use (W2)	1.16	1.18	0.00-3.00
African American	0.22	0.41	0.00-1.00
Hispanic	0.13	0.34	0.00-1.00
Female	0.51	0.50	0.00-1.00
Age (W1)	15.29	1.56	11.00-18.00
Age (W2)	16.15	1.58	12.00-19.00
Parent Education	1.68	1.19	0.00-4.00

Table 3. *Unstandardized regression coefficients (t-values) predicting adolescent alcohol use and adolescent depressive symptoms in Wave 1.*

Predictor	Alcohol Use	Depressive symptoms
Parental Involvement (W1)	-0.36***	-0.87***
	(-14.15)	(-19.21)
Parental Communication (W1)	-0.19***	-0.14***
	(-10.04)	(-6.16)
African American	-0.90***	0.59***
	(-10.15)	(4.16)
Hispanic	-0.26***	1.15***
	(-2.44)	(5.74)
Female	-0.30***	1.68***
	(-4.39)	(12.76)
Parent Education	0.01	-0.16***
	(0.15)	(-8.89)
Age (W1)	0.36***	0.43***
	(16.00)	(9.85)
R^2	.05	.07

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

Table 4. *Unstandardized regression coefficients (t-values) predicting peer alcohol use in wave 2.*

Predictor	Model 1	Model 2	Model 3
Parental Involvement (W1)	-0.08***	-0.05**	-0.06**
	(-12.75)	(-3.41)	(-4.66)
Parental Communication (W1)	-0.01	-0.01	-0.01
	(-1.06)	(-1.03)	(-1.13)
Peer Alcohol Use (W1)		0.40***	0.39***
		(29.38)	(28.15)
Adolescent Alcohol Use (W1)		0.12***	0.12***
		(15.48)	(13.99)
Depressive Symptoms (W1)		0.02	0.01
		(1.60)	(0.38)
African American			-0.22***
			(-9.42)
Hispanic			-0.10***
			(-3.53)
Female			-0.08***
			(-4.19)
Parent Education			0.01
			(0.24)
Age (W2)			0.07***
			(10.45)
R^2	.02	.22	.24

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

Table 5. *Unstandardized regression coefficients (t-values) predicting adolescent alcohol use in wave 2.*

Predictor	Model 1	Model 2	Model 3
Parental Involvement (W1)	-0.16***	-0.02	-0.02
	(-5.79)	(-0.48)	(-0.67)
Parental Communication (W1)	-0.02	-0.01	-0.02
	(-1.60)	(-1.03)	(-1.17)
Peer Alcohol Use (W2)		0.96***	0.94***
		(24.35)	(23.79)
Peer Alcohol Use (W1)		0.30***	0.29***
		(7.25)	(7.08)
Adolescent Alcohol Use (W1)		0.14***	0.14***
		(12.90)	(11.64)
Depressive Symptoms (W1)		0.01	0.01
		(0.45)	(0.38)
African American			-0.80***
			(-7.58)
Hispanic			-0.10
			(-0.76)
Female			-0.11
			(-1.28)
Parent Education			0.02
			(1.41)
Age (W2)			0.12**
			(4.20)
R^2	.03	.11	.13

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

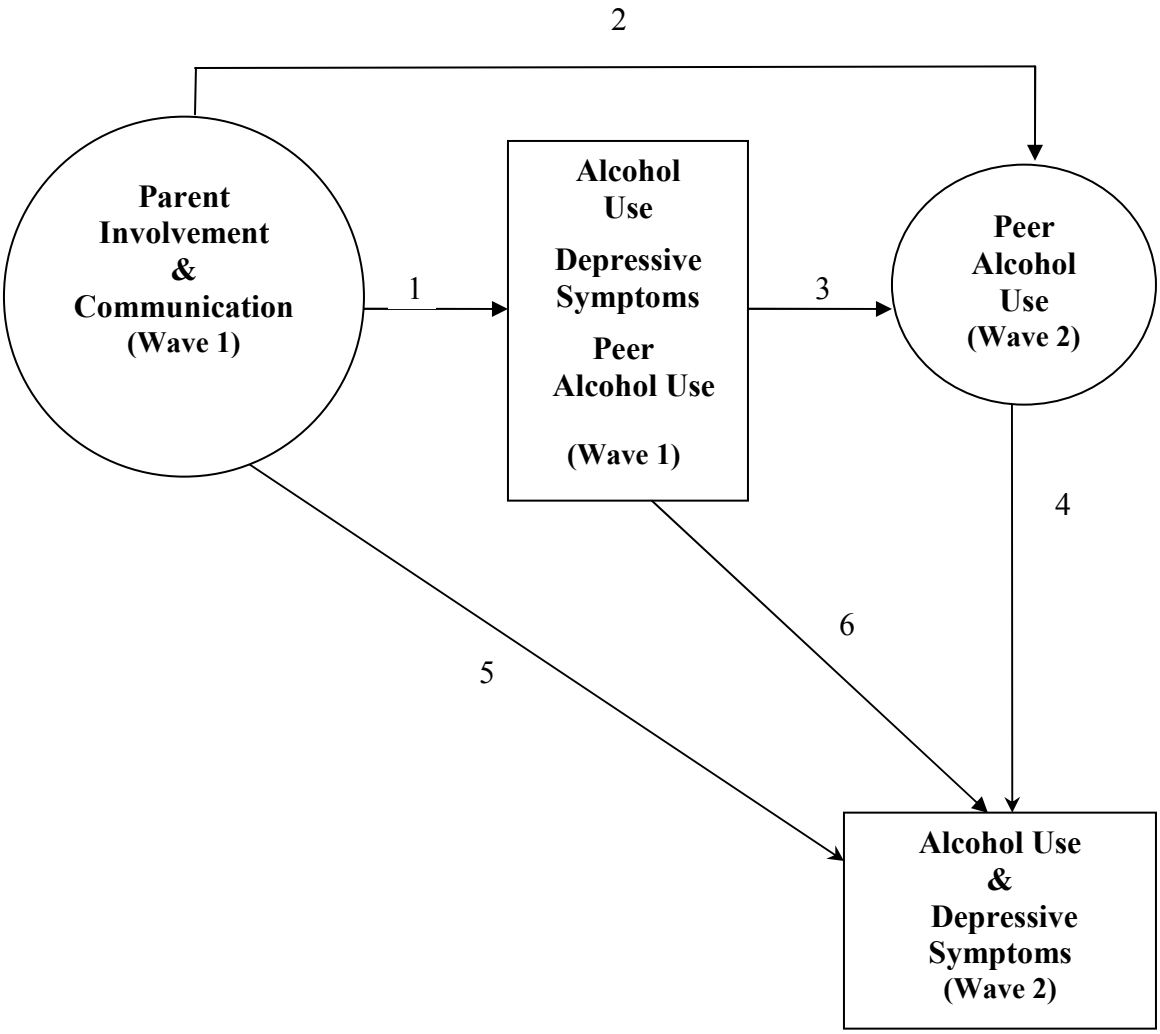
Table 6. *Unstandardized regression coefficients (t-values) predicting adolescent depressive symptoms in wave 2.*

Predictor	Model 1	Model 2	Model 3
Parental Involvement (W1)	-0.83***	-0.24***	-0.18***
	(19.94)	(-6.71)	(-4.69)
Parental Communication (W1)	-0.13**	-0.02	0.02
	(-3.55)	(-0.91)	(0.87)
Adolescent Depressive Symptoms (W1)		0.57***	0.56***
		(74.61)	(71.76)
Adolescent Alcohol Use (W1)		0.02	0.01
		(1.71)	(0.90)
Peer Alcohol Use (W1)		0.11*	0.15*
		(2.17)	(2.73)
Peer Alcohol Use (W2)		0.32***	0.37***
		(6.49)	(6.96)
African American			0.33*
			(2.34)
Hispanic			0.68***
			(3.98)
Female			0.74***
			(6.60)
Parent Education			-0.06***
			(-3.74)
Age (W2)			0.02
			(0.46)
R^2	.04	.35	.37

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

FIGURE

Figure 1. *Hypothesized Model*



Demographic Variables:
Race/Ethnicity
Sex
Age
Parent Education

APPENDIX A

Oklahoma State University Institutional Review Board

Date:	Monday, October 29, 2007
IRB Application No	HE0764
Proposal Title:	The Nature of Things: An Adolescent Seeking Out Peer Environments
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved **Protocol Expires: 10/28/2008**

Principal Investigator(s)

Cheryl Dalk
700 N. Greenwood
Tulsa, OK 74106

Michael Merten
1111 Main Hall
Tulsa, OK 74106

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Sue C. Jacobs, Chair
Institutional Review Board

APPENDIX B

VITA

Cheryl Ann Delk

Candidate for the Degree of

Master of Science

Thesis: PARENTS, PEERS, AND ADOLESCENT ALCOHOL USE AND DEPRESSIVE SYMPTOMS

Major Field: Human Development and Family Science

Education:

2009	M.S.	Oklahoma State University (anticipated) Major: Human Development and Family Science
2006:	B.S.	Oklahoma State University Major: Human Development and Family Science
1989:	A.A.	Tulsa Community College Major: Spanish

Employment:

2008-Present:	The Parent Child Center of Tulsa Family Support Worker/Family Assessment Worker
2006-2008:	Oklahoma State University Research Assistant

Name: Cheryl Ann Delk Date of Degree: May, 2009

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: PARENTS, PEERS, AND ADOLESCENT ALCOHOL USE AND DEPRESSIVE SYMPTOMS

Pages in Study: 77 Candidate for the Degree of Master of Science

Major Field: Human Development and Family Science

Scope and Method of Study:

This study used linear regression to explore predictors of adolescent alcohol use and depressive symptoms. Using data from Wave 1 (1995) and Wave 2 (1996) of the National Longitudinal Study of Adolescents (Add Health) comprised of 11-19 year-olds. This research focused on parent and peer behaviors as predictors of adolescent alcohol use and depressive symptoms among White, African American, and Hispanic adolescent male and females (N = 12,889). This study examined the influence of parental involvement and parental communication measured in Wave 1 on adolescent alcohol use and depressive symptoms in Wave 2, while controlling for prior alcohol use and depressive symptoms. Peer alcohol use, race/ethnicity, gender, age, and parent education were examined as additional factors that potentially impact alcohol use and depressive symptoms among adolescents.

Findings and Conclusions:

There is a significant relationship between greater parental involvement and lower alcohol use among adolescents in Wave 2. However, when controlling for adolescent alcohol use in Wave 1, parental involvement is no longer a significant predictor of alcohol use. During Wave 1, parental communication is significantly associated with a decrease in alcohol use, however parental communication does not significantly predict lower adolescent alcohol use in Wave 2. Regarding depressive symptoms, greater parental involvement in Wave 1 predicts a lower number of depressive symptoms in Wave 2, even after controlling for prior depressive symptoms and all other study variables. Parental communication did not predict long term reduction in the number of depressive symptoms. A greater level of parental involvement significantly predicted lower levels of peer alcohol use, even after controlling for prior reported peer alcohol use and other study variables. Differences in alcohol use and depressive symptoms in terms of race/ethnicity, sex, age, and parental education were also examined. The results of this study indicate the importance of parental involvement in decreasing peer alcohol use and adolescent depressive symptoms, but make us aware that peers become more influential as time progresses regardless of how positive the parental involvement.

ADVISER'S APPROVAL: Dr. Michael J. Merten