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Parental Factors as a Moderator of the Co-Occurrence of Substance Use
and Depression in Hispanic Adolescents

Rebecca Shoff Criddle

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Masters of Science

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ABSTRACT

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Department of Marriage and Family Therapy

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The purpose of this study was to evaluate the relationship between parenting factors and Hispanic adolescent substance use and depression. Specifically, the study examined the relationship between parental support, parental knowledge, and parental psychological control among Hispanic adolescents' use of alcohol, tobacco, marijuana, hard drugs and depressive symptoms. The sample included 839 Hispanic (primarily Mexican) 9th – 12th graders from west Texas area school districts who were given a self-reported survey to assess parental behaviors, substance use, and adolescent depression. Using structural equation modeling (SEM), findings indicated that higher levels of maternal support were related to lower levels of depressive symptoms for both males and female adolescents. Maternal knowledge was found to be significantly associated, for both adolescent genders, with decreased levels of substance use. Paternal knowledge was significantly associated with decreased depressive symptoms in male adolescents. Maternal and paternal psychological control was found to be significantly associated to increased levels of depressive symptoms in female adolescents, whereas only paternal psychological control was found to be significantly associated to increased levels of depressive symptoms in male adolescents. Age was not significantly related to depressive symptoms or substance use. Results are discussed along with implications for therapists working with Hispanic populations.

Keywords:[Hispanic, adolescents, depression, substance use, parenting, support, knowledge, psychological control]

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CHAPTER ONE

Introduction

Depression, behavioral problems, and substance use/abuse are among common problems identified when adolescents are evaluated for clinical services. The co-occurrence of depression and drug use seems to be elevated among Hispanic adolescents, than Anglo-American or African-American adolescents (Akse, et al. 2007). Several factors seem to be associated in the development of both substance abuse and depression. These include the use of substances to decrease feelings of depression by adolescents, depression associated with drug use, and depressive responses to perceived lack of parental support (Brown, Meadows, &, Elder, 2007). The goal of this study is to examine the effects and interactions among the parental factors observed in depressed Hispanic adolescents who are using substances such as alcohol and tobacco and other hard drugs.

The Hispanic-American population has increased more rapidly than any other racial demographic in the United States, with a 63% increase from 1990 to 2000 (Ramírez, & de la Cruz, 2003). Ramírez, and de la Cruz also indicate that Hispanic-Americans are also a very young population, currently with nearly 40% of their total population being under the age of 20. Moreover, by the year 2050, Hispanic adolescents are predicted to constitute nearly one-third of the population under the age of 19 (Spencer & Hollmann, 1998).

Horowitz and his colleagues (2007) found that there was a significant association between depression and substance use for adolescents in the United States. Given the population explosion projected by the census bureau for young Hispanics in the U.S., it is imperative to evaluate the psychosocial adjustment of Hispanic-American adolescents.

Research has indicated that depressed adolescents have a greater risk to use/abuse substances than their non-depressed counterparts (Capaldi & Stoolmiller, 1999; Subramanian, 2004). Furthermore, adolescents who use/abuse substances have a greater risk to develop depressive symptoms (Akse et al., 2006; Pontieri, et al., 1996). Research has also shown that depression and substance use/abuse often co-occur (Capaldi 1999; Wiesner & Kim, 2006; Goldstein, 2007; Kinnier, et al., 1994). The co-occurrence of depression and substance use often produce poorer responses to clinical treatment and imply significant adolescent developmental impairment (Keiley et al., 2003; Youngstrom, Findling, & Calabrese, 2003) and increased risk to develop substance dependence (Costello et al. 1999).

Parenting factors have also been found, separately, to affect the development of adolescent depressive symptoms (McCauley, Pavlidis, & Kendall, 2001). The psychosocial characteristics of families are influential in adolescent development. For example, the presence of persistent family conflict and the lack of emotional support have been associated with an increase in the risk of adolescent depression (Davies & Windle, 1997; Duggal, et al., 2001). There has also been a link between adolescent substance use/abuse to family and parental influences. Specifically, research has shown an increase of maternal responsiveness and paternal monitoring combined with parental values about substance use decreased adolescent orientation to peers, which in turn was linked to reduced rates of substance use/abuse (Bogenschneider, et al. 1998).

A study by Gorman-Smith and colleagues evaluated the relationship between family functioning and adolescent outcomes in inner city Mexican-American and African-American adolescents (2000). Their study indicated that exceptional families, (high levels of parenting practices and structure over time and emotional enrichment) was strongly associated with

adolescent internalizing behaviors such as depression and externalizing behaviors such as substance use for both Hispanic and African American families, compared to the three other types of families: task oriented families (high levels of parenting practices and structure but low levels of emotional warmth and low beliefs about the family), struggling families (consistently low in discipline, monitoring, structure, cohesion, and beliefs over time), and moderately functioning families (adequate, but not high, levels of discipline over time with increasing cohesion and beliefs). Exceptionally functioning Mexican-American families show a greater linear decline in internalizing behaviors and externalizing behaviors. A higher rate of Mexican-American urban families were found to be in the struggling group, the study attributes this finding to acculturation differences between the parent/adolescent dyad disrupting traditional family processes.

Several large studies conducted in the United States during that same time period revealed that Mexican-American adolescents reported more depressive symptoms than did white adolescents (Roberts & Sobham, 1992; Roberts, Roberts, & Chen, 1997). Not only have these studies demonstrated that Hispanic adolescents are significantly more likely to be depressed, other researchers have demonstrated that Hispanic youth begin using substances at an earlier age than their non-Hispanic counterparts (Johnston et al., 2006), and also have a higher rate of use of alcohol than tobacco than their non-Hispanic counterparts (Warheit et al., 1996).

Some studies indicate that adolescents from particular ethnic groups have higher risk for certain types of externalizing or internalizing problems. Evidence suggests that African American adolescents have greater propensity to exhibit externalizing problems than Anglo-American or Latino adolescents (Chase-Lansdale & Gordon, 1996; Sullivan, 1996). Latino adolescents have the highest rates of substance use among all groups of adolescents; they also

exhibit more internalizing problems, such as depression and substance use (Knight, et al., 1994; Ripple & Luthar, 1998).

Additionally, research has found that minority youth have a greater risk of poor academic performance and higher drop-out rates, than Anglo-American youth, with Hispanic adolescents posing the greatest risk (Chavez, Oetting, & Swaim, 1994). Research studies also suggest that culture impacts the emotional climate of the family, fostering different levels of parental support and encouragement, concluding that Latino families tend to be warmer and more cohesive than either Anglo-American or African American families (Bulcroft, Carmody, & Bulcroft, 1996; Florsheim, Tolan, & Gorman-Smith, 1996; Knight, Verdin, & Roosa, 1994). This information is important to consider when studying Hispanic adolescents, which have ethnically unique family functioning and different potential risks than other racial groups.

This study will evaluate a population of mildly and moderately depressed Hispanic adolescents, with a control of non-depressed Hispanic adolescents, to determine whether parenting practices (behavioral control, support, and psychological control) impact adolescent substance use rates. We will compare male and female adolescents to examine the association of parental factors (behavioral control, psychological control, and support) upon adolescent use/abuse of substances and adolescent depression. Specifically, parental factors will be examined to determine their moderating effects on drug use and depression in Hispanic adolescents.

Operational definition of terms

For the purpose of this study, the following definitions have been proposed:

Hispanic American Adolescent: A person between the ages of 13-18 years old, who are residing in the United States and either citizens and legal resident alien with a cultural

origin of Mexican, Puerto Rican, Cuban, Central, Latin or South American, Portuguese or other Spanish culture. For clarification purposes, the sample to be used in this study is almost exclusively of Mexican heritage but living in the United States. A term I use synonymously with *Hispanic-American* throughout the study is *Latino-American*.

Anglo-American Adolescent: A person between the ages of 13 and 18 years old, who are residing in the United States who claim whole or in part ancestry from Europe or characterized by a light pigmentation in their skin. Terms I use synonymously with *Anglo-American* is European-American, White, and/or majority culture.

Depression: Depression described as persistent, sad or anxious mood, feelings of hopelessness or pessimism, guilt, worthlessness, helplessness, and a loss of interest or pleasure in activities that were once enjoyed. Adolescents might exhibit more anxious behaviors such as: grouchy moods, getting into trouble at school, negative mood, and feeling misunderstood (NIMH, 2008).

Substance Use/Abuse: Substance use is defined as the taking of any substance whether alcohol, drugs and/or tobacco, and includes both legal and illegal substances. Substance abuse is defined as is the overindulgence in and dependence of a drug or other chemical leading to effects that are detrimental to the individual's physical and mental health, or the welfare of others. In this study, this will be determined by adolescent self-report of drug usage within the past six months including: alcohol or tobacco, and hard drugs: marijuana, heroin, cocaine, LSD.

Co-occurrence: Co-occurrence is a term used to describe the presence or association of two problem behaviors at the same time (Angold, Costello, & Erkanli, 1999). In this

study I am interested in the association of internalizing behaviors (depression) and externalizing behaviors (substance use).

Parental Support/Warmth: Parental support/warmth is how caring, warm, accepting, emotionally connective, and affectionate the parent is to the adolescent, as opposed to intimidating and rejecting (Garber, Robinson, & Valentiner, 1997).

Parental Behavioral Control: Parental behavioral control is regulation, supervision, monitoring, limit-setting, firm control in comparison to lax, inconsistent control (Garber et al., 1997).

Parental Psychological Control: Parental behaviors which are intrusive and manipulative of children's thoughts, feelings, and attachments to parents. These behaviors appear to be associated with disturbances in psycho-emotional boundaries between the child and parent, and hence with the development of an independent sense of self and identity. It is also predictive of numerous forms of psychological and social maladaptation. Psychological control is not concerned with behavioral regulation, but with control and violation of the child's psychological self (Barber & Harmon, 2002).

CHAPTER TWO

Review of Literature

The following review of literature explores depression and substance use related to their co-occurrence in Hispanic-American adolescents. Also evaluated is how parenting factors associate with adolescent externalizing symptoms (substance use) and internalizing symptoms (depression).

Depression among Adolescents in the United States

The World Health Organization ranked depression as the fourth most significant cause of suffering and disability worldwide, behind only heart disease, cancer, and traffic accidents. The organization also predicts that by the year 2020, depression will jump up to the second leading cause of suffering in the world. As a global phenomenon, we must gain further understanding of the socio-cultural implications of the disease. In the United States, severe depression is estimated to affect a stunning 35 million people, according to the National Co-Morbidity Study (Angold, Costello, & Erkanli, 1999). Depression is described by the National Institute of Mental Health (NIMH) as a persistent sad, anxious, or “empty” mood, feelings of hopelessness or pessimism, guilt, worthlessness, helplessness, and a loss of interest or pleasure in activities that were once enjoyed (NIMH, 2008). Depression is associated with augmented suicide risk, relationship stress, decreased work productivity, and increased likelihood of developing physical disorders. The NIMH also reports that depressive symptoms in adolescents may vary from adults, adolescents might exhibit more anxious behaviors, grouchy moods, getting into trouble at school, negative mood, and feeling misunderstood (NIMH, 2008).

Research on depression in Mexican-American youth suggests augmented rates, when compared to their Caucasian counterparts. A national study of the continental U.S. revealed that

Mexican-American adolescents reported more depressive symptoms than did white adolescents (Roberts & Sobhan, 1992). Another community study conducted in Houston, Texas found that Mexican-American youth aged 12-14 reported symptoms of major depressive disorder at twice the rates of Caucasian youth (Roberts et al., 1997).

A comprehensive study analyzed depressive symptoms among a nationally representative sample of adolescents (Brown, Meadows, & Elder, 2007). Data was gathered from the National Longitudinal Study of Adolescent Health (Add Health) which evaluated adolescents in three waves, their sample (n=20,126) included 10,178 females (52% White, 24% African American, 17% Hispanic, 7% Asian) and 9,948 males (52% White, 22% African American, 18% Hispanic, 8% Asian). They found that female Hispanic adolescents exhibited and reported the highest level of depressive symptoms than any other female racial demographic group. Hispanic males reported the second highest level of depressive symptoms, behind African American males. Findings indicate that depressive symptoms decreased significantly with the presence of higher levels of these ecological factors: SES, positive stress management, social capital (availability of peer and familial support), maternal support and influence, and active coping mechanisms. This study indicates an important association between depressive symptoms and several other ecological factors, which supports the study of depression using an ecological perspective. Also, this study indicates that depression is an important factor to study when studying Hispanic youth.

Substance Use among Adolescents in the United States

In the past few decades, there have been several epidemiological studies of substance use among adolescents. Patterns of use have been discovered to be almost invariant, which generally begins with the adolescent experimenting with alcohol or tobacco. Then, with some adolescents their use of either alcohol and/or tobacco continues and intensifies leading to heavy drinking and

perhaps marijuana use, and finally proceeding to the use of hard drugs (Kandel, 2002). Kandel suggests that adolescence is the developmental period of life which embodies the highest risk factors from substance use, than at any other time of life. A recent study described the prevalence of substance use among 18 year old Colorado adolescents, the research team found that 26% of the adolescents abused substances and 21.5% fit the DSM-IV criteria for substance dependence (American Psychological Association, 1994; Young, 2002). The Center for Disease Control and Prevention described the national rates of use, they found that: tobacco and cannabis use has declined slightly in the past few years, cocaine and other drug use has been stable, and illicit drug use is still very high with 50% of adolescents using at least one illicit drug prior to finishing high school (Johnston, O'Malley, & Bachman, 2001).

Research has also indicated that the age of initial use greatly impacts the risk of developing abusive or dependent behaviors later in life (Grant & Dawson, 1997; Hawkins et al., 1997; Lewinsohn, Rohde, & Brown, 1999; Lo, 2000). 371 adolescents in a large U.S. metropolitan area were initially interviewed at about 12 years of age, in a five wave longitudinal study which finished when in 1999-2000 when the participants were in their early 30's (Warner & White 2003). They concluded that the age of initial alcohol use has correlated with developing problematic drinking habits and poorer coping mechanisms, than youth who began using alcohol at a later age. Risk factors for developing substance abuse and dependence disorders were: being male, adolescent delinquent behaviors, family history of alcoholism, and feeling drunk during first time use.

Another longitudinal study examined the effect of the year of initial use of alcohol, tobacco, and illicit drugs on the development of negative/problem behaviors (Parra, O'Neill, & Sher, 2003). After 11 years and six waves the study maintained 410 participants (84% of the

initial sample). Their study concluded that individuals with early onset of initial use of alcohol and tobacco (under the age of 15) were far more likely to develop addictions to illicit drugs and develop substance abuse and dependence disorders.

Hispanic adolescents have been shown to begin using substances at an earlier age than their non-Hispanic counterparts (Johnston et al., 2006), and have a higher rates of use of alcohol than tobacco (Warheit, et al., 1996). Moreover, Hispanic-American adolescents use more illicit substances than African American and non-Hispanic adolescents (Johnston et al., 2006), and more than foreign born Hispanic adolescents residing in the U.S., and significantly more than youth living in Latin America (Canino et al., 1993; Vega and Gil, 2005; Warner, Canino, Colón, 2001).

A study using data from the National Longitudinal Study of Youth evaluated the progression of substance use of Hispanic adolescents living in the United States compared with Hispanic adolescents living in Puerto Rico. The study observed differences in transition rates and lifetime prevalence rate of substance use. Progression patterns from alcohol and “lighter” substances to harder substances remained similar to other adolescent populations, with one exception, the cigarette use stage was not significant among adolescents residing in the U.S. or Puerto Rico. Which generally implies that the gateway substance among Hispanic-American adolescents be limited to alcohol, instead of tobacco and marijuana (Maldonado-Molina, Collins, Lanza, Prado, Ramírez, & Canino, 2007).

Hispanic Adolescents at Risk for Depression and Substance Use/Abuse

A survey of Mexican and Mexican-American adolescents on both sides of the border found that residence in the United States was correlated with elevated risk for the development of mental health problems (11% increase), drug use (21% increase), and suicidal ideation (23%

increase) when compared to youth residing in Mexico (Swanson et al., 1992). An ethnographic study evaluated differences in an adult community based population of Puerto Ricans, Mexican-American immigrants, U.S. born Mexican-Americans, and Anglo-Americans and surveyed information about affective disorders, alcohol abuse/dependence, somatization, and psychotic disorders (Shrout, Canino, Bird, & Rubio-Stipec, 1992). Among U.S. born Mexican-Americans and Anglo-American there was a much higher propensity of alcohol abuse and dependence, with immigrant Mexican-Americans having higher affective disorders and alcohol abuse and dependence than Puerto-Ricans.

Another study compared immigrant and non-immigrant adult women living in the United States, comparing physical and mental health coping strategies and risk (Dinh, Castro, Tein, & Kim, 2009). They concluded that immigrant women experienced more transitions and were more at risk of developing mental health disorders and physical conditions and had more psychosocial barriers to attaining services. These studies indicate that Mexican-Americans living in the United States have elevated risk for development of mental health disorders and increased use of substances, particularly alcohol. Currently, it is undetermined by research as to where specific risk factors stem. These factors might be attributed to the marginalization of minority populations in the United States, socio-cultural attitudes and development, lower educational opportunities, decreased access to resources and mental healthcare, and acculturation pressures and stress. Vulnerable populations, such as Hispanic adolescents, should be emphasized in research focusing on preventative interventions and awareness in an effort to counteract harmful variables.

Although Hispanic-Americans have elevated levels and risk of the development of mental health disorders, they also have several areas of strength, which are unique to their social

and cultural processes. First, Hispanics are highly family centered and oriented (Lopez & Guarnaccia, 2000). Hispanic individuals are likely to live in family households, although this can vary among Latino subgroups, and are least likely to live alone when compared to African American and Caucasian households. Generally, having a supportive family structure can provide many benefits for individuals struggling with mental health conditions. Also, as previously mentioned, Latino immigrants have lower rates of mental disorders than those born in the United States. An additional strength of Latino families is that they are more likely to utilize spirituality in response to a family member's development of a serious mental health condition, which may instill a sense of hope into the family (Guarnaccia, Parra, Deschamps, Milstein, & Argiles, 1992).

The goal of my study is to gain insight into the possibility of an association between depression and substance use/abuse in Hispanic-Adolescents. Based upon the above review of literature it seems that this population has elevated risk for the development of potentially problematic behaviors. Understanding mediating factors will enable further development of family and community based intervention strategies and support for this population.

Co-occurrence of Depression and Substance Use in Adolescents

Numerous research studies have established a co-occurrence between depression and delinquent behaviors, including substance abuse, in adolescents (Angold, Costello, & Erkanli, 1999; Aske et al, 2006; Capaldi 1999; Capaldi & Stoolmiller, 1999) but relatively little research has evaluated the co-morbidity of mental health symptomology and substance-related disorders as outcomes in minority adolescent community populations. A current study evaluated co-occurrence in a community sample of adolescents in western New York with an n=985, with 97% of the participants identifying themselves as Caucasian (Wiesner & Hyoun, 2006). The

study identified specific developmental pathways of depression and problem externalizing behaviors (violence, substance use/abuse, theft, etc.). Depression was measured by the CES-D, a 20-item self-report scale that was designed to measure depressive symptomology.

Externalizing behaviors were measured using self report measures, the items were rated by the adolescents on a 6-point scale ranging from 0 (never) to 5 (10 or more times). The data was analyzed using a dual trajectory model to analyze the multi-variant longitudinal data. The major finding of the study suggested heterogeneity in developmental course of problem externalizing behaviors and depressive symptoms. Findings also suggested that female adolescents (49.5%) had a much higher level of co-occurrence than their male counterparts (25.3%). Furthermore, developmental pathways of depression and delinquency seem to vary by gender, in males delinquent behaviors are more predictive of depressive symptoms and in females depressive symptoms and delinquent behaviors are mutually predictive of each other. Although the study did account for maternal factors (mother's depressive symptoms, alcohol consumption, education, and marital status) they did not account for paternal factors or other ecological factors which might alter outcomes of the study. Also, because the data was gathered from middle-class Caucasian youth, the study's outcomes cannot be generalizable to minority adolescents or clinical populations.

Research studies which have shown associations between depressive disorders and substance-related disorders in adolescents have focused on clinical samples, which cannot be generalizable to the larger population (Goldstein, 2007; Kinnier, et al., 1994; Subramanian, et al. 2004,). Furthermore, there has been a serious void in research studying the co-occurrence of depressive symptomology and substance use in a minority population, which are generally underrepresented in academic research. Further understanding of adolescent risk factors

surrounding substance use and depression will be helpful in the development of community or school based preventative programs, development of culturally-appropriate clinical interventions, and society at large.

The association between mental psychopathology and substance-related disorders has strong substantive evidentiary support. The largest and most significant study of co-morbidity in adults was conducted by the National Institute of Mental Health (NIMH) under the ECA study (Regier, 1990), which found that the co-morbidity of mental health disorders and substance-related disorders are high among the adult general population. The study assessed 20,291 adults from five U.S. cities and included both community and institutional/clinical samples. The study's findings suggested that the highest co-morbidity rate occurred in individuals with drug-disorders (not including alcohol), among whom, 53% were found to have a mental disorder.

Co-occurrence and co-morbidity are often used synonymously, but in fact they describe two separate and distinct phenomena. Co-occurrence is a term used to describe the presence or association of two problem behaviors at the same time (Angold et al., 1999) whereas co-morbidity is defined as the valid co-existence of two or more distinct disorders matching criteria from a diagnostic manual, like the DSM IV (American Psychological Association, 1994). The notion of co-occurrence, rather than co-morbidity, suggest that adolescents with high levels of depressive symptoms, an internalizing problem behavior, have increased probability to also display externalizing problem behaviors such as substance abuse (Rohde, Lewinsohn, & Seeley, 1991) and adolescents who use substances have an increased risk to develop depressive symptoms (Aske et al., 2006). Co-occurrence of depression and substance use, or other delinquent behaviors, often produce poorer responses to clinical treatment and imply significant developmental impairment (Keiley et al., 2003; Youngstrom, Findling, & Calabrese, 2003).

There are three main theoretical models, proposed by researchers, in the study of the phenomenon of co-occurrence. By looking briefly at these three perspectives we may evaluate what may be the best perspective to utilize in an ecological study of Hispanic adolescents. The first, the 'acting out' theory, is emphasized by psychoanalysts who claim that conduct problems result from internalized problems (i.e. depression and anxiety) that are then acted out in the form of antisocial problems or delinquent behaviors (Carlson & Cantwell, 1980). Some co-occurrence theorists also assert that the internalized problem behavior both predates and predicts the externalizing behavioral problems (Gold, Mattlin, & Osgood, 1989).

Second, the 'failure' theory is the opposite of the 'acting out' theory, it claims that externalizing behavioral problems (delinquent behaviors or substance use) lead to social isolation, rejection, and lack of support from important others (peers, teachers, and parents) which can lead to experiences of failure and increased vulnerability to develop depressive and anxious feelings (Burke, Loeber, Lahey, & Rathouz, 2005; Capaldi, 1992).

And finally, the stability perspective asserts that neither one of the previous mentioned models comprehensively describe co-occurrence (Beyers & Loeber, 2003; Wiesner, 2003). The theory asserts that co-occurrence of problem behaviors do not occur in isolation, these behaviors are influenced by non-specific risk factors, such as: gender, academic performance, family structure, parenting factors, adolescent-parent relationships, and association with deviant peers which lead to associated internalizing and externalizing problem behaviors (Krueger, 1999). The stability perspective asserts neither theory can clearly and definitively chart the pathway which internalizing or externalizing problems are developed, nor can they provide substantive evidence that either problem behavior precede the other in time or identify a causal relationship (Krueger et al., 1998; Overbeek, Vollebergh, Meeus, Engels, & Luijpers 2001). I believe based upon the

three outlined theories that this perspective will provide the best perspective in our ecological study.

Summary of studies on adolescent substance use and depressive symptoms

As emphasized previously, many research studies conducted on the co-occurrence of affective disorders and substance use have emphasized clinical populations (Cornelius, 2005; Kinnier, et al., 1994; Goldstein, et al., 2007; Subramanian, et al. 2004, Rao, et al. 1999). Studies which have linked depression and substance use in community samples have focused on middle-class white subjects (Aseltine, Gore, & Colten, 1998; Brook, 2002; Diego, Field, & Sanders, 2003; Torikka, 2001). There have also been several studies which have emphasized gender differences in the developmental trajectories of substance use and depressive symptoms (Waller, 2006; Latimer, 2002; Poulin, 2005; Needham, 2007).

In a review of literature on the co-morbidity of adolescent substance-related disorders and other psychiatric diagnoses, Armstrong and Costello, calculated the rates which co-morbidity occurs in adolescent community based populations (2002). Probability rates, which were found in their analysis of 15 studies of co-morbidity are: a substance-related disorder makes a psychiatric disorder twice as likely, concurrent co-morbidity in adolescents with DSM IV depressive disorders and DSM IV substance-related disorders ranged from 11.1% to 32.0%, with a median of 18.8%, clinical depression and substance disorders were the most common co-morbid disorders in the analysis with rates that ranged from 20-50%.

The article not only focused on the co-morbidity rates, but evaluated how the progression of substance use to abuse/dependence was influenced by the presence of a psychiatric disorder. Findings concluded that co-morbidity with any psychiatric disorder increased the likelihood of substance use moving to substance abuse/dependence. Also, there

was substantive evidence that each year earlier the adolescent began to use substances exponentially increased the probability that they would later become dependent or abuse substances (Costello et al. 1999). The same study also found that youths with a psychiatric disorder were more likely to begin using substances earlier. For example, depression was associated with earlier alcohol use in girls and with earlier cannabis and illicit drug use (amphetamines, stimulants, cocaine, heroin, opiates, barbiturates, hallucinogens, psychedelics, LSD, quaaludes, tranquilizers, and sedatives) in boys.

The effects of race and ethnicity were found to be rarely reported in the studies analyzed. The Methods for the Epidemiology of Child and Adolescent Mental Disorders (MECA) assessed the effect of ethnicity and co-morbidity which found that individuals of Hispanic ethnicity generally had lower rates of psychiatric co-morbidity, where as African American ethnicity generally had higher rates of co-morbidity (McCauley, Pavlidis, & Kendall, 2001). A caveat to these findings include that a majority of the Hispanic adolescents used in the study reside in Puerto Rico, which Kendal reports have significantly lower rates of drug (~5% less) and cigarette (~14% less) use than adolescents living in mainland United States. Another limit to consider is that differences in findings may be somewhat attributable to cultural influences, such as perceptions of drug use and attitudes toward symptoms of anxiety and depression. Additionally, cultural attitudes may influence the propensity to self-disclose on a survey or an interview in an effort to make answer socially desirable.

In Armstrong and Costello's review of literature, models which included other influential variables upon adolescent substance use and psychiatric disorders were highly underrepresented in the literature (2002). Some other variables which need to be included in models of co-morbidity are: family structure and functioning, family psychiatric and substance abuse history,

poverty, rural versus urban residence, traumatic events, peer relations and peer group characteristics. One study that was determined to sufficiently evaluate ecological variables in their model of cannabis use and psychiatric co-morbidity was done in New Zealand (Fergusson, Lynskey, & Horwood 1996). Their study accounted for social disadvantage, early conduct problems, adolescent adjustment, family structure and functioning, and adolescent peer associations. The evaluation of substance use and psychiatric disorders utilizing an ecological framework provides a model for further study which includes ecological factors. It also further demonstrates that studying variables, such as depression, is more precise when evaluated in an ecological framework.

Parental Factors: Support, Knowledge, and Psychological Control

Over the years researchers have reiterated the importance of family relationships, parental support and parental behavioral control in preventing adverse adolescent outcomes (Eddy & Chamberlain, 2000; Huey, Henggeler, Brondino, & Pickrel, 2000; Loeber & Farrington, 1998; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998). Research has also shown that increased levels of psychological control can negatively influence adolescent outcomes (Barber & Harmon, 2002; Nelson & Crick, 2002). Thus, the impactful nature of family and parental factors upon adolescent outcomes compels further discussion of three distinct parenting variables: parental support, behavioral control and psychological control.

Parental Support

Parental Support, depression, and substance use. Adolescents who are members of families that are supportive, who foster positive parent-child relationships, may counteract a myriad of detrimental adolescent outcomes such as delinquent behaviors and substance use

(Florsheim, Tolan, & Gorman-Smith, 1998; Gorman-Smith, et al., 1998; Vazsonyi & Flannery, 1997). Specifically, the adolescent's perception of familial factors, such as parental acceptance, family interactional patterns, family coherence, family closeness, and doing activities together have shown to be associated with lower levels of adolescent substance use, depression, and anxiety (Gerra et al., 2004; Henry, Robinson, & Wilson, 2003; Muris, et al., 2004; Riaz, 2003; Wood, et al., 2004). Theorists also emphasize that poor family functioning has a negative effect on adolescent outcomes (Alexander & Sexton, 2002).

Positive family support and effective parental monitoring has been associated with an increase in the development positive self-concept, which, in turn, generally is associated with decreased rates of negative externalizing behaviors (Brendgen, Vitaro, & Bukowski, 1998). Conversely, less effective practices of family functioning, parental neglect, and decreased emotional support has generally been found to negatively influence adolescent self-esteem (Clark & Barber, 1994). Adolescent self-esteem or ego strength has proven to decrease levels of: substance use (Epstein, Botvin, Diaz, & Schinke, 1995), sexual promiscuity (Ethier, 2006), mental health symptomology (Umaña-Taylor & Updegraff, 2007), and general deviant behaviors among adolescents (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi 2005).

Parental Knowledge

Parental monitoring is defined as “a set of correlated parenting behaviors involving attention to and tracking the child's whereabouts, activities, and adaptations” (Dishion & McMahon, 1998). In simplistic terms, parental monitoring might be described as knowing where the adolescent is, what the adolescent is doing, and who the adolescent is with. A more recent study by Kerr and Stattin suggested a reinterpretation of parental monitoring was needed, that the

monitoring process was more complex than simply parental tracking and surveillance, that effective monitoring has a lot to do with the adolescent/parent relationship (2000). Kerr and Stattin suggest that parents can gain knowledge in three ways: the adolescent's free disclosure of information, parental solicitation by asking the adolescents or their friends or their friends' parents about their activities, and finally parental control by putting limits on the adolescent's freedom to come and go as they please or get permission first. This new conceptualization of the process of parental knowledge captures not only what parents know about their adolescent's whereabouts, but the means of gaining that information.

Kerr and Stattin's study extended previous studies of parental monitoring, they found no evidence that effective parental monitoring prevent the adolescent from delinquent behavior or association with deviant peers. However, they did find that adolescent disclosure was strongly linked to positive adolescent adjustment than tracking and surveillance. The study also suggests that controlling adolescent freedom, where the adolescent had the feeling of being controlled by their parents were linked with greater depressive symptoms, poorer self-esteem, and more expectations of failure. So, the most effective parental knowledge would be to develop a relationship in which the adolescent will disclose what they are doing to the parent, while placing limits upon adolescent behavior such as curfews without having the adolescent feel as if they are being controlled by the parent.

Parental knowledge and depression. Empirically, parental monitoring has shown to be a preventive factor in the development of adolescent depression and other maladaptive outcomes. Dishion and McMahon's study showed a correlation between higher levels of parental monitoring and positive adolescent outcomes, such as: social adjustment, emotional well-being, academic achievement, and self-esteem (1998). Other studies have shown that parental

monitoring is associated with similar positive adolescent outcomes: increased psychosocial functioning, less mental health problems, superior academic performance, less frequent report of using substances, and better overall self-esteem (Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; Kurdek, Fine, & Sinclair, 1995).

Parental knowledge and substance use. Classic delinquency studies have found that increased levels of parental monitoring correlate with decreased adolescent problem behaviors. These studies determined that the best prediction of substance use/abuse and delinquency, even higher than an adolescent's history of delinquent behaviors, was parental monitoring (Loeber & Dishion, 1983; Loeber & Stouthamer-Loeber, 1987). These studies measured a constellation of parenting factors which are directly related to parental monitoring including: family organization, poor parental supervision, family management techniques, the knowledge of the adolescent's peer associations, parenting styles, appropriate discipline, positive and negative reinforcement, and family governance.

Patterson and Stouthamer-Loeber evaluated 206 pre-adolescent and adolescent households; this study assessed self-reports and police reports of adolescent delinquent behaviors, including substance use and abuse (1984). They not only recognized parental monitoring as a mediating factor in negative adolescent behaviors, but also found it to elicit positive behaviors such as increased social adjustment. Families with decreased levels of behavioral control had significantly higher rates of adolescent antisocial behaviors. Antisocial behaviors, which are defined in the study by Patterson and Stouthamer-Loeber, are hostile to normal standards of social behavior or criminal behavior or conduct that violates the rights of other individuals. It was also found that families with high levels of behavioral control and

effective family management greatly increased the likelihood of the adolescent's positive social adjustment and decreased antisocial behaviors.

A recent study by Jacobson and Crockett, ecologically evaluated 424 high school students in Pennsylvania, which focused on how parental knowledge influenced a myriad of adolescent outcomes (Jacobson & Crockett, 2000). Their study determined that higher levels of parental knowledge was associated with increased levels of adolescent GPA (grade point average), decreased depression, and decreased sexual activity. Other factors studied were mother's employment, gender, SES, and adolescent's grade level. In general, they found that parental knowledge were different depending on the gender and age of the adolescent. Parental control levels increased for male adolescents as their grade level increased, the opposite was found for female adolescents, whose parental behavioral control levels decreased with each grade level. The most significant finding in their study was a positive linear relationship between parental monitoring and GPA.

Psychological Control

Psychological control, considered a psychological violation of the child/adolescent through manipulative and intrusive parenting behaviors, has been associated with several problematic adolescent outcomes (Barber & Harmon, 2002). Psychologically controlling behaviors differentiate from parental behavioral control, in that the parent endeavors to control the child through the use of domineering, critical, or guilt-inducing behaviors to affect the youth's thoughts and feelings rather than focus on addressing the youth's behaviors. Additionally, psychological manipulation encourages the repression of the youth's inner thoughts and feelings (Barber, 1996).

Psychological control and depression. Psychological control has more often been associated with the development of problematic adolescent internalizing behaviors, rather than problematic externalizing behaviors (Barber & Harmon, 2002). The psychological dynamics in which the youth develops negative internalizing behaviors have been studied by f and his colleagues, they suggest that the development of perfectionism as a moderating variable between psychological control and problematic internalizing behaviors, particularly depression (2008). Soenen's and colleagues, in their 3-wave longitudinal study (n=677 adolescents, n=540 mothers, and n=473 fathers), cited several studies that have connected the development of depression with maladaptive perfectionism and controlling parenting (Blatt, 2004; Flett, Hewitt, Oliver, & MacDonald, 2002; Hamachek, 1978). Through structural equation modeling they found that the presence of psychological control at age 15 was predicted to increase adolescent maladaptive perfectionism, which then predicted increases in adolescent depressive symptoms.

Another study on parental psychological control and parental-adolescent attachment was done by Leondari and Kiosseoglou, they found that parental psychological control and attachment associated separately with the development of adolescent self-esteem, depression, and personal autonomy and efficacy (2002). Psychological control was found to be negatively related to attachment. The process between variables suggests that increased levels of parental psychological control (especially maternal) influenced the adolescent to withdraw and alienate themselves from the parent, resulting in attachment injuries and parent-adolescent relationship disruption.

Psychological control and substance use. A two wave longitudinal study, via home interviews with 440 mothers with 10 year old pre-adolescents and again three years later. Pettit and his colleagues assessed how family ecological characteristics and pro-active parenting

behaviors in pre-adolescence (parental monitoring antecedent) or harsh parenting behaviors in pre-adolescence (psychological control antecedent) impacted adolescent outcomes three years later (2001). Consistent with prior research, they found that pro-active parenting behaviors were associated with fewer adolescent externalizing problems, including substance use, and fewer adolescent internalizing problems. Harsh or psychologically controlling parenting had more complex outcomes. Psychologically controlling parenting for girls and teens with low preadolescent delinquency rates exhibited both higher delinquency rates and higher rates of anxiety and depression. Higher levels of psychological control were insignificant in male adolescent outcomes.

Nelson and Crick found that childhood and early adolescent psychological control and coercion influenced the development of socially deviant behaviors, difficulty relating to peers, and physical and relational aggression (2002). Relational aggression in females was associated with father-daughter dyads, their study postulated that relationally aggressive fathers (corporal punishment or withdrawing of love and affection) contributed to relationally aggressive behaviors in daughters. Explanations for girls' enhanced sensitivity in dealing with a psychologically controlling parent(s) suggest that girls may be more sensitive to relationship disturbances, which enhances their susceptibility to the negative effects of psychological control.

Psychological control has been associated with both development of problematic adolescent internalizing and externalizing behaviors and outcomes, which include: depression, anxiety, low self-esteem, decreased sense of autonomy, aggression, substance use/abuse, and socially deviant behavior.

Acculturation

Acculturation is defined, for the purposes of this study, as the modification of the culture of a group or individual as a result of contact with a different culture (American Psychological Association, 2008). Acculturation is a phenomenon highly prevalent in societies where groups immigrate geographically to live with another group, such as Hispanic populations in the United States. Acculturation can also occur when philosophical ideologies and values of one culture seep into another culture, but geographical location remains the same. This type of acculturation can be illustrated in how places in the world are becoming “westernized”, an example of this process can be seen occurring in Japan.

Acculturation is a process which has captivated the interest of all types of researchers. We are evaluating the impact of acculturation and assimilation stress on: families, programs, institutions, sociological frameworks, and in the mental health professional framework. Smokowski and Bacallao describe acculturation as:

Assimilation, adopting host-culture norms, values, and behaviors, has traditionally been seen as the end point to this process [acculturation]. An individual has become assimilated when she or he has given up culture-of-origin identity and established a positive identity with the dominant culture. Yet, over the past four decades, researchers have suggested that the goal of assimilation for new immigrants may be problematic and have increasingly included examinations of enculturation, or culture-of-origin affiliation, and bicultural identity development instead of, or along with, assimilation (2007).

Ethnicity and culture should be a factor to consider when working with any population. Although it might seem that acculturation might not be a factor when working with all

minorities, it often is a highly significant aspect to consider, even when dealing with groups that are not newly immigrated, such as Native Americans. Although minority and non-minority individuals can feel varying levels of acculturation stress in different circumstances, acculturation is usually studied in families or groups which have recently immigrated to the United States. Many studies on acculturation focus on the Latino population, which is currently the fastest growing minority population in the United States (United States Census Bureau, 2001).

There have been several studies on the impact of acculturation/assimilation stress upon adolescent outcomes, parenting behavior, and self esteem. Different levels of parent and adolescent acculturation have been found to increase the likelihood of substance use. While this relationship was supported in this study, it was mediated by effective parenting practices and family stress processes (Martinez, 2006). Another study evaluated how adolescent aggression was augmented by parent-adolescent acculturation based conflict and perceived discrimination from the majority population (Smokowski, 2006). Another acculturation study by Smokowski and Bacallao assessed how acculturation levels and other parental factors had upon adolescent self-esteem and behavioral problems (2007).

An interesting study by Pasch on adolescents where one or both parents emigrated from Mexico hypothesized that the adolescent's acculturation from their traditional heritage would be associated with adolescent-parent conflict and maladaptive adolescent outcomes (Pasch, 2006). Interestingly, the research group found that increased acculturation levels for both the parent(s) and adolescent were associated with increased family conflict and earlier adolescent sexual experience.

Summary of the Review of Literature

Research supports the hypothesis of adolescent internalizing behaviors and externalizing behaviors having significant potential to co-occur and exacerbate negative adolescent outcomes. Furthermore, these behaviors may be influenced by several parenting factors. Evaluating the influences of these variables upon adolescent depression and substance use/abuse specifically in the Hispanic population is invaluable to the general population and to the clinical population. If the outcomes of this study suggest that parental factors significantly moderate the risk for depressed Hispanic adolescents to use/abuse substances, then clinical implications would be to focus on interventions which support the development of positive parental practices, to increase parental support and behavioral control and staying away from psychologically manipulative behaviors.

Significance of the Study

As shown in the above review of literature, the phenomenon of co-occurrence has been well supported by research thus far. A broad range of research also supports the idea that parents impact adolescent outcomes, yet studies have not yet evaluated how/if parental factors impact depressed adolescents' substance use/abuse. This study aims to evaluate if/how parenting practices may be associated with depressed adolescents and adolescent self-medication with using/abusing substances. This study has the potential to affect institutional, community programs, policy, and clinical communities. Specific statistical analysis will provide insight into the influence of each variable upon the others simultaneously. Using this model of research will provide understanding about how all of the variables intermingle into a systemic analysis.

Research Hypotheses

Based upon the review of literature, the following hypotheses are set forth:

Ho1: Depressed Hispanic adolescents will use/abuse substances more than their non-depressed counterparts.

Ho2: Higher levels of parental support and knowledge will be associated with lower levels of substance use/abuse among the depressed adolescents.

Ho3: Higher levels of parental psychological control will be associated with higher levels of substance use/abuse among Hispanic adolescents (males and females).

CHAPTER THREE

Methods

Structural equation modeling (SEM) will be utilized to explore the relationships between maternal and paternal parenting dimensions and the youth outcome variables using AMOS 17.0 (Schumacker, 2006). Specifically, SEM will be used to analyze the following model to determine if parental factors (psychological control, support, and behavioral control) act as moderating variables in mildly or moderately depressed Hispanic youth. We will also run separate analyses for males and females (See Figure 1).

Subjects

The adolescent respondents were from the Youth and Family Project, a 2003-2004, school-based, self-reported survey of 9th-12th graders from schools in west Texas area school districts. This study was part of a larger international data collection project examining the relationships of socialization dimensions (Support, Knowledge, Psychological control) and socialization influences (Family, Peers, School Personnel, Community Members) as they relate to adolescent development and a variety of youth outcomes (e.g., self esteem, social initiative, depression, delinquency). Written parental consent was obtained along with respondent consent prior to handing out the surveys. Based on teachers' willingness to allow for surveys to be distributed in their classrooms, 4,150 students were eligible for participation and consent forms were sent home to the parents of these students. As such, 2,292 surveys were completed for a 55.3% response rate. Seventy-eight surveys were discarded due to concerns regarding response integrity, with a resultant sample of 2214. The resultant sample consisted of 272 9th graders, 617 10th graders, 709 11th graders, and 616 12th graders, and was divided by gender (females - 54% and males - 44%). In terms of ethnicity, 11.6% self-identified as African American, 38.7% as

Anglo American, 37.9% as Hispanic, and 1.0% as Asian American, with another 7.9% identified as belonging to other ethnic groups or having a multi-ethnic heritage. Respondents were asked questions regarding mother's and father's parenting behaviors regardless of living arrangements, and participants rated parenting done by non-custodial parents as well. For the purpose of this thesis, the 839 participants (37.9%) who self-identified as Hispanic will be used in analyses. Acculturation level of the Hispanic sub-sample was not directly measured, however, based on the fact that the adolescents were surveyed in their respective grade level English course, it can be assumed that the participants are moderately- or highly-acculturated to the majority culture.

Confidentiality

The data is not associated with any identifying information of the participants. Case numbers were assigned to each respondent to eliminate access to any identifying information. The sample was taken from schools in west Texas area school districts. Identification of school districts or schools that participated in the study will not be identified to maintain confidentiality.

Measures

Depression. Depression was measured using the Children's Depression Inventory (CDI) (Kovacs, 1992). This instrument has solid psychometric properties among ethnically diverse samples (Storch, Krain, Kovacs, & Barlas, 2002). The CDI is widely used and is proven to be a valid and a reliable instrument (Merrick & Zalsman, 2005). Respondents answered the statement, "Mark one sentence from each group that beset describes your feelings during the past two weeks." Respondents rated themselves on items using a 3-point Likert scale ranging from 1 to 3. Items included 'Feeling sad,' 'Feelings of being alone,' and 'I feel like crying.' Some items were reverse coded so that a higher score indicates a higher level of depressive symptoms. Cronbach's Alpha coefficients were reported to be .81 for Mexican American English-speaking children, .75

for Mexican American Spanish-speaking children, and .82 for Euro-American children (Hill, Bush, & Roosa, 2003).

Substance Use. Substance use was assessed for alcohol, tobacco, marijuana, and hard drugs (heroin, cocaine, and LSD). Adolescents were asked if they used each substance in the past 6 months, if the adolescent indicated they had used the substance, they were asked to write down the number of times they had used the substance.

Support. Parental support was measured using the 10-item acceptance subscale from the 30-item revision of the Child Report of Parent Behavior Inventory (CRPBI)(Schaefer, 1965). Students were asked to report how well items described their mothers and fathers using responses ranging from 1 (not like her/him) to 3 (a lot like her/him). The instrument can be found in the appendix. High scores on both parental acceptance subscales indicate greater parental acceptance/support (i.e. measures the extent to which parents are available to the child, comfort the child, enjoy the child's company, etc.) The CRPBI has been used extensively as a measure of perceived parenting with a variety of cultural and ethnic groups (Bean et al., 2006; Bradford et al., 2004; Krishnakumar, Buehler, & Barber, 2004). The CRPBI appears to stand up well as a research instrument that is valid and reliable (Teleki, Powell, & Dodder, 1982) and the acceptance subscale has been proven to equal, based on confirmatory factor analysis and item response theory procedures. This is a valid and reliable measure for different ethnic groups (Bean et al., 2006; Krishnakumar et al., 2004). The scale has an internal consistency alpha of .93 (Bradford et al., 2003). Cronbach's alpha coefficients for the Hispanic subsample were found to be .92 for maternal acceptance and .92 for paternal acceptance.

Parental Knowledge. Behavioral control measure (BCS) is a commonly used measure of parental monitoring of adolescents. Parental monitoring meaning the extent to which parents

know their children's friends (Bean et al., 2006). Respondents responded on a 3-point Likert-type scale from 1 = *doesn't know* to 3 = *knows a lot*. It was measured using a five-item parental monitoring/knowledge scale often used in the study of ethnically diverse adolescents and their families (Bean et al., 2006; Bradford et al., 2004; Brown, Mounts, Lamborn, & Steinberg, 1993; Stattin & Kerr, 2000). Participants reported on how much they think their parents "really know" about their activities. Higher scores reflect a greater perceived behavioral control by parents. This scale has an internal consistency alpha of .80. Cronbach's alpha coefficients for the Hispanic subsample were found to be .82 for maternal behavioral control and .88 for paternal behavioral control.

Psychological control. Psychological control was measured by the eight-item Psychological Control Scale-Youth Self-Report (Barber, 1996). Respondents answered how true items were for each parent. Sample items included: (a) "my parent interrupts me" and (b) "my parent will avoid looking at when I have disappointed her/him." Responses ranged from 1 (never) to 5 (very often) with higher scores indicating a greater degree of parental psychological control (i.e. assesses the extent to which parents intrude on the psychological development of their children through constraining verbal expression, manipulation of emotions, etc.). Cronbach's Alpha coefficient for this measure was previously found to be .83 for mothers and fathers (Barber, 1996). Cronbach's alpha coefficients for the Hispanic subsample were found to be .62 for maternal psychological control and .81 for paternal psychological control.

Proposed Data Analyses

Initial data analyses will include bi-variate correlations among study variables and mean difference tests (T-tests) of study variables on the basis of student gender. Findings from these tests, along with means and standard deviations, will be presented prior to examination of the

hypothesized model (See Table 1). Structural equation modeling will be utilized to explore the relationships between maternal and paternal parenting dimensions and the youth outcome variables using AMOS 17.0 (Schumacker, 2006).

In examining the parenting models, several parameters will be estimated including: (a) path coefficients between each parenting variable and the depression and substance use variables; and (b) coefficients among the exogenous variables. Group comparisons following the procedure set out by Bollen will fit the data separately for each group and then we will be using a chi-square difference test will be used to examine the question of group equivalence (1989). This is done by first establishing a “baseline” or unconstrained model, referred to as “hypothesis of form” or “H-form”, in which all parameters are unconstrained. Using H-form as comparison, the model will be run again with the path coefficients constrained to be invariant between groups, and the chi-squares for the two models will be compared. If the chi-square difference test is found to be significant, this indicates a group difference (e.g., males versus females) in the nature of the relationships between the parenting dimensions and youth outcomes.

CHAPTER FOUR

Results

T-test for parenting factors outcomes that indicate similarities in the sample means of, paternal knowledge, paternal support, paternal and maternal psychological control (See Table 1). Mean differences of parenting variables are perceived maternal knowledge girls have a .2 higher mean score) and maternal support (girls have a .3 higher mean score). Perceived maternal knowledge was found to be statistically higher as reported by girls (compared to boys). Perceived maternal support was also found to be statistically higher as reported by girls (compared to boys). It is also interesting to note from the mean scores in this sample, that Hispanic teens generally view their parents as being accepting, having knowledge about their behavior, and not utilizing high levels of psychological control. Also, it is noteworthy that the mean level of depression was higher for girls than for boys (1.5 compared to 1.3), which is consistent with gender differences in depressive levels from numerous studies (McLaughlin, Hil, & Nolen-Hoeksema, 2007; Roberts & Chen, 1995; Roberts & Sobhan 1992).

Bi-variate correlations were also calculated among: parenting variables, substance use variables, age, and depression in Hispanic adolescents for both genders (See Table 2). Perhaps the most surprising findings were the correlations between the substance use variables and the other variables in the study. First, depression was only significantly associated with one substance use variable for males and females (alcohol use by males, .21, $p < .01$). Additionally, alcohol use is correlated with adolescent use of the other substances (tobacco, marijuana, and hard drugs) for both males and females. For males, tobacco use is correlated with use of marijuana and hard drugs ($p < .01$), for females tobacco use is correlated ($p < .01$) with the use of alcohol and marijuana .

Findings for the parenting variables associated with adolescent internalizing behaviors (depression) and externalizing behaviors (substance use) had some expected and unexpected significant associations. As expected, maternal psychological control, was positively correlated with male alcohol and tobacco use, and female tobacco, marijuana and hard drug use. Another expected outcome of maternal and paternal psychological control was positively correlated with male and female adolescent depressive symptoms. An unexpected outcome related to paternal psychological control was a negative correlation with substance use for both males and females, and was especially associated with male alcohol use. Though most of the substance use variables were not significantly associated with paternal psychological control, the negative correlation is very interesting, since the literature on psychological control suggests a positive association with substance use.

As expected, both paternal and maternal support was negatively correlated with male and female depressive symptoms. Also, maternal support is negatively correlated with male and female alcohol use, male and female tobacco use, female marijuana use, and female hard drug use. Remarkably, paternal support is not associated with any female substance use variables, but is negatively correlated with male alcohol use, tobacco use, and hard drug use.

Also as expected, maternal knowledge is negatively correlated with male substance use (alcohol, marijuana and hard drugs) and females substance use (alcohol, tobacco, and hard drugs). Also, paternal and maternal knowledge is negatively correlated with male and female adolescent depressive symptoms. Outcomes for paternal knowledge yielded unexpected results, with none of the female substance use variables being significantly correlated, however, in male adolescents paternal knowledge is negatively correlated with tobacco, marijuana, and alcohol use.

Path Analysis. After the means, standard deviations, and bi-variate correlations were examined, a structural model was created in Amos 17 to examine the proposed relationships among parenting variables, adolescent depression and substance use. The proposed model is presented in Figure 2 (See Figure 2). In the model, parenting variables were hypothesized as being related to both adolescent depression and substance use/abuse. Adolescent depression also predicts substance use/abuse. Because the parenting variables were obtained by adolescent self-report, it was assumed that mother and father scores on each parenting variable would be correlated. Therefore, in the structural model variables representing mother and father scores on each parenting variable were correlated (Schumacker, 2006)

Latent Variables. Two latent variables were created in the model: one for adolescent depression and one for adolescent substance use/abuse. Using SPSS 17, exploratory factor analysis was run on the ten variables that make up the depression measure in the data set. Items with factor loadings above .5 would be considered as possible items for the depression variable. Exploratory factor analysis indicated that three of the ten variables had factor loadings below the required .5 threshold (i.e., “how I do things”, “my looks”, and “amount of friends”). These remaining seven items were then used as latent variables indicators and confirmatory factor analysis indicated that all items loaded at the .50 level or above. For the substance use latent variable, the same procedure was followed. Although some factor loadings were found to be below .5 (but above .4), all four indicators of substance abuse were maintained in the final model, in order to have a robust measure of substance use. Because substance users/abusers tend to use more than one substance at a time, errors for each substance use indicator were correlated (Parra, O'Neill, & Sher, 2003).

Structural Model. The model's chi-square was significant, ($X^2=441.56$, $df=226$, $p<.001$). However, other fit indices for the unconstrained model were within professional standards as follows: (a) TLI = .92, which was above the .90 minimum; (b) CFI = .95, above the .90 minimum; and (c) RMSEA =.03, less than the .05 standard), indicating a good fit between the model and data. Hispanic males are represented in Figure 3 (See Figure 3) and the diagram representing Hispanic females is figure 4 (See Figure 4).

Our analysis supported our hypothesis of increased levels of parental support and knowledge to negatively impact adolescent levels of substance use and depression. Maternal knowledge was the only parenting factor which impacted adolescent substance use levels, showing an association with decreased levels with females (-.34, $p<.001$) and males (-.23, $p<.01$). This association shows the importance mothers to have a positive relationship with their adolescent and help positively mentor and monitor their adolescent. Though paternal knowledge was not shown to impact adolescent substance use, it did however significantly impact male adolescent depressive symptoms (-.15, $p<.05$). Paternal knowledge, the last parental variable significantly associated with depression, was found to be negatively related to depression in boys (-.15, $p<.05$). Also, maternal support was shown to be a very important protective factor for the development of adolescent depressive symptoms, showing a negative association to depression in boys (-.29, $p<.001$) and girls (-.24, $p<.001$).

Also, as hypothesized, higher levels of psychological control were associated with increased levels of depressive symptoms in adolescents, however parental psychological control was not related to increased rates of adolescent substance use. Maternal (.22, $p<.001$) and paternal (.16, $p<.01$) psychological control was positively related to depression for girls, while

paternal psychological control was significantly related to boys' depressive symptoms (.27, $p < .001$).

Finally, age of adolescent and depression yielded non-significant findings, indicating that age and depression were not significantly related to substance use. It should be noted that more variance was explained in the model for girls than in the boys' model for depression ($R^2 = .27$ for girls compared to $R^2 = .24$ for boys) and substance use ($R^2 = .27$ for girls compared to $R^2 = .13$ for boys).

In summary, several hypothesized specific relationships between the adolescent substance use, parenting dimensions, and adolescent depression. These included:

- 1) Maternal support was negatively associated with male and female depression.
- 2) Maternal knowledge was negatively associated with male and female substance use.
- 3) Paternal knowledge was negatively associated with male depressive symptoms.
- 4) Paternal and maternal psychological control was positively associated with female depressive symptoms, and paternal psychological control was positively associated with male depressive symptoms.

CHAPTER FIVE

Discussion

This thesis has furthered our understanding of Hispanic adolescents by testing a model which has not yet been examined for this growing population. Thus, extending the current literature on how the parent-adolescent dyad can have upon youth outcomes. Outcomes indicate that the model fit fairly similar for both males and females, though more variance was explained for female substance use than male substance use. Justification for the use of multiple analysis strategies is demonstrated by the fact that paternal psychological control had a significant negative association with male and female substance use in the bi-variate analysis, but not in the multi-variate (SEM) analysis. Also, paternal support had a significant negative association with male adolescent substance use in the bi-variate analysis, but not in the multi-variate (SEM) analysis. Finally, paternal knowledge had a significant negative association with male adolescent substance use in the bi-variate analysis, but not in the multi-variate (SEM) analysis. Using an advanced statistical technique, structural equation modeling, enabled us to evaluate the relationships between variables in the context of all the other variables in the model. Providing a more comprehensive picture of how variables may be interacting with each other in real life. Giving us superior understanding of how aspects of parenting can impact Hispanic adolescent depression and substance use. Below, specific relationships analyzed in the study are discussed in more detail.

Relationship between substance use and depression

Statistical results indicate a non-significant relationship between substance use and depression. The relationship between substance use and depression in male adolescents was weak and non-significant (.09) and the relationship between substance use and depression in

female adolescents was even weaker (.03). Investigating the possibility of a co-occurring relationship between substance use and depression in Hispanic adolescents was one of the primary research aims in this project, because co-occurrence and/or co-morbidity with an internalizing mental health problems (depression) and externalizing problems (substance use/abuse) often produce poorer responses to clinical treatment and implies significant developmental impairment (Keiley et al., 2003; Youngstrom, Findling, & Calabrese, 2003). Additionally, co-occurrence with any psychiatric disorder has been associated with increased risk of substance use moving to substance abuse/dependence (Costello et al. 1999). Also, Costello and his colleagues asserted that youth with a mental health disorder have been found to be more likely to begin using substances at an earlier age than their mentally healthy counterparts (1999).

Given the empirically supported expectation of a significant relationship between depression and substance use, it is surprising that this relationship was non-significant in the multi-variate analysis. In the bi-variate analysis male adolescent alcohol use was highly correlated with depression, this was the only significant association between adolescent substance use and depression. Among the possible explanations for this is, first, this study utilized a community sample of adolescents which have much lower rates of co-occurrence/co-morbidity than samples drawn from clinical communities (Goldstein, 2007; Kinnier, et al., 1994; Rao, 1999). Additionally, rates of co-morbidity and co-occurrence are much lower in adolescent populations than adult populations (Subramaniam, 2004). A second reason why substance use and depression may have a non-significant relationship is because our sample was drawn from a Hispanic adolescent population. Although, this ethno-cultural group has been greatly underrepresented in co-occurrence and co-morbidity literature, there has been one study of an adult population which found that Hispanics generally had lower rates of psychiatric co-

morbidity; whereas African Americans generally had higher rates of co-morbidity (McCauley, Pavlidis, & Kendall, 2001). With this research void, we have no information of the risk that the Hispanic adolescent population has of developing detrimental co-occurring disorders.

Finally, a non-significant relationship between adolescent depression and substance use may have resulted from the use of a poor measure of substance use. The method of determining substance use was asking the adolescent if they had used a certain substance (alcohol, tobacco, marijuana, or hard drugs), and if the adolescent reported that they used the substance they were asked to write down how many times they had used the substance in the past 6 months. The nature of open ended questions often yields extremely varied results. Although this method of question may have captured a rate of use, the statistical outcome indicated such a wide range of results it made it difficult to ascertain a general idea of substance use for the population. Perhaps the simplest measure of substance use would indicate a poor measure of the variable, looking at the means of the four substance use categories and their standard deviations will illustrate how varied the results were for this population. In the substance use categories, both boys and girls had huge standard deviations, with many doubling the mean use. Boys had a mean use of hard drugs of 11.9 with a standard deviation of 24.2, with a standard deviation this high it can be assumed the mean is not an adequate indicator of use. Also for girls marijuana use, the mean was 15.8 with a standard deviation of 26.6. Perhaps if we could modify the sampling procedures for the substance use variable we would find a higher statistical significance between substance use and depression. If we had utilized a different technique, such as a likert-like scale of use that ranged from never to multiple times daily, the problem of extreme variations in results would have been solved. Although we cannot ascertain how this would affect the outcome

between depression and substance use, we may assert that this might have been a more reliable measure of mean use than our current method.

It is less likely that our measure of adolescent depression was not valid or reliable, with the amount of empirical support researchers of the Child Depression Inventory (CDI) have found over the years it would not be reasonable to assume the problem was with the CDI. (Arbuckle, 2003; Storch, Krain, Kovacs, & Barlas, 2002; Kovacs, 1992). The CDI has also proven to be a valid and reliable instrument in ethnically diverse populations, including Hispanic Americans (Merrick & Zalsman, 2005; Hill, Bush, & Roosa, 2003).

Parental Support. Perceived maternal support was found to be negatively related to youth depression for female and male adolescents. Perceived paternal support, on the other hand, was not found to be significantly related to youth depression. Maternal and paternal support was not significantly associated with any substance use variables.

Several studies have concurred that positive family support has been associated with an increase in the development positive self-concept, which, in turn, generally is associated with decreased rates of negative externalizing behaviors, specifically decreased substance use/abuse (Brendgen, Vitaro, & Bukowski 1998). Conversely, Clark and Barber found that less effective practices of family functioning, parental neglect, and decreased emotional support has generally been found to negatively influence internalizing behaviors, reduced self-esteem development and increased depressive symptoms (1994).

As mentioned above, Plunkett and colleagues primarily evaluated parental practices upon adolescent self-esteem (2007). They evaluated 807 Hispanic adolescents from the Los Angeles area, 67% of whom were born the in United States, 91% of the adolescents' mothers were born outside the United States and 93% of adolescents' fathers were born outside the United States.

The study utilized adolescent self-report surveys to gather their information. They found that parental support contributed more to positive adolescent self-esteem development than all of the other parenting variables.

Specifically, they found that maternal support impacted adolescent self-esteem and decreased levels of depression at higher levels than paternal support. This supports our outcome concerning maternal support being positively associated with depression in adolescents of both genders. But, they also found that paternal support was also significantly positively associated with adolescent self-esteem and depression, which we did not find in our study. This may be because of several reasons. A high level (71%) of the adolescents in Plunkett's study lived in two-parent households, in our study there were lower levels of adolescents who live in two-parent households and more adolescents who lived with their mother in single-parent households. Thus, adolescents living in households without fathers would most likely report a lower impact of paternal support. Also, families in Plunkett's study were mostly first generation immigrant families, which may impact adolescents' perception of their parents' behaviors than more acculturated families.

Another study which continues to affirm parent gender differences in parental support upon adolescent outcomes was done by Marcotte, Marcotte, and Bouffard, they found that for female adolescents maternal support was negatively associated with depression and paternal support was negatively associated with delinquency and substance use. Although, for male adolescents maternal support was negatively associated with depression and delinquency, and paternal support was not significant (2002). Though this doesn't fully match our study's findings, it does affirm that adolescent and parent gender is an important factor to consider when looking at the impact of parental support on adolescent outcomes. It also adds to the findings of

the previously mentioned studies that parental support is an important aspect of parenting that is linked to adolescent outcomes. Additionally, based on what was previously discussed on parental support, this is an important variable to consider in assessment and treatment in a family therapy setting or when developing community parenting programs.

Parental Knowledge. Outcomes for parental knowledge were surprising in this study, with maternal knowledge being the ONLY parenting variable that was associated to substance use, showing a negative association with both male and female substance use. Paternal knowledge also was negatively associated with male depression.

The previously mentioned outcomes seem to coincide with several studies on parental knowledge and monitoring and adolescent outcomes. Kerr and Stattin, found that the relationship between the adolescent and parent was the most important aspect of good parental knowledge, not just monitoring where the adolescent was and who they were with (2000). That the most effective parental knowledge happens when the adolescent feels comfortable and able to disclose what they were doing to the parent, who can then place appropriate limits upon the adolescent's behavior. When the adolescent feels controlled by their parent there were increased levels of depressive symptoms and poorer self-esteem.

Kerr and Stattin's research was conducted on primarily middle-class white adolescents. Certainly, this does limit the applicability of specific outcomes of their study upon our current study of Hispanic adolescents. However, a study of Hispanic adolescents by Pantin and colleagues concurred with the findings of Kerr and Stattin, on the centrality of the parent-adolescent relationship upon adolescent outcomes (2007). They asserted that increasing parental involvement and relational improvement may be a protective factor against negative adolescent

behaviors and outcomes, but especially impact negative externalizing behaviors (i.e. delinquency, substance use, poor academic performance, etc).

Based on their research, Pantin and colleagues have developed a culturally specific prevention intervention, Familias Unidas, which addresses three risk factors present in many Hispanic adolescents, they are: (a) immigrating from a culture with incompatible values with the those of the American culture, (b) living in a household where parents may be unfamiliar with risks facing adolescents in the United States, and (c) residing in a poor community (2007). The program mainly focuses in increasing positive parental involvement, providing parental skills training in communication and relationship building, and finally providing information about adolescent risks and preventative action parents can take. Specifically, to improve the parent-adolescent relationship, increase adolescent disclosure, improves the level of parental knowledge, thus, decreasing the likelihood of negative adolescent behaviors and outcomes (2007).

Opposite of parental support, parental knowledge seems to impact adolescent externalizing behaviors rather than internalizing behaviors. Empirically, parental monitoring/knowledge is a preventive factor in delinquency and other maladaptive adolescent outcomes. Ramirez and colleagues evaluated the relationship between marijuana and inhalant hard drug use with cultural and demographic factors of Anglo-Americans and Hispanic American adolescents (2004). They found that Hispanic American adolescents use more marijuana and inhalants than Anglo-American adolescents. They also found that parental knowledge and positive family relations was the most significant factor at attenuating marijuana and inhalant use. Additionally, they found that parental knowledge about drugs and frank discussion of expectations of non-drug use from their adolescents was also very significant in

decreasing adolescent drug use rates. Another study comparing African-American and Hispanic American adolescents by Forehand and colleagues emphasize the importance of parental monitoring in decreasing negative adolescent externalizing behaviors, including substance use (1997). They also found that maternal monitoring was more impactful than paternal monitoring in both ethnic groups. This study supports the outcomes of our study, which indicates the importance and impact of maternal knowledge and monitoring in decreasing adolescent risk of exhibiting negative externalizing behaviors.

Another study emphasizes maternal knowledge in preventing negative adolescent externalizing behaviors (Kerr, 2003). This study compared adolescents from several ethnic backgrounds: Anglo-Americans, African Americans, Hispanic Americans, Asian Americans, and Native Americans. This study shows the universal importance of the mother-adolescent relationship in protecting adolescents against a diverse variety of negative adolescent outcomes (substance use, violent behaviors, gang activity, early and risky sexual behaviors, and poor academic functioning). Findings show that paternal knowledge is still very important in association to negative externalizing behaviors, but just not quite as statistically significant as maternal knowledge.

Several other research studies show an association between parental knowledge and positive adolescent outcomes. Dishion and McMahon's study showed a correlation between higher levels of parental monitoring/knowledge and positive adolescent outcomes, such as: social adjustment, emotional well-being, academic achievement, and self-esteem (1998). Other studies have shown that parental monitoring/knowledge is associated with similar positive adolescent outcomes: increased psychosocial functioning, less mental health problems, less frequent report

of using substances, and better self-esteem (Crouter, et al., 1990; Kurdek, Fine, & Sinclair, 1995).

Psychological Control. There were some expected and unexpected outcomes of the analysis of parental psychological control with youth outcomes. As expected, and corresponding with research on psychological control, maternal and paternal psychological control was positively associated with depressive symptoms in female adolescents. Also, paternal psychological control was positively associated with depressive symptoms in male adolescents. A mildly unanticipated outcome was psychological control (maternal and paternal) had no association with adolescent (boys and girls) substance use. Even though psychological control has been primarily associated with adolescent internalizing behaviors (Barber & Harmon, 2002), it has also been linked to problematic externalizing behaviors, perhaps because adolescents with moderate to severe internalizing behaviors are more at risk of developing problematic externalizing behaviors (Beyers & Loeber, 2003; Wiesner, 2003).

Hispanic families are known to possess a set of unique values that set them apart from other families in the United States. There is an emphasis in Hispanic culture of being family oriented (*familismo*) rather than individually oriented (Marin, 1989). Values of *familismo* impact parenting practices, concern with family well-being rather than individual aspirations, and family-oriented decision making practices (Coohey, 2001). Additionally, *familismo* refers to the family loyalty, attachment, and reciprocity between family members (Sue & Sue, 2000). The cultural attitudes of *familismo* contrast with the culture in the United States for individual autonomy and the value of personal ambition. Traditionally, Mexican adolescents are expected to be respectful (*respeto*) and obedient (*obediencia*) to their parents, especially their fathers (Sue & Sue, 2000; Halgunseth, Ispa, & Rudy, 2006). Halgunseth and colleagues also emphasized that

Hispanic parents highly value a close relationship to their children, especially mothers (2004). The expectation Hispanic parents have for their children to be respectful, obedient, and family-centered may impact parental responses to their children when they behave badly or selfishly. This may propel the parents to employ overly harsh, punitive, or coercive parenting practices (Barber & Harmon, 2002). These parental responses may negatively impact the parent-adolescent relationship and adolescent self-esteem. A study evaluating parenting practices in Latino families found that the adolescent whose parents had high levels of psychological control reported feeling less valued and worthy (Plunkett, Williams, Schock, & Sands, 2007). Also, the youth who is compliant to psychologically controlling parents often sacrifice their own self-worth for connection with their parents; because their views and desires are not valued or respected their self-esteem suffers (2007).

Plunkett and his colleagues also assert that the process of acculturation may place added stress upon Hispanic-American parents, especially in first generation immigrant families. The contrasting values of the two cultures are confusing to the adolescent, who is in the process of developing their identity. As the adolescent takes on attitudes from the individualistically driven United States culture, their parents are trying to instill their traditional values. This added conflict may augment levels of parental psychological control and increase negative adolescent internalizing behaviors (2007). With the propensity to employ harsher disciplinary tactics and the added acculturation stress, Hispanic families are more likely to employ psychologically controlling parenting tactic than other types of families (Barber & Harmon, 2002).

Limitations

Strengths of the current study includes: the use of an under-represented Hispanic population, utilization of an ecological model, using the statistically advanced method of

structural equation modeling (which can test multiple variable interactions simultaneously) and includes the evaluation of variables which have been shown to impact adolescent development and can have lasting impacts into adulthood (Costello et al. 1999; Subramanian, et al. 2004).

Although this study possesses certain strengths, consideration of its results must be considered with some limitations. Principal among them is that the impact of peer association was not included in the study. Peers have been shown in various studies to be a central impact upon adolescent behaviors (Akers, 1998; Armstrong & Costello, 2002; Barber & Erickson, 2001). Adolescent peer association mainly seems to impact adolescent externalizing behaviors rather than internalizing behaviors (Barnes, Welte, Hoffman, & Dintcheff, 2005). Barnes and colleagues' study emphasized that peers were more influential for adolescents in their choice to use substances, participation in delinquent behaviors, poor academic performance, and early/risky sexual activity. In light of our research findings, there was only one parental factor that was associated with substance use, considered a negative externalizing behavior, and thus may conclude that parental factors may not have as much influence as peers in negative externalizing behaviors. Yet there has been some association found between peer association and the development of positive adolescent self-esteem, which is a protective factor in negative internalizing behaviors (Beyers & Loeber, 2003), and inversely low self esteem is a risk factor in both negative internalizing and externalizing behaviors (Ethier, 2006).

Another limitation to consider is a measure of respondents' acculturation level was not taken, which limits our ability to accurately compare our population's results to other Hispanic populations which have a measured acculturation level, such as first, second, or third generation studies. Family dynamics and adolescent behaviors are very affected by acculturation level, and therefore make it difficult for us to interpret whether our results on Hispanic families contain

high levels of *familismo* or other culturally specific dynamics (Smokowski & Bacallao, 2007). Measuring acculturation is a potentially difficult process which involves assessing: (a) a person's length of time living in a certain area, or generational status (b) their language preference/abilities at home and in public, (c) social group flexibility and diverse friends, (d) attitudes that coincide with values and norms of the dominant culture, and (e) the identity to which a person ascribes themselves "I am a..."(Martinez, 2006). Though, as previously stated, there was no direct assessment of sample respondents' acculturation levels, an indirect measure of sample acculturation level is found in the fact that all respondents were surveyed in the high school English class, in the English language, which suggests adolescent moderate to high levels of acculturation. Yet, we still have no measure of parental acculturation levels, if parental acculturation is much less than that of the adolescent there can be added conflict and stress upon the adolescent-parent relationship (Giordano & McGoldrick, 2005).

Also, another limitation to the present study is data collection method of single-informant survey research, which only considers the perspective of the adolescent. Without ascertaining the parents' acculturation level, their view of their parenting techniques, and their opinion of their adolescent's behaviors we have a limited perspective of the adolescent-parent relationship. The single respondent survey research methods is not the most desirable method, according to Bradford and his colleagues, providing increased accuracy and realism is vital in data collection strategies, thus it is important to use multiple methods and sources of information (Bradford, et al., 2004).

A final limitation to the current study is that the analysis was performed on cross-sectional data, and therefore many of the relationships found in the analysis must be held under some level of scrutiny. Longitudinal data has been found to be more reliable in determining the

direction of influence between variables and determining causal processes (Pahl & Way, 2006) Therefore, in order to expand our understanding of processes in Hispanic families we must conduct more longitudinal research before assuming any concrete causal relationships.

Though there were several limitations that were addressed above, there remains substantial value to our study's findings: (1) The use of a more comprehensive statistical analysis of the data, in structural equation modeling, (2) the use of a under-research minority group of Hispanic adolescents, (3) the use of a large sample to reduce statistical error, (4) use of reliable and valid measures (where possible).

Implications for Therapy

The investigative nature of this study does not justify clinical decisions to be based solely on our findings or recommendations, nevertheless it is hoped that this information may be helpful to therapists working with Hispanic families and adolescents. When working with any population, it is important to determine family or individual strengths to utilize in therapeutic healing and changing relational processes or other behaviors.

Hispanic families generally have several areas of strength unique to their social and cultural processes that, if utilized, could augment successful therapeutic outcomes. First, Hispanic families are highly family oriented, rather than individualistically oriented like the predominant culture in the United States (Lopez & Guarnaccia, 2000). Having this sense of *familismo* can enable individuals and families to help each other in overcoming problems such as addiction to a substance other life challenges (Ramirez, 2004). Hispanic individuals are likely to live in family households, although this can vary among Hispanic subgroups, and are least likely to live alone when compared to African American and Caucasian households. Generally, having a supportive family structure can provide many benefits for individuals struggling with mental

health conditions. An additional strength of Hispanic families is that they are more likely to utilize spirituality in response to a family crisis or in trying to get through to a struggling adolescent, which may instill a sense of hope into the family (Guarnaccia, et al., 1992). The utilization of these strengths in family or individual therapy will hopefully impact the rate of response to treatment and produce better therapeutic outcomes.

Now, we will discuss how patterns and associations, found in this study, which may inform a unique understanding of this population and specific treatment methods that may be utilized when working with Hispanic families or adolescents. It is important to administer a general mental health assessment to evaluate general functioning, also because of elevated risk levels of depression in the Hispanic population it may be wise to have all family members (especially adolescents) fill out a depression questionnaire (Choi, 2002; Crockett et al. 2005). Also, because Hispanic adolescents have the highest rates of substance use among all groups of adolescents, a thorough assessment substance use is warranted (Knight, et al., 1994; Ripple & Luthar, 2000).

We can assert, based on the results of this study that Hispanic mothers and fathers play a significant role in the lives of their adolescents, in helping to lessen or prevent negative adolescent internalizing and externalizing behaviors. Thus it is important to help parents develop positive parenting practices, by implementing behaviors which are supportive and accepting of their adolescent while implementing appropriate boundaries to place on adolescent behavior.

First and foremost, avoiding psychologically controlling behaviors would be a desirable outcome. As mentioned previously, psychological control has been connected in our study and others with the development of negative adolescent internalizing behaviors (Barber & Harmon, 2002). Interventions that teach Hispanic parents appropriate communication skills would help

reduce potential psychologically controlling behaviors, skills could focus on validation, listening, “I feel” statements, not interrupting, never condemning or coercive, and summarizing skills. Practicing these and other positive parenting techniques in session will help parents implement them in their daily lives. Informing the parents what psychological controlling behaviors are and why they are detrimental to their adolescent may be emphasizing how important it is to avoid such behaviors. It is also important to teach parents to avoid unhealthy disciplinary actions (guilt inducing techniques, blaming, punitive, ignoring, “tearing-down” behaviors, or interrupting). Finally, it important to stress to father’s the importance of showing more gentle treatment to their sons and daughters. All of these techniques would help decrease the likelihood of their child to develop depressive symptoms and would help the development of more family harmony or *familismo*.

Also, there are higher rates of single-parent households and higher rates of absent fathers in Hispanic homes, when compared to Anglo-American households (Plunkett, et al., 2007) and our data suggests that fathers have an invaluable impact upon adolescent depression and substance use. So, if the father is not present in the home it is important to assess his level involvement with his adolescent. If the father is not involved with the adolescent it is important to determine why. If the adolescent desires or would benefit from more association with their father, then the therapist’s goal would be to get the father involved in any way possible. If the adolescent expresses that paternal involvement would be detrimental or undesirable then the therapist could focus on increasing the adolescent’s association with a positive male role-model. This could be done by trying to involve an uncle, grandfather, or perhaps (though this is more complicated) a step-father more in the adolescent’s life or another way would be to utilize a program, such as the big-brother program to connect a male adolescent to a positive role-model.

Techniques that foster increased father-adolescent attachment (or positive male role model-adolescent attachment) are especially important for fathers not living in the home, but would also be beneficial to use for fathers living in the home. The therapist could suggest simple ways to increase paternal support, such as, listening without interruption (especially to his female adolescent), attending a basketball game or band concert, and increasing praise and positive reinforcement. By simply spending quality time together, expressing positive emotional communication or coming to therapy can augment the relationship between the father/father-figure and the adolescent.

This study also emphasizes the vital role of mothers in their adolescents' lives. Positive maternal parenting and support significantly reduces the risk of depression and maternal knowledge is the only parenting variable that was found to decrease substance use in male and female adolescents. We know, from the aforementioned summary, that parental knowledge has more to do with the relationship with the adolescent than simply monitoring the adolescents' whereabouts (Kerr & Stattin, 2000). Thus, a positive relationship to the adolescent has strong ameliorative effects on the development of depressive symptoms and is associated with decreased levels of substance use. Therefore, it would be important for the therapist to stress this to the mother and find ways she can improve her relationship to her adolescent. It would be important to emphasize that the most effective parental knowledge happens when the adolescent feels comfortable and able to disclose what they were doing to the parent, who can then place appropriate limits upon the adolescent's behavior. When the adolescent feels controlled by their parent there was an increase in depressive symptoms and poorer self-esteem (Kerr & Stattin, 2000). Utilizing similar technique mentioned above when talking about increasing the father-adolescent relationship could be used to increase the mother-adolescent relationship.

Therapeutic interventions could focus on enhancing support to teach mothers and practice in session (smiling more, listening to their adolescent's problems, cheering them up, praising them, attending adolescent's activities, doing activities together, etc.).

The therapist could provide literary sources to emphasize the importance of creating a positive relationship with their adolescent, avoiding controlling behaviors, and allowing them to develop increased attachment and affection with their adolescent. It is also important to help the adolescent in doing their part to increase their positive relationship to their parent and understand the consequences of their life choices and trajectory. Building a relationship of trust with the family and adolescent will be an important aspect of successful treatment outcomes and implementation of appropriate changes for the family. As mentioned at the beginning of this section, I believe it is important to focus on the strengths of the family, their culture, and each individual in order to achieve successful therapeutic outcomes.

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Appendices

Table 1: Means (Standard Deviations) for Parenting and Youth Variables

	Boys (<i>n</i> =359)	Girls (<i>n</i> =480)	T-tests
Maternal Support	2.1 (.53)	2.4 (.57)	4.9***
Paternal Support	2.1 (.60)	2.2 (.58)	2.6***
Maternal Knowledge	2.3 (.54)	2.5 (.52)	1.9***
Paternal Knowledge	2.0 (.65)	1.9 (.66)	1.6**
Maternal Psychological Control	1.6 (.82)	1.6 (.48)	5.5***
Paternal Psychological Control	1.6 (.52)	1.5 (.45)	3.8***
Age	16.1 (1.1)	16.0 (1.0)	.92
Depression	1.3 (.33)	1.5 (.38)	.99***
Substance Use			
Alcohol	15.1 (23.9)	10.8 (17.8)	1.2
Tobacco	21.6 (32.1)	15.4 (26.7)	1.2
Marijuana	20.9 (34.4)	15.8 (26.6)	.84
Hard Drugs	11.9 (24.2)	4.4 (8.1)	.98

Table 2: Bi-Variate Correlations among Youth (Boys and Girls) and Parenting Variables

	D	MS	PS	A	MPC	PPC	MK	PK	SU/A	SU/T	SU/M	SU/HD
D		-.34**	-.34**	.04	.22**	.32**	-.24**	-.29**	.21**	.15	.12	.12
MS	-.41**		.52**	-.02	-.27**	.32**	.38**	.21**	-.17**	-.21**	-.13	-.16
PS	-.29**	.29**		-.08	-.15**	-.45**	.13*	.50**	-.18**	-.20*	-.11	-.35*
A	-.02	.02	.02		-.05	.00	-.08	-.05	.16*	.11	.05	.19
MPC	.42**	-.56**	-.18**	-.02		.30**	-.12*	-.11*	.22**	.27**	.05	.16
PPC	.32**	-.20**	-.46**	.00	.40**		-.06	-.28**	.17*	.14	.06	.31*
MK	-.26**	.48**	.09	-.08	-.12*	-.12*		.45**	-.20**	-.11	-.25**	-.23**
PK	-.20**	.18**	.58**	-.07	-.39**	-.28**	.31**		-.14*	-.26**	-.23**	-.19
SU/A	.01	-.13*	.07	-.05	.10	-.03	-.23**	-.01		.40**	.48**	.47**
SU/T	.10	-.25**	.02	.12	.22**	-.06	-.36**	-.10	.45**		.44**	.58**
SU/M	.07	.16*	.02	-.03	.16*	-.08	-.13	.02	.55**	.44**		.25
SU/HD	.19	-.24*	-.07	-.16	.27*	.03	-.36**	-.10	.36**	.29*	.30*	

D- Depression
 MS- Maternal Support
 PS- Paternal Support
 A- Age
 MPC- Maternal Psychological Control
 PPC- Paternal Psychological Control
 MK- Maternal Knowledge
 PK- Paternal Knowledge
 SU/A- Substance Use/Alcohol
 SU/T- Substance Use/Tobacco
 SU/M- Substance Use/ Marijuana
 SU/HD- Substance Use/ Hard Drugs

Note: **. Correlation is significant at the 0.01 level (2-tailed)
 *. Correlation is significant at the 0.05 level (2-tailed)
 Note: Boys above diagonal- bolded
 Girls below diagonal- italicized

Figure 1: Model of the study

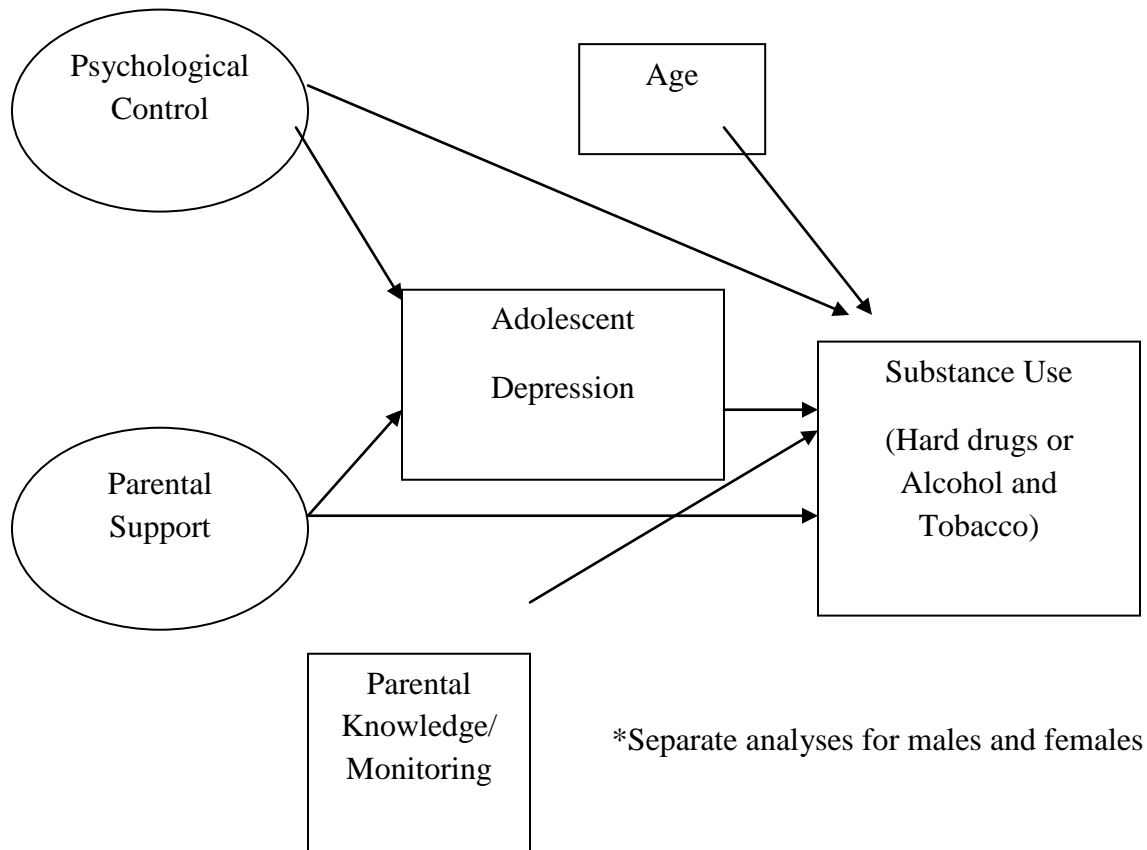


Figure 2: Proposed Multi-Variate Model (SEM)

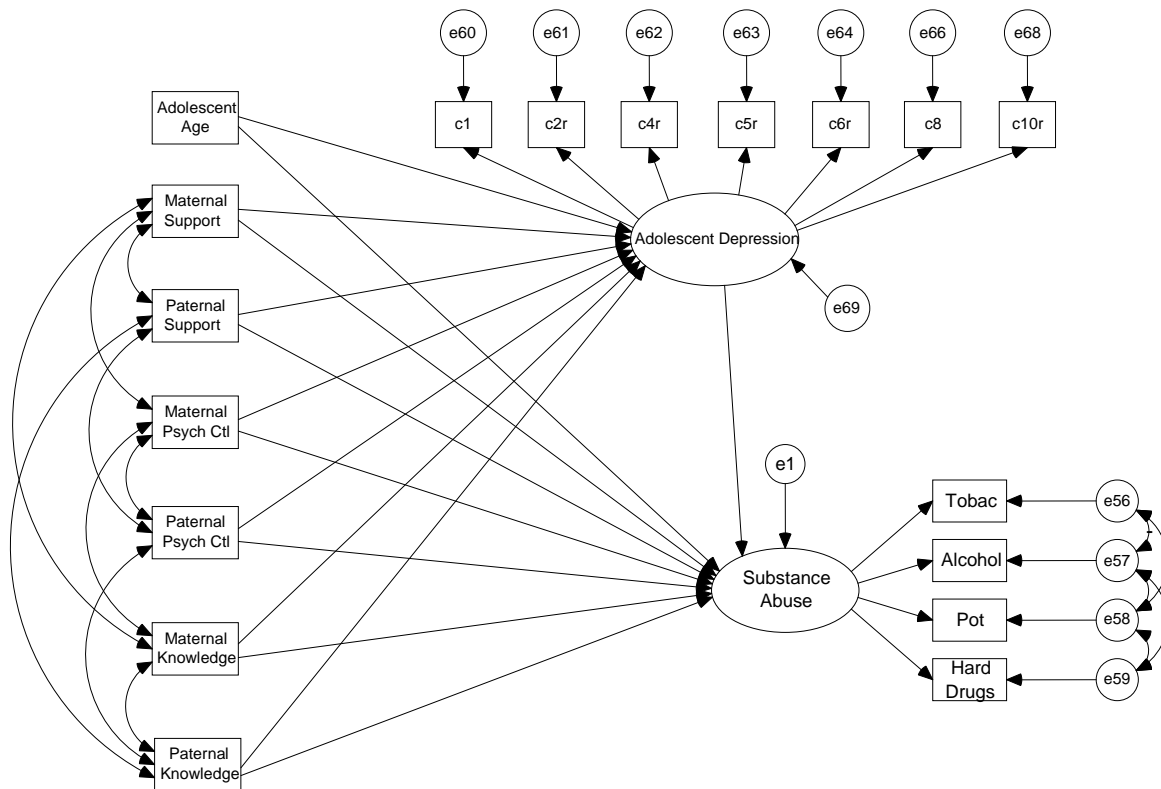
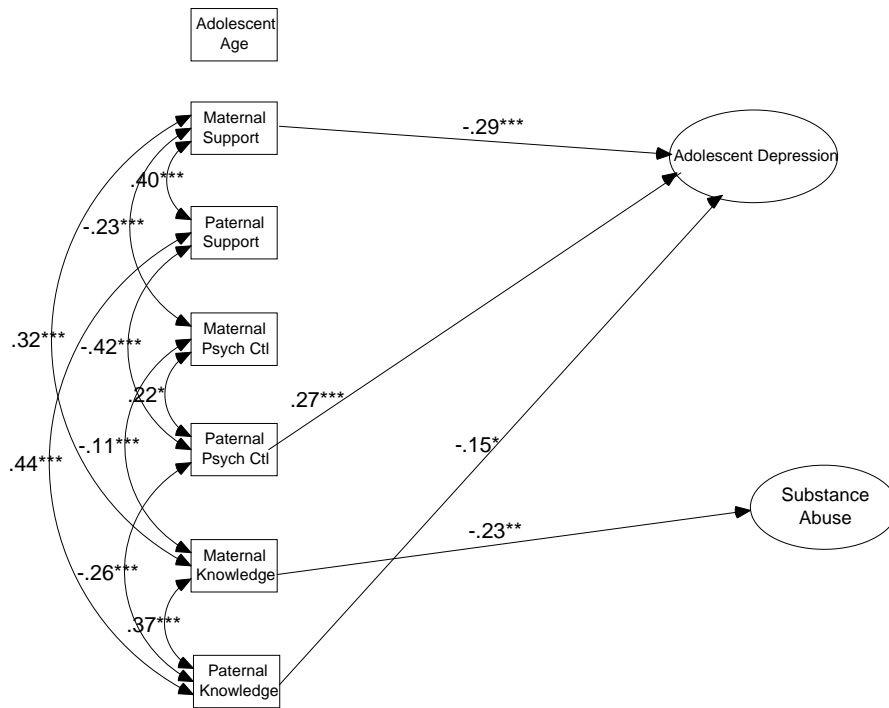
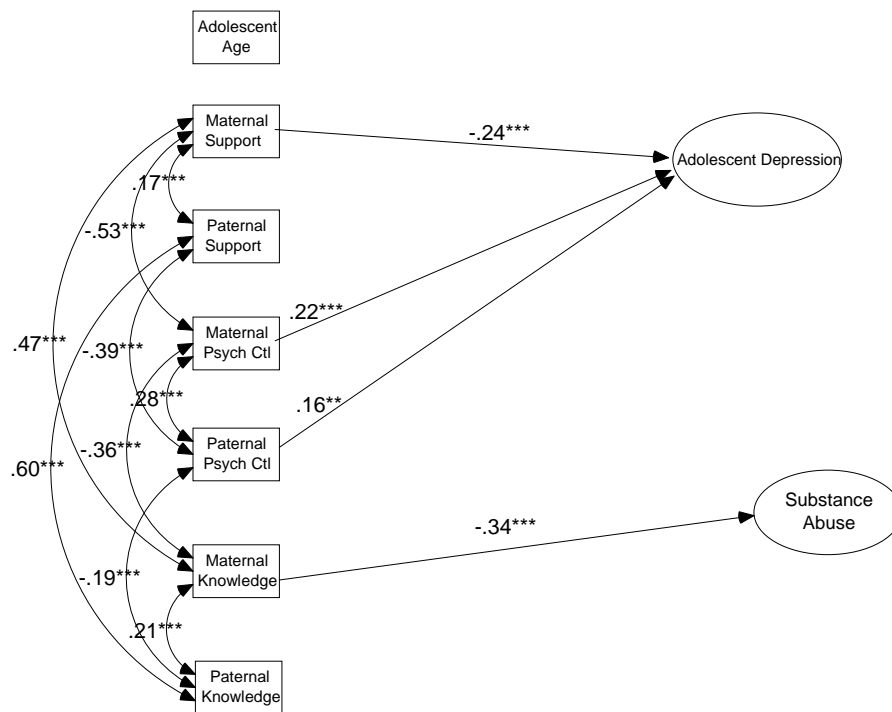


Figure 3: SEM Model Results for Hispanic Male Adolescents



$p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

Figure 4: SEM Model Results for Hispanic Female Adolescents



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

Adolescent Depression Questionnaire

Respondents answered the statement, “Mark one sentence from each group that best describes your feelings during the past TWO WEEKS. Respondents responded on a 3-point Likert scale ranging from 1 to 3.

1. Feel sad
2. Feel things will work out
3. How I do things
4. Feel about myself
5. I feel like crying
6. Things bother me
7. My looks
8. Feel of being alone
9. Amount of friends
10. Awareness of other

Note: These questions were given to the adolescent study participants to measure depressive symptoms.

Substance Use Questionnaire

Respondents responded either 1 = *yes* or 2 = *no*. If yes, respondents were asked, “How many times have you done this in the past six months?” Respondents responded with a number of times response.

1. Have you ever used alcoholic beverages, beer, wine, hard liquor?
2. Have you ever used tobacco?
3. Have you ever used marijuana?
4. Have you ever used hard drugs such as heroin, cocaine, and LSD?

Note: These questions were given to the adolescent study participants to measure substance use.

Maternal/Paternal Support Questionnaire

Please report to the following items by telling us how well they describe your mother using responses ranging from 1 (not like her/him) to 3 (a lot like her/him).

1. Makes me feel better after talking over my worries with her
2. Smiles at me very often
3. Is able to make me feel better when I am upset
4. Enjoys doing things with me
5. Cheers me up when I am sad
6. Gives me a lot of care and attention
7. Makes me feel like the most important person in her life
8. Believes in showing her love for me
9. Often praises me
10. Is easy to talk to

Note: These questions were given to the adolescent study participants to measure parental support.

Maternal/Paternal Knowledge Questionnaire

Please report to the following items by telling us how well they describe your parents using responses ranging from 1 = *doesn't know* to 3 = *knows a lot*.

1. Who your friends are
2. Where you go at night
3. How you spend your money
4. What you do with your free time
5. Where you are most afternoons after school

Note: These questions were given to the adolescent study participants to measure parental knowledge.

Maternal/Paternal Psychological Control Questionnaire

Please report to the following items by telling us how well they describe your mother using responses ranging from 1 (not like her/him) to 3 (a lot like her/him).

1. Changes the subject whenever I have something to say.
2. Blames me for other family members' problems.
3. Brings up past mistakes when she criticizes me.
4. Often interrupts me.
5. Is less friendly with me if I do not see things her way
6. Is always trying to change how I feel or think about things.
7. Will avoid looking at me when I have disappointed her.
8. If I have hurt her feelings, stops talking to me until I please her.

Note: These questions were given to the adolescent study participants to measure parental psychological control.