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Continuing Care Utilization Among Adolescents With
Substance Use Disorders

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DISSERTATION

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TABLE OF CONTENTS

ABSTRACT	8
CHAPTER 1: INTRODUCTION	11
Terminology	12
Statement of the Problem	14
Past Research	15
Adolescent Substance Use.....	15
Gender and Substance Use Disorders	16
Environmental Influences of the Family and Peers.....	17
Life Satisfaction.....	17
Social Support.....	18
School Enrollment after Treatment.....	20
Theories of Adolescent Development: Understanding Substance Use Behavior.....	22
Eriksonian Theory	22
Social Learning Theory.....	23
Family Systems Theory	24
Developmental Systems Theory: An Alternative Model.....	24
Current Study.....	27
References.....	30
Table1. General Demographics	40
CHAPTER 2: STUDY 1	41
ABSTRACT	42
Literature Review	43
Adolescents and Substance Use Disorders.....	43
Gender and Substance Use Disorders	44

School of Enrollment.....	45
Environmental Influences	47
Life Satisfaction	48
Social Support	48
Social Learning Theory and Substance Use Disorders	49
METHOD.....	52
Design	52
Procedures.....	52
Sample	53
Measures	53
Data Analysis	56
RESULTS.....	57
DISCUSSION.....	59
ACKNOWLEDGEMENTS.....	64
REFERENCES	65
Tables	72
Table 1. General Demographics	72
Table 2. Descriptive Statistics of Life Satisfaction by Student's School of Enrollment and Gender	73
Table 3. Two-way ANOVA Summary Table (Life Satisfaction)	74
Table 4. Descriptive Statistics of General Social Support by Student's School of Enrollment and Gender.....	75
Table 5. Two-way ANOVA Summary Table (Social Support).....	76
Chapter 3: STUDY 2	77
ABSTRACT	78
Background.....	80

Gender	80
Attitude Towards School.....	81
Youth-Parent Relationship.....	82
Student's School of Enrollment	82
Academic Performance	84
Family Systems Theory	85
METHOD	86
Sample	86
Measures	87
Statistical Approach	89
RESULTS	90
DISCUSSION.....	91
ACKNOWLEDGEMENTS.....	96
REFERENCES	97
Tables	103
Table 1. General Demographics.....	103
Table 2. Results of Multiple Regression (Predictors of Academic Performance) ...	104
Chapter 4: STUDY 3	105
ABSTRACT	106
Background	108
METHOD.....	110
LITERATURE REVIEW	111
Hispanics, Substance Use and Interventions.....	111
Responding to the Call for Diversity	116
Recovery High School Efforts in Texas	117
Hispanic Youth Services along the Texas and Mexico Border	118

Pouring the Foundation	119
CONCLUSION	120
REFERENCES	122
CHAPTER 5: CONCLUSION	126
Implications for Adolescent Substance Use Research	126
Implications for Social Work Practice with Adolescents.....	129
Implications for Policy Impacting Adolescents' Access to Continuing Care .	131
FINAL THOUGHTS	132
REFERENCES	134

Figure 1. Example of the interactions of systems during the development of identity in adolescence while experiencing substance use disorder.....	26
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Abstract

Adolescent substance use can have a wide range of negative effects and consequences that may result in a substance use disorder and the subsequent need for formal treatment and after-care. Given the growth of the use of multiple substances among all adolescents, and the upsurge of use among Hispanic youth, factors associated with successful continuing care towards recovery are of interest. The purposes of the present three studies were to (1) explore whether there were significant differences in measures of life satisfaction and perceptions of social support among adolescents enrolled in Recovery High Schools and non-Recovery High Schools; (2) examine the relationships between gender, youth-parent relationship, school of enrollment, and attitude towards school as predictors of a recovering adolescents' academic performance; and (3) provide a review of the literature of available continuum of care resources for Hispanic youth experiencing substance use disorders.

First, results indicated that students enrolled in Recovery High Schools reported higher levels of life satisfaction, and second, the three factors – gender, attitude towards school and an adolescent's relationship with a parent – all emerged as significant predictors of academic performance. Third, review of the literature indicated that Recovery High Schools are an appropriate model of continuing care for Hispanic youth experiencing substance use disorder. Results of these investigations provide initial evidence that Recovery High Schools are a model of continuing care that help reduce or even prevent the detrimental consequences –

lower academic performance, poorer employment outcomes, poor familial relations, and increased mental illness – associated with substance use disorders.

CHAPTER 1

Continuing Care Utilization Among Adolescents With Substance Use Disorders

Adolescents' use of drugs and alcohol impacts their academic performance, social well-being, and emotional and physical health; therefore, appropriate and engaging continuing care options are needed to prevent and reduce the negative outcomes of relapse. For almost 40 years, Recovery High Schools – schools specifically designed for students recovering from substance use disorders - have been part of the continuum of care for adolescents experiencing substance use disorders (Moberg & Finch, 2007). The Alternative Peer Group program is complementary to the Recovery High School and is unique to the Houston area. Alternative Peer Groups utilize social situations to foster development and sustenance of and support for recovery (Cate & Cummings, 2003; Collier, Hilliker, & Onwuegbuzie, 2014). These programs extend opportunities for continuing care by availing adolescents of a drug-free environment where they can socialize with peers who are also seeking a substance-free lifestyle (Collier, Hilliker, & Onwuegbuzie, 2014).

While data on whether Recovery High Schools lead to effective outcomes is still emerging, very little is known about the factors that draw adolescents and their families to these continuing care opportunities, and far less is known about the use of these continuing care options by Hispanic youth. Given that Texas is home to multiple Recovery High Schools and has some of the nation's most diverse cities, a southeastern Texas public university was added to the original National Institute on Drug Abuse (NIDA) R01 multi-site research study team. As a member of the research team, contributions included attending monthly team meetings; assisting

with conceptualization of the research project; interviewing participants (dyads); instrumentation streamlining, and suggesting platform changes for the renewal. The research conducted in the following three studies is drawn from the overall R01 project. It should be noted that the original study used the *DSM IV-TR* (American Psychiatric Association [APA], 2000) classification of substance use and misuse.

Terminology

Substance use disorder is used to identify the range of substance-related behaviors that result in the classification of mild, moderate or severe, based on the chronicity of use and relapse outlined by the *DSM-5* (American Psychiatric Association [APA], 2013). Impairment of functioning and maladaptive patterns of behavior characterizes components of the classification system. Though widely used across disciplines and within the literature, the terms addiction, addict, and substance dependence are not endorsed by the *DSM-5*. Therefore, in compliance with the *DSM-5* definition and to reduce subjective interpretations of meaning; hereafter, the term substance use disorder will be used to characterize the substance-related behaviors of the youth meeting the criteria of the classification system, unless the literature specifically references material from an earlier manual.

The concept of *continuing care* has evolved over time. Within the treatment and recovery services field, the term *continuing care* indicates the period of formalized care after an episodic event (McKay, 2009). Continuing care models of recovery vary and include school-based recovery services as well as after-school supportive services. Previous studies have attempted to identify examples of

continuing care treatment interventions as well as retention measures (Hitchcock, Stainbach, Roque, 1995; Shepard, Calabro, Love, McKay, Tetreault, & Yeom, 2006).

Recovery High Schools as part of the continuum of care, have existed in the U.S. since 1979, almost 40 years, and they are defined by a consistent set of criteria established by the national professional organization, the Association of Recovery Schools (2016). Recovery High Schools are tailored to meet the academic and therapeutic needs of students who have received formal treatment. In some cases, however, students may enroll and may not have received formal treatment for substance use. Recovery High Schools offer safe environments for students to recover from substance use disorders, decrease isolation, and increase hope. The schools are secondary schools specifically designed to aid in recovery from substance use or co-occurring disorders (ARS, 2016). Students who attend Recovery High Schools are overwhelmingly White, upper middle class, more likely to come from two-parent homes, and more likely to have had prior formal treatment for substance use disorders (Moberg & Finch, 2007).

Unique to Texas are the *Alternative Peer Group* programs. Alternative Peer Groups utilize social situations to foster development, sustenance of, and support for recovery (Cate & Cummings, 2003; Collier, Hilliker, & Onwuegbuzie, 2014). Parental involvement within the Alternative Peer Group program is associated with increased perceptions of attachment among adolescents (Rochat et al., 2011). Parents also report positive results including higher levels of satisfaction with boundary setting and support for their recovering adolescent (Rochat et al., 2011). Alternative Peer Groups also provide trusting environments where there is

unconditional acceptance among peers. In Texas, students enrolled in Recovery High Schools must also join an Alternative Peer Group as part of their educational plans.

Statement of the Problem

More than two million youths aged 12 to 17 meet the diagnostic criteria for substance use disorder in the U.S. (Substance Abuse and Mental Health Services Administration [SAMHSA], 2016). According to 2015 estimates from the Monitoring the Future study, approximately 39% of 12th graders, 28% of 10th graders, and 15% of 8th graders have used any illicit drugs (Monitoring the Future, 2015). By senior year, 40% of high school students have smoked a cigarette, 50% have taken an illegal drug, and almost 70% have tried alcohol (Johnston, O'Malley, Bachman, & Schulenberg, 2013). Hispanic adolescents' rate of alcohol use (37.5%) exceeds the national average (34.9%) and that of their non-Hispanic White (36.3) and Black (29.6) peers (Youth Risk Behavior Surveillance Survey [YRBSS], 2013). Studies have established strong relationships between adolescent substance use, poor academic performance and truancy among high school and college students (Fergusson & Boden, 2008; Hawkins, Catalano, & Miller, 1992; Lynskey & Hall, 2000). Illicit drug and alcohol use are leading causes of high school students' need for treatment. In 2014, approximately 1.3 million or about 5% of all youth ages 12 to 17 were in need of treatment for a substance use disorder (SAMSHA, 2016).

Past Research

Adolescent Substance Use

Initiation of substance use typically occurs during adolescence when youth begin the transition from childhood into adulthood. During this time of massive cognitive and physical development, adolescents are vulnerable to risks including substance use. Continuing care options, especially after formal treatment, are therefore crucial to recovery and life-long health efforts (de Miranda & Williams, 2011; Finch, Moberg & Krupp, 2014).

Nationally, addressing adolescent substance use has been a major focus. Policy responses have included both preventive education and legal sanctions to curb adolescent experimentation and use (de Miranda & Williams, 2011). These efforts may ignore the fact that drug and alcohol exploration is developmentally normal (de Miranda & Williams, 2011; Glaude & Torres, 2016). Despite this normative process of individuation and identity development, the majority of research has focused on harm and treatment of substance misuse among adolescents. Very little research has focused on recovery from substance use disorders (de Miranda & Williams, 2011; Finch, Moberg & Krupp, 2014). Some emerging research on recovery and continuing care has begun to suggest a shift in the direction of policy and funding. Implications for interventions are developing. The Peabody College of Education and Human Development has been a hub of scholarly activity in this area (Finch & Frieden, 2014; Finch & Karakos, 2014; Karakos, 2014; Moberg, Finch & Lindsley, 2014; Tanner-Smith & Lipsey, 2014), and

this researcher is working closely with the Peabody team as part of a multi-site NIDA-funded study examining the effectiveness of Recovery High Schools.

Gender and Substance Use Disorders

Male and female adolescents' responses to life's challenges vary (Perry & Pauletti, 2011), and with adolescents transitioning from childhood to adulthood, new experiences may present risks, including experimentation with substances.

Although inconclusive, gender has been identified as a predictor of substance use behavior among adolescents. Substance use among adolescents may be associated with peer acceptance or as a coping mechanism; yet, whether brief or habitual, substance use can have serious effects on adolescents' short and long term health, education, and relationships.

Research that examined the effects of adolescent substance use disorder on adulthood experiences and functional measures, including academic, interpersonal, health, life satisfaction and coping skills, found no significant differences in results based on gender (Rohde, Lewinsohn, Seeley, Klein, Andrews & Small, 2007).

Rohde et al. (2007) found that whether male or female, adolescent substance use was determined to be associated with poor functioning later in life. Skeer, McCormick, Normand, Mimiaga, Buka, & Gilman (2011) examined predictors of substance use disorders and found that male and female adolescents with higher levels of family conflict had greater risk of substance use disorders, and that females, in particular, who experienced family conflict during childhood and adolescence were susceptible to increased risk of substance use disorders.

Environmental Influences of the Family and Peers

Early studies indicate approximately 50% of the variance in risky behavior (substance use, antisocial behavior, academic failure and risky sexual behavior) can be accounted for by family and peer variables (Ary, Duncan, Biglan, Metzler, Noell, & Smolkowski, 1999; Metzler, Biglan, Ary, Noell, & Smolkowski, 1993). Moreover, with parents as the primary socializing agents (Coley, Votruba-Drzal, & Schindler, 2009; Kincaid, Jones, Sterrett, McKee, 2012), effective parent-child communication may delay or prevent engaging in risky behavior (Cohen, Farley, Taylor, Martin & Schuster, 2002; Dittus & Jaccard, 2000; Karofsky, Zeng & Kosorok, 2001; Klein et al., 2005; Richardson, 2004). In contrast, Ary et al. (1999) found that higher levels of conflict within the family, low parental involvement, and inadequate parental monitoring are associated with more adolescent problematic behaviors including drug abuse. Parental monitoring was noted to be critical in preventing the development of problem behaviors and associations with deviant peers (Ary et al., 1999).

Life Satisfaction

Antecedents to substance use and subsequent substance misuse may in part be determined by an adolescent's subjective measure of life satisfaction. Life satisfaction is an important factor that explains psychological responses, and further exploration of this construct may increase understanding of how adolescents cope and respond to circumstances such as substance use initiation that are presented within the course of development (Goldbeck, Schmitz, Besier, Herschbach, & Henrich, 2007; Terry & Huebner, 1995). It is unclear whether lower levels of life

satisfaction lead to substance use or if substance use leads to lower levels of life satisfaction, yet these factors are associated.

Rohde et al., (2007) examined the degree to which experiencing a substance use disorder during adolescence is associated with challenges in mastering tasks of adulthood. Findings indicated that adolescents who experienced substance use disorder and recurrent substance use disorder reported decreased levels of life satisfaction. Lower levels of life satisfaction were clearly related to repeated use of substances (Rohde et al., 2007).

Social Support

Parents play a central role in providing social support during a child's developmental stages (Helsen, Vollebergh, & Meeus, 2000). Adolescence, however, presents a unique transition and peers become a primary source of social support (Furman & Buhrmester, 1992; Helsen, Vollebergh, & Meeus, 2000). Social support characterized as "significant others" may therefore be crucial in mitigating risks (Helsen, Vollebergh, & Meeus, 2000). Parental and peer support are predictors of adolescent adjustment (Rueger, Malecki, & Demaray, 2010) and may therefore play a crucial role in mitigating risk and as well provide important protective factors.

Parental behavior also influences adolescent drug use. Whereas, high levels of parental supervision and high levels of parent-child communication are associated with less risky behavior among adolescents (Brakefield, Wilson, & Dodenberg, 2012), observation of a parent's risky substance use is associated with early adolescent substance use (Brakefield et al., 2012). Parents' genes also determine

an adolescent's vulnerability to risk of substance use based on inherited traits like impulsivity and predisposition to anxiety, depression, and other mental health conditions (Sussman, Skara, & Ames, 2008).

Scholars have also found that peer relationships have an impact on youths' recovery. To gain a better understanding of the importance of peer relationships, Karakos (2014) explored the role of peers among adolescents enrolled in Recovery High Schools and found that these schools do in fact provide an environment where peer relationships are associated with positive behaviors, including abstinence from substances. Study results also indicated that having friendships outside of the Recovery High School was associated with risky behaviors, including drug use (Karakos, 2014). Finch and Wegman (2012) also found that Recovery High Schools provide opportunities for motivated students to find supportive peers within the academic environment.

Severity of substance use is a significant predictor of recovery efforts among adolescents. Recovery efforts that facilitate participation in supportive services, and that motivate school attendance, were determined to improve recovery efforts among adolescents (Ciesla, Valle, & Spear, 2008). The availability of drugs within high schools as well as the influence of peer use impacts whether adolescents experiment with drugs (NIDA, 2014). Community environment is also an important factor. Adolescents living in communities characterized by social discord, community violence, poverty, and substance-use are at greater risk of drug use (Torres, Peña, Westhoff, & Zayas, 2008; Torres, Kaplan, & Valdez, 2011).

School Enrollment after Treatment

A students' school of enrollment, after formal treatment, whether voluntary or mandated, has been identified as a predictor of successful recovery, with the first three months of care, immediately after treatment, being largely associated with long-term sobriety (Godley, Godley, Dennis, Funk, & Passetti, 2006). Students have options to attend various types of schools after treatment. Among these options are traditional high school, charter high school, home-schooling, alternative high school or an online high school program. Adolescents' school of enrollment, after formal treatment, is important, because it determines the environment that influences whether adolescents will use drugs and alcohol (Lanham & Tirado, 2011; Ramo & Brown, 2008).

Recovery High Schools. Researchers have examined Recovery High Schools as continuing care options for youth experiencing substance use disorders. Studies have shown feasibility of Recovery High Schools, and have identified the direct services offered at the school level (Diehl, 2002; Finch, Moberg & Krupp, 2014; Moberg & Thaler, 1995). One of the earliest articles written, described the characteristics of a Minnesota Recovery High School with academic and supportive services co-located (Bourgeois, 2008). Bourgeois reported that the Recovery High School was both similar and different from traditional high schools, and that collaboration with the public school system and supportive services was vital to students' academic success and drug-free lifestyle.

In a dissertation study, Lanham and Tirado (2011) found that continuing care along with one or a series of treatment services may be crucial in mitigating the

chronicity of substance use disorder. Furthermore, their results showed that abstinence was an outcome for a great majority of the students, and more than 60% of the students who graduated from the Recovery High School reported no illicit drug use. Other findings indicated that the students received counseling and academic services within the school, and these services were crucial in the treatment of their illicit drug use (Lanham & Tirado, 2011).

Research has long supported the combination of family and individual therapy as effective interventions for adolescents seeking recovery and reported improved outcomes including reduced distress and risky behaviors (Liddle, Dakof, Turner, Henderson & Greenbaum, 2008). A study by Finch & Frieden (2014) illustrated how consistent mentoring and peer support provides a corrective experience when students cannot maintain sobriety on their own. Analysis of data from multiple studies (Diehl, 2002; Moberg & Thaler, 1995; Moberg & Finch, 2008; Tanner-Smith & Lipsey, 2014), covering 20 years of Recovery High School utilization by adolescents, revealed that youth experience both co-occurring disorders and complex familial and social challenges (Moberg, Finch, & Lindsley, 2014). Moberg, Finch, & Lindsley (2014) described Recovery High Schools to include family-centered treatment models as well as individual therapy. Finch (2008) advocates for all youth to have the opportunity to receive recovery services in the educational setting and asserts that early identification is crucial to prevention.

Alternative peer groups. Complementary to Recovery High Schools in Texas are Alternative Peer Groups. Alternative Peer Groups offer a positive social environment for youth seeking recovery from substance use disorders. Adolescents

report feeling accepted among Alternative Peer Group peers who are also seeking new ways to cope with life's challenges without using drugs (Nelson, Henderson, & Lackey, 2015). These community-based programs are staffed with professionals who focus on creative and fun activities for adolescents and their fellow peers, with the aim of maintaining sobriety.

A 2011 study by Rochat and colleagues found that adolescents (n=114) enrolled in Alternative Peer Groups reported higher levels of attachment to their parents when compared to adolescents (n=127) not enrolled in an Alternative Peer Group programs. Alternative Peer Group participants also reported increased trust and improved communication with their parents. Parents of adolescents attending the Alternative Peer Groups were also surveyed, and they reported increased capacity to set boundaries with their children and improved parent-child relations (Rochat et al., 2011).

Theories of Adolescent Development: Understanding Substance Use Behavior

Eriksonian Theory

Adolescence is a period of life filled with experimentation and initiation, and it is a time when adolescents assert independence from their family in an attempt to form new relationships with their peers. Within the literature, Eriksonian theory (Erikson, 1968) has largely guided the study of the mastery of stages including identity and role confusion that occurs during adolescent development. During the stage of identity and role confusion, between 13-19 years of age, experimentation with drugs and alcohol is normative. Stages are sequential and build on the outcome of previous stages. Earlier outcomes influence later development. Though

seen as normal behavior among U.S. adolescents, negative outcomes of substance use include poor academic achievement and potential delinquency (Irwin, Burg, & Cart, 2002), poor familial relations, substance use disorders, poor health and a life-long disease that possibly ends in death. In fact, the National Center on Addiction and Substance Abuse at Columbia University (2011) reports that 9 out of 10 people who meet the clinical criteria for substance use disorders involving nicotine, alcohol, or other drugs began smoking, drinking or using other drugs before they turned 18 years of age.

Social Learning Theory

Empirical research, explaining motivational forces on the behavior of adolescent substance use is inseparable from social learning theory (Bandura & Walters, 1963; Bandura, 1977). Numerous studies explaining that substance use is in part influenced by environmental cues have been based on Bandura & Walter's (1963) and Bandura's (1977) Social Learning Theory (Akers & Cochran, 1985; Akers & Lee, 1996; Burgess & Akers, 1966; Hanna, Crittenden, & Crittenden, 2013; Kim, Kwak & Yun, 2010; Sellers, Cochran & Branch, 2005). A recent study guided by Social Learning Theory found that early adolescent substance use is associated with parental substance use behavior (Brakefield, Wilson, & Dodenberg, 2012). The important difference between social learning theory and more classical learning theory is that with classical learning, the behavior has to be performed to be reinforced, whereas with social learning, the behavior only needs to be observed. This is an important distinction that helps explain how peer groups and parents'

behavior influence drug use, and also how being around other people trying to overcome a substance use disorder helps in recovery.

Family Systems Theory

Family Systems Theory provides a framework for understanding how emotional connections with family members influence one's behavior throughout the entire life cycle (Bowen, 1978; Titelman, 1998). The theory asserts that a family's functioning influences how its members behave during interpersonal relationships throughout their lifetime. Higher functioning involves interpersonal interactions denoted by a healthy sense of self when engaged in family gatherings with family members.

Developmental Systems Theory: An Alternative Model

While identity has been conceptualized as a mastery of stages (Erikson, 1968), substance use is not a typical characteristic of integration during adolescent identity development. Developmental Systems Theory is a model that describes how inherited and evolutionary alterations within the participants and within their family systems (Oyama et al., 2001) explain the potential pathways for adolescent substance use in an effort to expand how we conceptualize development of adolescent identity.

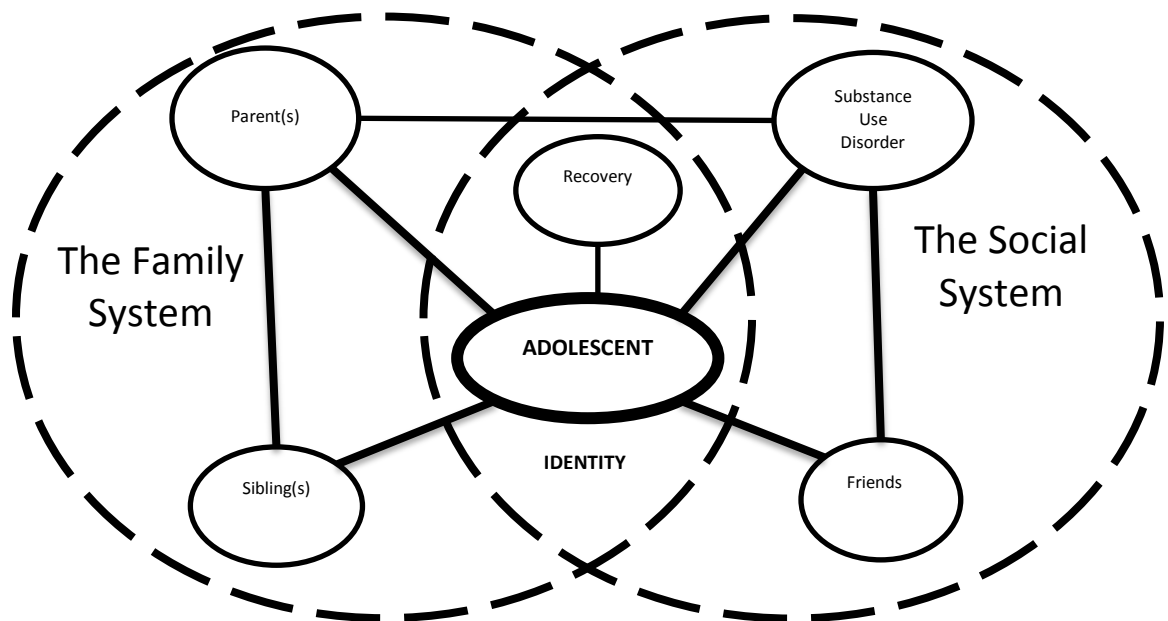
Developmental Systems Theory proposes that interactions between the individual and his/her peers within the feedback loop may activate genes within the individual (Robert, 2003). This illustrates the importance of the person in the environment perspective, as the theory highlights how nature is dependent upon the atmosphere and the peers with whom the adolescent relates. Mastery by the

adolescent during these developmental stages is necessary for progression towards full maturity (Robert, 2003). Further, Robert (2003) explains that the DST model suggests that evolutionary changes occur as a result of developmental changes within the individual, and that abnormal development occurs when environmental parameters are not consistent. Causes of abnormal development are not clearly defined in all of human behavior; yet, inconsistent parenting, characterized by loose boundaries, is a common complaint by teens in family therapy.

To concretely illustrate the series of interactions between the adolescent and the family as well as the social environment, an example of the overlap has been conceptualized in Figure 1 which posits the focal adolescent develops in two different settings. The setting on the left, comprised of daily interactions of the adolescent, parent(s) and sibling(s), can be identified as the family system. The setting on the right, comprised of the social interactions between the adolescent, friends, and substance use disorder can be identified as the social system. There are interactions between the family and social systems and patterns of interactions that lead to the intrapersonal and interpersonal processes of substance use disorder as well as recovery.

There is consensus within the noted theories that behavior is influenced by the external environment. Whether with one's family of origin or peers, social interactions may influence initiation and experimentation. Therefore, Social Learning Theory will guide Study 1 in the exploration of whether gender and the student's school of enrollment influence perceptions of life satisfaction and social support. Study 2 is guided by Family Systems Theory and examines various factors including

youth-parent relationship to determine predictors of a recovering adolescents' academic performance. Experimentation that develops into misuse and subsequent substance dependence remains a public health concern that affects many youth. Of particular interest within the present dissertation studies are the factors that contribute to adolescent recovery and reduce or minimize the life-long consequences that result from substance use disorders, namely Recovery High Schools as a continuum of care.



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Figure 1. Original example of the interactions of systems during the development of identity in adolescence while experiencing a substance use disorder.

The Current Studies

There are many factors of interest that are relevant to the study of adolescent substance dependence in the context of continuing care. The school environment, determined by school of enrollment, as well as gender are relevant to Study 1, and may influence adolescents' ratings of life satisfaction and perceptions of social support. These individual, family, and peer factors may also influence the academic performance of an adolescent experiencing substance use disorder and will be explored further in Study 2. Finally, the extent to which families know about continuing care may influence recovery, and therefore, Study 3 reviews pertinent literature to reveal options for Hispanic adolescents experiencing substance use disorders. Although few Hispanics were enrolled in the study, Hispanic adolescents were the largest ethnic minority group (6.1%) represented in the current study, mirroring the fact that Hispanics also represent the largest ethnic minority group in the U.S. (17.6%) (Census, 2017). Despite being the largest ethnic minority group and representing more than 38.8% of the population in Texas (Minnesota 5.2% and Wisconsin 6.6%) (Census, 2017), the study sample varies little, and data did not render to statistical analyses by ethnic groups based on group sizes. In fact, this highlights the need to further explore how much Hispanic families know about Recovery High Schools, how they learn about them, and the extent to which Hispanic families consider Recovery High Schools as a feasible alternative.

Collectively, the current proposal intends to explore variables of interest as a means to extend our understanding of continuing care utilization among adolescents with substance use disorders. Hereafter, Studies 1, 2, and 3 will be presented.

Studies 1 and 2 examine data from an ongoing NIDA-funded study on the effectiveness of Recovery High Schools and explore factors that contribute to recovery among adolescents experiencing substance use disorders. The research questions and hypotheses for Study 1 are: (1) What is the impact of a student's school of enrollment and gender on life satisfaction?

H₁: Students enrolled in Recovery High Schools will report greater levels of life satisfaction than students enrolled in non-Recovery High Schools;

H₂: Males are more likely to report higher levels of life satisfaction; and (2) Is there a significant difference in perceptions of social support based on gender and school enrollment?

H₁: It is expected that students enrolled in Recovery High Schools will report higher perceptions of social support than students enrolled in non-Recovery High Schools.

H₂: Males are more likely to report higher perceptions of social support.

The research questions and the hypotheses for Study 2 are: (1): How well do the factors (gender, youth-parent relationship, school of enrollment and attitude towards school) predict academic performance among adolescents in recovery? How much of the variance in academic performance can be explained by these factors? (2) Which is the best predictor of academic performance: gender, youth-parent relationship, school of enrollment or attitude towards school?

H₁: After controlling for all other factors, gender would emerge as a significant predictor of academic performance.

H₂: After controlling for all other factors, youth-parent relationships would emerge as a significant predictor of academic performance

H₃: After controlling for all other factors, school of enrollment would emerge as a significant predictor of academic performance.

H₄: After controlling for all other factors, attitude towards school would emerge as a significant predictor of academic performance.

Finally, Study 3 is a published comprehensive review of the literature which organizes current knowledge about the available continuum of care resources for Hispanic youth experiencing substance use disorders. Analysis of the demographic variables shown in Table 1 indicated a majority of upper middle-class Caucasian participants, limiting the extension of the findings. The research team deliberated and team meetings resulted in a call for a Special Issue - International and Multicultural Perspectives on Youth Recovery. The issue is the first to address group recovery supports for a vulnerable population, namely adolescents, internationally. The special issue also fills a gap in the literature, documenting the continuum of care through the integration of international adolescent recovery support services. Study 3 was submitted and accepted for this special issue.

Each of the three studies will now be presented. Pertinent literature from Chapter 1 will be discussed in terms of its relevance to the studies. Theory will also be used to support the current studies with the overall effort to contribute to the literature and advance practice, research, and policy towards the elimination of substance use disorder and the advancement of adolescent recovery.

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Table 1. General Demographics

	(<i>n</i> =246)	<i>N</i>	%	<i>M (SD)</i>
Age				16.32 (1.09)
	14	9	3.7	
	15	41	16.7	
	16	73	29.7	
	17	101	41.1	
	18	20	8.1	
	19	2	0.8	
	Total	246	100.0	
Race/Ethnicity				
	Asian only	6	2.4	
	Native American only	3	1.2	
	African American only	9	3.7	
	Caucasian only	182	74.0	
	Hispanic only	15	6.1	
	Two races/ethnicities	23	9.3	
	Three or more races/ethnicities	4	1.6	
	Other	4	1.6	
	Total	246	100.0	
Household Income				
	\$40,000 and under	57	25.1	
	\$40,000 - \$75,000	66	29.1	
	\$75,000 - \$100,000	36	15.9	
	\$100,000 or more	68	30.0	
	Total	227	100.0	
Grade				
	9	23	9.3	
	10	51	20.7	
	11	89	36.2	
	12	83	33.7	
	Total	246	100.0	
GPA		212		2.57 (.87)

CHAPTER 2: STUDY 1

Adolescents' Perceptions of Life Satisfaction and Improved Social Support After Formal Treatment

Maurya Walker Glaude

This manuscript will be submitted to the *Journal of Primary Prevention* after a successful dissertation defense.

Abstract

This study examined measures of life satisfaction and perceptions of social support, based on gender and school enrollment among 246 adolescents with substance disorders according to the Diagnostic and Statistical Manual of Mental Disorders (*DSM IV-TR*; American Psychiatric Association [APA], 2000), six months after receiving formal treatment. Overall, school of enrollment made an independent contribution to the level of student's life satisfaction. Students enrolled in Recovery High Schools reported higher levels of life satisfaction when compared to those enrolled in non-Recovery High Schools. Results of the two-way ANOVA also showed no significant differences in levels of life satisfaction between males and females. Program and policy implications for increasing access to Recovery High Schools as a means to continuing care to treat substance use disorder are discussed.

Keywords: Adolescents, substance use disorder, Recovery High Schools, life satisfaction, social support

Adolescents' Perceptions of Life Satisfaction and Improved Social Support After Formal Treatment

For many decades, attention has been directed to the numerous health-related issues and social consequences experienced by adolescents living with substance use disorders. Substance use disorder refers to use of substances (also commonly called addiction) meeting the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, (*DSM-IV,TR*), criteria for dependence and patterns of impairment (APA, 2000). Marijuana, opioids, and alcohol are some examples of substances that are commonly consumed by adolescents and which contribute to maladaptive patterns of behavior. Youth with lower perceptions of life satisfaction and less social support are more likely to develop depressive disorders and other mental illnesses (Goldbeck, Schmitz, Besier, Herschbach, & Henrich, 2007; Helsen, Vollebergh, & Meeus, 2000) and may be at greater risk of substance use.

Literature Review

Adolescents and Substance Use Disorders

Since at least the 1960s, American adolescents have widely used illegal drugs. These various illicit drugs continue to be used today, and many new classes of illicit drugs have emerged along with new forms of alcoholic beverages and tobacco products (Miech, Johnston, O'Malley, Bachman, & Schulenberg, 2015). By senior year, 40% of high school students have smoked a cigarette, 50% have taken an illegal drug, and alarmingly, almost 70% have tried alcohol (Johnston, O'Malley, Bachman, & Schulenberg, 2013).

Efforts to prevent drug use and treat substance use disorders have a long-standing history in America. Monitoring the Future (MTF) has collected measures of adolescent attitudes and use of drugs, alcohol, and tobacco for more than 40 years (MTF, 2015). Whereas there is currently a downward trend in alcohol, cigarettes, and many illicit drugs among 8th, 10th, and 12th graders, there has also been an increase in the use of electronic cigarettes as well as a prevailing misconception of low harm in association with marijuana consumption (MTF, 2015).

Such health risk behavior is influenced by adolescents' primary social groups, namely friends and family (Jessor, 1991). Research indicates that access to drugs within high schools strongly influences adolescent substance use (National Institute on Drug Abuse [NIDA], 2014). In addition, adolescents who engage in one form of substance use are more likely to use other substances as well (Barry, King, Sears, Harville, Bondoc, & Joseph, 2016; NIDA, 2014). Social support characterized by care and concern provided by significant others may therefore be crucial in mitigating risks (Helsen, Vollebergh, & Meeus, 2000).

Gender and Substance Use Disorders

Individual characteristics, such as gender may predict substance use behaviors. All adolescents are transitioning from childhood to adulthood, a process that involves new experiences as well as risks, like using drugs. Gender influences how adolescents respond to life's changes (Perry & Pauletti, 2011). Adolescents may use substances for many social and interpersonal reasons such as peer acceptance or as a coping mechanism in response to family or academic pressure; yet substance use can result in unhealthy short- and long-term outcomes, presenting

unique challenges that require intervention options tailored specifically to a brief history of use that may influence life-long efforts towards recovery (Glaude & Torres, 2016; Kandel & Kandel, 2015).

Rohde, Lewinsohn, Seeley, Klein, Andrews, and Small (2007) examined the effects of adolescent substance use on adulthood experiences and functional measures, including academic, interpersonal, health, life satisfaction, and coping skills. There were no significant results, indicating that gender did not moderate any of the associations (Rohde, et al., 2007). Another study by Skeer and colleagues (2011) examined the interaction of gender and family conflict as a predictor of substance use disorder. Their results indicated that, overall, males and females with higher levels of family conflict were at greater risk of a substance use disorder. There was a statistically significant interaction between family conflict and gender, but the relationship between family conflict during childhood and adolescent substance use was only significant among female adolescents (Skeer, McCormick, Normand, Mimiaga, Buka, & Gilamn, 2011).

School of Enrollment

A student's school environment may be associated with relapse. After formal treatment, returning to the same school may not be in the best interests of a recovering adolescent. Drug use and relapse are strongly influenced by an adolescent's access to drugs within his or her school (NIDA, 2014). Students may attend various types of schools post-treatment including Recovery High Schools, Traditional High Schools, Alternative High Schools, or Charter High Schools.

Recovery High Schools. Continuing care services like Recovery High Schools and Alternative Peer Groups are being utilized by adolescents experiencing substance use disorders. High schools tailored for adolescent students living with substance use disorders have existed for almost 40 years (Moberg & Finch, 2008) and this continuing care model of recovery is steadily developing. To date there are 37 Recovery High Schools operating throughout the United States (Association of Recovery High Schools [ARS], 2016).

A more modern trend is the Alternative Peer Group model. Alternative Peer Groups provide after-school support services and socialization. Alternative Peer Groups extend opportunities for continuing care by immersing adolescents in a drug free social environment where they may socialize with peers who are also seeking a drug free lifestyle (Collier, Hilliker, & Onwuegbuzie, 2014). These programs generally complement the Recovery High Schools and are part of the landscape of services in Texas.

Traditional high school. Traditional high schools offer public or private secondary education. Many high schools have supportive services such as a school counselor available. School counselors generally provide educational services like scheduling classes and monitoring students' achievements towards earning high school credits. Additional supports may include college application support. Traditional high schools are ill equipped to attend to the needs of adolescents with substance use or co-occurring disorders. Typically, these youth are identified as having behavioral problems that adversely impact their learning, and educational

plans are modified to include academic supports services, but seldom to address the roots of the behavioral issues, in this case substance use.

Alternative high schools. Alternative high schools are public high schools that are generally in the students' zoned district. Students enrolled in alternative high schools have been removed from their traditional high school due to more extreme behavioral problems. Substance use, truancy, and fighting are behaviors that may result in a placement in an alternative high school.

Charter school. Charter schools provide another opportunity to attain a high school education. Charter schools have their own governing body (Miron & Nelson, 2002). These schools are largely federally funded schools (Miron & Nelson, 2002). Charter schools can be selective in deciding which students they will serve, and they typically exclude students with behavioral or academic challenges, since they do not tend to have the traditional support services found in public schools, like school social workers or school psychologists.

Environmental Influences

Peers and family provide the social context for adolescents' growth and development. Approximately 50% of the variance in risky behavior (substance use, antisocial behavior, academic failure, and risky sexual behavior) can be accounted for by family and peer variables (Ary, Duncan, Biglan, Metzler, Noell, & Smolkowski, 1999; Metzler, Biglan, Ary, Noell, & Smolkowski, 1993). With parents as the primary socializing agents (Coley, Votruba-Drzal, & Schindler, 2009; Kincaid, Jones, Sterrett, & McKee, 2012), effective parent-child communication may delay or prevent engaging in risky behaviors (Cohen, Farley, Taylor, Martin & Schuster, 2002; Dittus

& Jaccard, 2000; Karofsky, Zeng & Kosorok, 2001; Klein et al., 2005; Richardson, 2004). Higher levels of conflict within the family, low parental involvement and inadequate parental monitoring are associated with more adolescent problematic behaviors including drug abuse. Furthermore, parental monitoring was noted to be critical in preventing the development of problem behaviors and associations with deviant peers (Ary et al., 1999). Parents and peers clearly play an important role in helping adolescents curb risky behavior, including substance use.

Life Satisfaction

An adolescent's measure of life satisfaction and substance use are related. Life satisfaction is an important factor that explains psychological responses, coping mechanisms and how adolescents respond to circumstances such as the initiation of substances (Goldbeck, Schmitz, Besier, Herschbach, & Henrich, 2007; Terry & Huebner, 1995). Research supports the assertion that substance use disorder during adolescence is associated with challenges in adulthood (Rohde et al., 2007). Adolescents who experienced repeated substance use disorder and relapse also have decreased levels of life satisfaction (Rohde et al., 2007).

Social Support

During childhood, parents play a central role in providing social support (Helsen, Vollebergh, & Meeus, 2000). Adolescence, however, presents a unique transition and peers become a primary source of social support (Furman & Buhrmester, 1992; Helsen, Vollebergh, & Meeus, 2000). Social support characterized as "significant others" may therefore be crucial in mitigating risks (Helsen, Vollebergh, & Meeus, 2000). Parental and peer support are predictors of

adolescent adjustment (Rueger, Malecki, & Demaray, 2010) and may therefore play a crucial role in mitigating risk and as well provide important protective factors.

Severity of substance use is a significant predictor of success of recovery efforts among adolescents, and approaches that facilitate participation in supportive services and that motivate school attendance were determined to improve recovery efforts among adolescents (Ciesla, Valle, & Spear, 2008). The availability of drugs within high schools and the influence of peer use have an impact on whether adolescents experiment with drugs (NIDA, 2014). Community environment is also an important factor. Adolescents living in communities characterized by social discord, community violence, poverty and substance-use are at greater risk of drug use (Torres, Peña, Westhoff, & Zayas, 2008; Torres, Kaplan, & Valdez, 2011). Additionally, parental behavior influences adolescent drug use; whereas, high levels of parental supervision and high levels of parent-child communication are associated with less risky behavior among adolescents (Brakefield, Wilson, & Dodenberg, 2012), observation of a parent's risky substance use is associated with early adolescent substance use (Brakefield et al., 2012). Parents' genes also determine adolescent's vulnerability to risk of substance use based on inherited traits like impulsivity and predisposition to anxiety, depression, and other mental health conditions (Sussman, Skara, & Ames, 2008).

Social Learning Theory and Substance Use Disorders

Tendencies to engage in risk behavior may be learned during primary socialization or reinforced by the family environment (Bandura, 1977). Bandura's Social Learning Theory offers a framework for understanding imitation and the

initiation of substance use as well as the potential reinforcement of risky substance use behavior. Bandura, Ross & Ross (1963) speculated that environmental stimuli had the ability to elicit both cognition and physiological symptoms as a result of reward. Social Learning Theory (Bandura, 1977) posits that human behaviors are learned based on the interaction of cognitive, behavioral, and environmental influences.

The conditioning results from whether the actions will be met with incentives (reinforcements) or retribution (punishment) from a youth's primary group (family and friends) and will influence whether the behavior will be replicated. Youth select someone to emulate, choosing from those with whom they have close relationships characterized by mutual exchanges and interdependency (Hanna, Crittenden and Crittenden, 2013). Social Learning Theory has proven to be a useful theory for more than four decades (Akers & Cochran, 1985; Akers & Lee, 1996; Burgess & Akers, 1966; Hanna, Crittenden & Crittenden, 2013; Kim, Kwak & Yun, 2010; Sellers, Cochran, & Branch, 2005).

Findings, related to the influence of the social environment, indicate that exposure to parents and friends who use is associated with adolescent substance use (Jackson, Henricksen, Dickinson, & Levine, 1997). Research explaining motivational forces on the behavior of adolescent substance use is inseparable from Social Learning Theory (Bandura & Walters, 1963; Bandura, 1977). Numerous studies have been on Bandura & Walter's (1963) and Bandura's (1977) Social Learning Theory explaining that substance use is in part influenced by environmental cues (Akers & Cochran, 1985; Akers & Lee, 1996; Burgess & Akers,

1966; Hanna, Crittenden, & Crittenden, 2013; Kim, Kwak, & Yun, 2010; Sellers, Cochran & Branch, 2005). A recent study guided by Social Learning Theory found that the observation of parental substance use behavior is associated with early adolescent substance use (Brakefield, Wilson, & Dodenberg, 2012).

Whereas earlier articles have explored the general characteristics and feasibility of Recovery High School (Finch, Moberg, & Krupp, 2014; Moberg & Thaler, 1995), informed by Social Learning Theory, this article extends this prior research by examining levels of life satisfaction and social support by school enrollment (Recovery High School versus non-Recovery High School) and gender (male, female) among adolescent participants. The research questions are: (1) What is the impact of a student's school of enrollment and gender on life satisfaction?

H₁: Students enrolled in Recovery High Schools will report greater levels of life satisfaction than students enrolled in non-Recovery High Schools;

H₂: Males are more likely to report higher levels of life satisfaction; and (2) Is there a significant difference in perceptions of social support based on gender and school enrollment?

H₁: It is expected that students enrolled in Recovery High Schools will report higher perceptions of social support than students enrolled in non-Recovery High Schools.

H₂: Males are more likely to report higher perceptions of social support.

Method

Design

The study used cross-sectional, descriptive, quantitative methodology and convenience sampling. The adolescents were recruited from participating Recovery High Schools, Alternative Peer Groups and treatment facilities in Minnesota, Wisconsin and Texas. All participants met the following ***inclusion criteria***: high-school adolescent with a history of alcohol and substance use (APA, 2000); recently discharged from an intensive treatment program for substance use disorder and enrolled in high school (Recovery High School or other high school). Participants (the adolescent and parent) were interviewed using extensive questionnaires at baseline, 3-months, 6-months, and 12-months. Participants received \$30 gift cards per interview as an incentive for participation (baseline, three, six, and 12 months); \$15 per urine sample at baseline and 12 months; and a \$50 bonus upon completion of all four interviews.

Procedures

The Institutional Review Boards at all study sites granted approval for data collection and analyses. In addition, the study is protected by federal Certificate of Confidentiality. All parents/guardians and adolescent participants were provided IRB-approved study information, study rationale, risks, potential benefits, and the role of the Institutional Review Board. All participants consented and/or provided assent with parental permission in writing. There were four data collection points: baseline, three months, six months, and 12 months.

Sample

Data were available for a total of 293 participants. Missing data for baseline measures reduced the sample to 263 (89.8%). Missing data for grade, when asked, “What grade are you in?” reduced the sample to 246 (84%). All remaining participants were high school students, grades 9-12. Participants were recruited from Recovery High Schools and non-Recovery High Schools, treatment facilities and Alternative Peer Groups, and participation was voluntary. There were 127 adolescent males and 119 females, grades 9-12. Table 1 displays the frequencies for the participants’ ages which ranged from 14-19 ($M = 16.36$, $SD = 0.99$) as well as other demographic variables.

Measures

Gender. Participants were asked to identify their gender. The questionnaire allowed participants to select male or female from a drop-down menu. This dichotomous variable was coded (0) for male and (1) for female.

Student’s school of enrollment. This measure is based on participants’ report of their school of enrollment. At baseline, three-month, six-month and 12-month, the type of school of enrollment was asked using the question, “What school are you currently attending?” The responses included: 1) alternative or charter school, 2) homebound (receiving academic services from the school in the home setting), 3) home school, 4) traditional public or private high school, 5) post-secondary: recovery based, 6) post-secondary: non-recovery based or 7) Recovery High School. Items were coded as (0) Traditional non-Recovery High School; (1) Recovery High School, and (2) Alternative and Charter Schools.

Participants enrolled in the study may not have been in a Recovery High School the entire time. School enrollment is not static, especially among students in the recovery process. At the six-month data collection period, students reported their school of enrollment. Those who met the definition of Recovery High School enrollment were those who had stayed in a Recovery High School for at least 20 days.

Life satisfaction. Adolescents were asked questions about their satisfaction with life pertaining to their romantic and family relationships, general level of happiness with life, living arrangement, and school/work performance. These six items were adapted from the Life Satisfaction Index (LSI) of the Global Appraisal of Individual Needs (GAIN): A Standardized Biopsychosocial Assessment Tool (Dennis, 2010). Life satisfaction was assessed using the following questions:

- How satisfied are you with romantic relationships?
- How satisfied are you with family relationships?
- How satisfied are you with your general level of happiness?
- How satisfied are you with where you are living?
- How satisfied are you with how your life is going?
- How satisfied are you with your school or work performance?

The five Likert-type responses ranged from (1) very dissatisfied to (5) very satisfied, thus the scores were averaged. All items were coded so that the high scores indicated greater satisfaction. Reliability of the scale was considered during the design of the original project, but to test the reliability of the measures for the current

study, Cronbach's alpha was computed, rendering .70, an acceptable estimate of internal consistency for this six item scale.

Perception of social support. Adolescent participants were asked about perceptions of social support. This nine-item scale assesses perceptions of having social support within their schools, homes, and work based on the Global Appraisal of Individual Needs (GAIN): A Standardized Biopsychosocial Assessment Tool (Dennis, 2010). Perception of social support was assessed using the following questions:

- Did you have a professional counselor to talk to?
- Did you have friends from other schools to talk to?
- Did you have people from work or school to talk to?
- Did you have people from work or school to help you with assignments?
- Did you have family members you could rely on?
- Did you have friends you could just hang out with?
- Did you have a hobby or activity to enjoy?
- Did you have someone you could talk to about your needs
- Did you have someone to help you cope?

Items were coded and summed together. Cronbach's alpha was computed, rendering .52, which is considered a poor estimate of internal consistency; however, during the design of the original project, this nine-item Likert-type scale was selected because the GAIN (Dennis, 2010) is an evidence-based instrument, widely used in clinical diagnosing and treatment (Coleman-Cowger, Dennis, Funk, Godley, &

Lennox, 2013; McDonell, Comtois, Voss, Morgan, & Ries, 2009; Watkins, Hunter, et al., 2004).

Data Analysis

There were two predicted (dependent) variables - life satisfaction and social support. The two predictor (independent) variables were gender and school enrollment. Students' responses indicated four levels of school enrollment – Recovery High School, traditional, charter and alternative high schools; however, the small subgroups were combined, and three categories (Recovery High School, Traditional High School, and Other [Charter or Alternative High Schools]) were used in the analysis. Data for the variables of interest were examined, and very few cases had data that was missing completely at random.

A two-factor analysis of variance (*ANOVA*) was conducted to assess mean differences across each group to (1) examine the differences between the mean scores of life satisfaction based on the two independent variables gender and school enrollment; and (2) examine the differences between the mean scores of social support based on the two independent variables gender and school enrollment. Because of the exploratory nature of the present study, differences within groups based on gender were also explored. Post-hoc tests were not justified for gender, because there were only two groups. Although there is no clear agreement among researchers on the required sample size for *ANOVA*, a minimum of 30 cases is recommended and with five or more cases per cell (Abu-Bader, 2011). Despite a thorough literature review, the search failed to reveal a suitable measure of effect size. This is due to the lack of research on this phenomenon

among this sub-group of adolescents. Furthermore, a pilot study has not been conducted. All statistical analyses were performed with the software package SPSS™ (Version 24 for Windows).

Results

A total of 246 participant responses were included in the analysis. General demographics are displayed in Table 1. As displayed in Table 2, almost half, (n=118) were enrolled in Recovery High Schools, while the remaining subjects were enrolled in traditional high schools (n=114) or other schools (charter or alternative; n = 12). Most participants were males (n=126); with half enrolled in Recovery High Schools (n=63), and the remaining half enrolled in traditional high schools (n=57) and other high schools (n=6). Of the female participants (n = 119), over half were enrolled in traditional high schools (n=57) and the remaining were enrolled in Recovery High Schools (n=55) and other high schools (n=6). To evaluate the assumption of homogeneity of variances, the results of Levene's test were inspected. Significance (.02) was greater than .001 (Abu-Bader, 2011), and thus the assumption that the error of variance across groups is met. A two-way ANOVA was performed to examine the effects of student's school of enrollment, gender, and student's school of enrollment by gender on life satisfaction. It was hypothesized that students enrolled in Recovery High Schools would report greater levels of life satisfaction than students enrolled in non-Recovery High Schools.

The mean cumulative score indicated by the LSI among this sample was 3.53 ($SD=0.66$). The possible responses range from 1.0 to 5.0. Male participants reported a higher average of life satisfaction with a mean score of 3.60 ($SD=0.68$)

and a range of 1.50-5.0, while female participants reported a mean score of 3.45 ($SD=0.64$) and a range from 1.83-4.67.

The results of the two-way ANOVA shown in Table 3 indicates an overall significant difference in students levels of life satisfaction based on their school of enrollment, $F(2,238)=13.783$, $p<0.001$, $\eta^2 = .121$, effect size 12.1%. Recovery High School students reported significantly higher levels of life satisfaction ($M=3.73$) than traditional high school students ($M=3.38$) and Other (Charter and Alternative) ($M=2.97$). Overall, student's school of enrollment accounted for 12.1% of the variance in life satisfaction. However, the results of the two-way ANOVA show no significant differences in levels of life satisfaction between males and females, $F(1,238)=.267$, $p=0.606$. Additionally, the results of the two-way ANOVA did not show a significant difference in levels of life satisfaction based on the interaction effect of a students' enrollment and gender, $F(1,238) = 0.860$, $p= 0.425$.

The mean cumulative score indicated by GAIN among this sample was 8.14 ($SD=1.14$). The possible responses range from 0-9.0. Male participants reported a higher average of perceptions of social support with a mean score of 8.26 ($SD=1.09$) and a range of 3.0-9.0, while female participants reported a mean score of 8.01 ($SD=1.18$) and a range of 3.0-9.0. To evaluate the assumption of homogeneity of variances, the results of Levene's test were inspected before additional analysis. Significance (.15) was greater than .001 (Abu-Bader, 2011), and thus the assumption that the error of variance across groups is met. Two-way ANOVA was performed to examine the effects of student's school of enrollment, gender and the

interaction effect of student's school of enrollment by gender on perceptions of social support.

It was hypothesized that students enrolled in Recovery High Schools would report higher perceptions of social support than students enrolled in non-Recovery High Schools. A total of 246 participant responses were included in the analysis. As shown in Table 4, almost half, (n=118) were enrolled in Recovery High Schools, while the remaining subjects were enrolled in traditional high schools (n=114) or other schools (charter or alternative; n = 12). Most participants were males (n=127); with almost half enrolled in non-Recovery High Schools (n=63), and the remaining males students enrolled in traditional high schools (n=57) and other high schools (n=6). Of the female participants (n = 119), more than half were enrolled in traditional high schools (n=57) and the remaining were enrolled in Recovery High Schools (n=55) or, other high schools (n=6). The results of the two-way ANOVA shown in Table 5 indicate there is no overall significant difference in students perceptions of social support based on a student's school of enrollment, $F(2,238)=1.021, p=0.362$. Additionally, the results of the two-way ANOVA show no significant differences in levels of social support between males and females, $F(1,238)=0.545, p=0.461$. Finally, the results of the two-way ANOVA did not show a significant difference on perceptions of social support based on the interaction effect of a student's school of enrollment, $F(2,238)=0.202, p=0.817$.

Discussion

This study examined associations of life satisfaction and perceptions of social support, based on gender and school enrollment among adolescents with a history

of substance use. The study was guided by Social Learning Theory (Bandura, 1977) and the notion that environment influences behavior. It is important to understand adolescents' measures of life satisfaction and social support based on their school of enrollment, especially due to the existence of adolescent-specific treatment models of continuing care. As we learn more about the experiences of this population of youth, the current findings are promising, as they indicate that there are differences in the levels of life satisfaction based on enrollment in Recovery High Schools. This was the case regardless of gender.

A key finding of the study is that students enrolled in Recovery High School reported significantly higher levels of life satisfaction than those enrolled in traditional, Charter, and Alternative High School programs. This finding supports the research hypothesis and is consistent with previous research with adolescents enrolled in Recovery High Schools (Finch & Wegman, 2012; Karakos, 2014) that within the Recovery High School setting, the environment positively influences behavior and enhances the quality of life. The results show no significant differences in levels of life satisfaction between males and females, despite the fact that overall, male participants reported higher levels of life satisfaction. Gender has consistently been identified as an important determinant of risk and recovery (Perry & Pauletti, 2011; SAMHSA, 2016). Life satisfaction, and how it is measured among males and females, is an important factor of consideration in the recovery process. The current findings and the inconsistencies within the literature support the need for further investigation of possible gender differences.

It was hypothesized that there would be significant differences in perceptions of social support based on gender and school enrollment, and that males were more likely to report higher perceptions of social support. Of particular interest in this study, were students enrolled in Recovery High Schools and whether their ratings would suggest increased ratings of support based on their enrollment, whether male or female. The results failed to support the notion that the Recovery High School setting would be associated with higher perceptions of social support and contradict previous research on social support (Rueger, Malecki & Demaray, 2010). The current findings also fail to support evidence of a relationship between school of enrollment and peer involvement as a measure of social support (Karakos, 2014). One possible explanation of these results might be the restricted range of participants' responses to the nine items (GAIN), thereby limiting variability.

Traditional High Schools may present severe consequences for substance use and relapse. Therefore, placing a youth in a Recovery High School, tailored to meet the therapeutic and academic needs of an adolescent in recovery presents obvious benefits. Enrollment in a Recovery High School could potentially strengthen an adolescent's path towards recovery, not weaken it. However, attendance in a Recovery High School is not mandatory for participation in an Alternate Peer Group. Generally, adolescents are going to engage and bond with their peers and participation in the social and familial aspects of the Alternative Peer Group programs can support adolescent recovery efforts. The extent to which Alternative Peer Groups influenced the participants' responses is unknown. The Alternative Peer Group prescribed services include intensive peer-support and family

therapeutic services that aim to foster recovery and assist in preventing relapse. Thus, although it is possible that other states have similar supportive services, data were not available to assess whether this was true or to decipher whether ratings were influenced by Alternative Peer Group participation.

Additionally, with Alternative Peer Groups being unique to Texas sites, the extent to which they influenced the responses is unknown. The Alternative Peer Group prescribed services include intensive peer-support and family therapeutic services that aim to foster recovery and assist in preventing relapse. Thus, although it is possible that other states have similar supportive services, data were not available to assess whether this was true or to decipher whether ratings were influenced by Alternative Peer Group participation.

Available data does not include large subgroups of minority adolescents. A more diverse sample is needed to increase our knowledge about generalizability. Additionally, basic descriptive analyses have been used for the purposes of elucidating characteristics of the continuum of care environments of these youth. Whereas a causal assertion cannot be made, it may be that continuing care increased access to academic and therapeutic services and allowed students to experience higher levels of life satisfaction. Despite these limitations, this is an important first step and can inform more rigorous analyses.

Results of this study suggest that policy makers should note the importance of increasing access to Recovery High Schools among students experiencing substance use disorders. Given the strong associations between life satisfaction

and recovery, these results also highlight the clinical importance this factor plays in supporting adolescents' attempts to live healthy and productive lives.

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Table 1. General Demographics

	(<i>n</i> =246)	<i>n</i>	%	<i>M (SD)</i>
Age				16.32 (1.09)
	14	9	3.7	
	15	41	16.7	
	16	73	29.7	
	17	101	41.1	
	18	20	8.1	
	19	2	0.8	
	Total	246	100.0	
Race/Ethnicity				
	Asian only	6	2.4	
	Native American only	3	1.2	
	African American only	9	3.7	
	Caucasian only	182	74.0	
	Hispanic only	15	6.1	
	Two races/ethnicities	23	9.3	
	Three or more races/ethnicities	4	1.6	
	Other	4	1.6	
	Total	246	100.0	
Household Income				
	\$40,000 and under	57	25.1	
	\$40,000 - \$75,000	66	29.1	
	\$75,000 - \$100,000	36	15.9	
	\$100,000 or more	68	30.0	
	Total	227	100.0	
Grade				
	9	23	9.3	
	10	51	20.7	
	11	89	36.2	
	12	83	33.7	
	Total	246	100.0	
GPA		212		2.57 (.87)

Table 2. Descriptive Statistics of Life Satisfaction

Student's School of Enrollment	Gender	<i>N</i>	<i>M (SD)</i>
Recovery HS	Male	63	3.76 (.61)
	Female	55	3.69 (.52)
	Total	118	3.73 (.57)
Non-Recovery HS	Male	64	3.45 (.71)
	Female	64	3.24 (.67)
	Total	128	3.34 (.69)
Traditional HS	Male	57	3.50 (.72)
	Female	57	3.25 (.68)
	Total	114	3.38 (.71)
Alternative	Male	6	2.92 (.40)
	Female	2	3.58 (.35)
	Total	8	3.08 (.48)
Charter	Male	0	
	Female	4	2.75 (.29)
	Total	4	2.75 (.29)
Total	Male	127	3.60 (.68)
	Female	119	3.45 (.64)

Table 3. Two-way ANOVA Summary Table (Life Satisfaction)

Source of Variance	SS	<i>df</i>	MS	<i>F</i>	<i>p</i>
Student's school of enrollment	11.013	2	5.507	13.783	0.001
gender	0.107	1	0.107	0.267	0.606
Interaction	0.687	2	0.343	0.860	0.425
Error	95.086	238	0.400		
Total	3144.743	244			

$*R^2 = .121$

Table 4. Descriptive Statistics of Perceptions of Social Support

Student's School of Enrollment	Gender	<i>N</i>	<i>M (SD)</i>
Recovery High School	Male	63	8.40 (.871)
	Female	55	8.05 (1.008)
	Total	118	8.24 (.949)
Non-Recovery High School			
Traditional HS	Male	57	8.16 (1.28)
	Female	57	7.96 (1.362)
	Total	114	8.06 (1.319)
Other (Charter/Alternative)	Male	6	7.83 (1.329)
	Female	6	7.83 (.983)
	Total	12	7.83 (1.115)
Total	Male	126	8.26 (.1.097)
	Female	118	8.00 (1.184)

Table 5. Two-way ANOVA Summary Table (Perceptions of Social Support)

Source of Variance	SS	<i>df</i>	MS	<i>F</i>	<i>p</i>
Student's school of enrollment	2.668	2	1.334	1.021	0.362
gender	0.712	1	0.712	0.545	0.461
Interaction	0.528	2	0.264	0.202	0.817
Error	311.091	238	1.307		
Total	16467.000	244			

CHAPTER 3

STUDY 2

Predictors of Academic Performance: The Contribution of Gender, Attitude Towards School, Youth-Parent Relationship, and School of Enrollment

Maurya Walker Glaude

This manuscript will be submitted to *Substance Use & Misuse* after a successful dissertation defense. This journal was selected because of its focus on adolescent and student-focused research in addition to gender-focused research. The currently published impact factor is 1.23.

Abstract

The circular interactions within the family system influences the formation of identity as well as personality, and communication and relations with parents also influence whether adolescents will use alcohol and illicit drugs (Vakalahi, 2001). While there has been debate about gender differences in substance use, there has been far less discussion about the combined influences of gender, attitude towards school, school of enrollment and the youth-parent relationship on academic performance. The purpose of the proposed study was to (1) examine how well gender, youth-parent relationship, school of enrollment and attitude towards school predict academic performance among adolescents in recovery; (2) identify how much of the variance in academic performance can be explained by these factors; and (3) identify significant predictor(s) of academic performance. The relationships among gender, youth-parent relationships, the school of enrollment, and attitude towards school on academic performance were examined among 246 high school adolescents with a history of substance use. Results of the stepwise multiple regression analysis revealed that three of the four factors - gender, attitude towards school and youth-parent relationship - emerged as significant predictors of school academic performance. These findings support policies aimed at increasing access and supporting funding mechanisms for continuing care programs to assist youth in who seek recovery.

Keywords: Adolescents, substance use disorder, academic performance, attitude towards school, continuing care, parent-child relationship

Predictors of Academic Performance: The Contribution of Gender, Attitude Towards School, Youth-Parent Relationship, and School of Enrollment

The transition from adolescence to adulthood presents mass changes, new opportunities, and various risks. Male and female adolescents respond differently to these challenges (Perry & Pauletti, 2011), identifying the possibility of gender being a predictor of risky behavior, including experimentation with substances. Across gender, substance use during adolescence has been found to affect academic, interpersonal, health, life satisfaction, and coping skills and also impacts success throughout the life span (Rohde et al., 2007). Other research determined that higher levels of family conflict increased risk of substance use among adolescents, and that females, in particular, who experienced family violence during childhood and throughout adolescence were at greatest risk of substance use disorder (Skeer, McCormick, Normand, Mimiaga, Buka, & Gilman, 2011). More research is needed to explain the differences in drug use of males when compared to females (Giordano & Cernkovich, 1997; Perry & Pauletti, 2011). Differences in the characteristics associated with substance dependence across gender groups are not well understood, and developmentally, all adolescents are transitioning from childhood to adulthood, a process that involves new interactions within their family systems as well as experiences involving risk, like using drugs (de Miranda & Williams, 2011; Glaude & Torres, 2016).

Previous research has attempted to identify both risk and protective factors that may influence drug experimentation and use (Hawkins, Catalano, & Miller, 1992; Vakalahi, 2001); whereas, for the 2.2 million adolescents experiencing

substance use disorders (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014), factors contributing to recovery service utilization and success are of greatest importance. The purpose of the proposed study was to (1) examine how well gender, youth-parent relationship, school of enrollment and attitude towards school predict academic performance among adolescents in recovery; (2) identify how much of the variance in academic performance can be explained by these factors; and (3) identify significant predictor(s) of academic performance

Background

Gender

Studies indicate that male adolescents use substances at higher rates than females, but that the gender gap is narrowing (Byrnes, Miller, & Schafer, 1999; Hicks et al., 2007; Johnston et al., 2008; Young et al., 2002). Gender has been identified as an important determinant of risk and recovery and is an important factor to consider when examining patterns of behavioral health (SAMHSA, 2016). Gender may in fact affect how adolescents manage the challenges they experience as they transition into adulthood (Perry & Pauletti, 2011).

Of the of U.S. high school students who participated in the Youth Risk Behavior Surveillance System (YRBSS), 23.4% reported use of an illicit drug within a month of being surveyed (Kann et. al., 2014); with males having higher rates of use. Early studies indicate approximately 50% of the variance in risky behavior (substance use, antisocial behavior and academic failure) was accounted for by family and peer variables (Ary, Duncan, Biglan, Metzler, Noell, & Smolkowski, 1999;

Metzler, Biglan, Ary, Noell, & Smolkowski, 1993). With parents as the primary socializing agents (Coley, Votruba-Drzal, & Schindler, 2009; Kincaid, Jones, Sterrett & McKee, 2012), effective youth-parent relationships may delay or prevent engaging in risky behavior (Cohen, Farley, Taylor, Martin, & Schuster, 2002; Dittus & Jaccard, 2000; Karofsky, Zeng & Kosorok, 2001; Klein et al., 2005; Richardson, 2004). In contrast, low parental involvement and inadequate parental monitoring are associated with more adolescent problematic behaviors including substance use disorders (Ary et al., 1999).

Attitude Towards School

Adolescents who perceive supportive family environments have higher levels of social and academic functioning (Volk, Edwards, Lewis, & Sprenkle, 1989). Peer and teacher support are also important factors in determining motivation of students, with each having individual as well as combined contributions to student success (Wentzel, Battle, Russell, & Looney, 2010). Substance use may in part be determined by how adolescents measure their satisfaction with their home life, school life, or both. In part, the way adolescents perceive situations at home and school is associated with their attitudes toward academics (Goldbeck, Schmitz, Besier, Herschbach, & Henrich, 2007), and may be a determinant of disengagement and substance use disorders. It is unclear whether situational school disengagement will lead to lasting disengagement over time (Nussbaum & Steele, 2007). It is unknown whether these behaviors lead to increased risks for problematic behaviors such as low academic performance, and further research is warranted.

Youth-Parent Relationship

An adolescents' relationship with his family and friends is a predictor of substance use behavior (Ary, Duncan, Biglan, Metzler, Noell, & Smolkowski, 1999; Metzler, Biglan, Ary, Noell, & Smolkowski, 1993). Parents are the primary socializing agents for youth (Coley, Votruba-Drzal, & Schindler, 2009; Kincaid, Jones, Sterrett, McKee, 2012), and effective communication in the home has been shown to reduce and prevent experimentation with and use of substances (Klein et al., 2005; Richardson, 2004). Conversely, higher levels of family conflict with lower levels of parental involvement and supervision are associated with increased levels of adolescent substance use (Ary et al., 1999). Adolescents whose parents were heavily involved in their lives had fewer behavioral problems and were less associated with deviant peers (Ary et al., 1999). This demonstrates the importance of parental involvement and familial engagement.

Student's School of Enrollment

After formal treatment, returning to the same school may not be in the best interest of a recovering adolescent. A student's school environment can influence his or her relapsing. Substance use and potential for relapse are strongly influenced by an adolescent's access to drugs within his school (NIDA, 2014). Students may attend various types of secondary educational programs, including Traditional High Schools, Alternative High Schools, Charter High Schools, and Recovery High Schools.

Participants enrolled in the study may not have been in a Recovery High School the entire time. School enrollment is not static, especially among students in

the recovery process. At the six-month data collection period, students self-reported their school of enrollment. Those who met the definition of Recovery High School enrollment were those who had stayed in a Recovery High School for at least 20 days.

Traditional high school. Traditional high schools offer a public or private education. Most traditional high schools include supportive services with a school counselor. Counselors generally provide education about schedules, high school credits and college support. Traditional high schools are not appropriately equipped to attend to the needs of adolescents with mental health issues and substance use disorders. Typically, these youth are identified as having behavioral problems that adversely impact their learning, and educational plans are modified to include academic supports services, but seldom to address the substance use, that is at the root of the behavioral issues.

Alternative high schools. Alternative high schools offer a public education within the district of record. These schools are generally for students who have been removed from their traditional high school due to behavioral problems. Behaviors such as fighting, substance use or truancy can lead to alternative high school placement.

Charter school. Charter schools are another option for attainment of a high school education. Charter schools are self-governed (Miron & Nelson, 2002). They receive private funding, yet they are largely federally funded schools (Miron & Nelson, 2002). Charter school selectivity typically results in the exclusion of students with behavioral or academic challenges, as they do not tend to have the

traditional support services like school social workers or school psychologists, found in traditional public schools.

Recovery High Schools. Another alternative for a high school education is the Recovery High School model. Recovery High Schools, as a continuing care model, have been around almost 40 years and are accredited by the Association of Recovery Schools (ARS, 2016). Recovery High Schools are specifically designed to meet both the academic and therapeutic needs of students who have already received formal treatment. These high schools are tailored to meet the needs of adolescents in recovery from substance dependence or co-occurring disorders (ARS, 2016).

Academic Performance

Literature supports that gender, attitude towards school, family environment and school of enrollment are all important factors in the full development of adolescents. An adolescent's attitude towards school and family environment is likely to influence their academic achievement and long-term goals (Heard, 2007). Long-term occupational goals, in particular, were determined to directly influence academic performance (Mello, 2008). Results of a 2008 study indicated that students with higher professional expectations were more likely to attend college and set higher academic goals during high school (Mello, 2008). Whereas, high school females had higher expectations of attaining professional degrees, high school male adolescents evidenced higher occupational attainment in adulthood (Mello, 2008).

Parental involvement has been shown to influence such educational aspirations, and that family structure may impact academic success (Case, Lin, & McLanahan, 2001; Heard, 2007). Evidence suggests that the absence of a mother has more detrimental consequences on children's education than does the absence of a father (Heard, 2007). Blended families with step-mothers and fathers may also impact academic performance (Heard, 2007). Family dynamics play a role in setting academic expectations and planning for a future occupation, and parent-child relations influence the daily interactions between parents and their adolescents.

Family Systems Theory

Little research has examined the relationships between academic performance and gender, youth-parent relationship, school of enrollment and attitude towards school among adolescents in the recovery process. The present study is guided by Family Systems Theory, which provides a framework for understanding how emotional connections with parents influence one's behavior throughout the entire life cycle (Bowen, 1978; Titelman, 1998). The family system is a multi-dimensional family structure, comprised of subsystems that are interdependent. The theory asserts that a family's functioning influences how its members behave during interpersonal relationships during development and throughout their lifetime (Bowen, 1978; Titelman, 1998); thus, adolescents will model behaviors they learned from their parents during childhood. Higher functioning is demonstrated when interpersonal interactions are denoted by a healthy sense of self which is developed during puberty and the transition from childhood to adulthood.

This exploratory study wishes to make a contribution to the literature. The relationships of gender, attitude towards school, school of enrollment, parent-child relationships, and academic performance will be investigated. The research questions are: (1) How well do the factors (gender, youth-parent relationship, school of enrollment and attitude towards school) predict academic performance among adolescents in recovery? How much of the variance in academic performance can be explained by these factors? (2) Which is the best predictor of academic performance: gender, youth-parent relationship, school of enrollment, or attitude towards school? It was hypothesized that: H₁: After controlling for all other factors, gender would emerge as a significant predictor of academic performance; H₂: After controlling for all other factors, youth-parent relationships would emerge as a significant predictor of academic performance; H₃: After controlling for all other factors, school of enrollment would emerge as a significant predictor of academic performance; and H₄: After controlling for all other factors, attitude towards school would emerge as a significant predictor of academic performance.

Method

Sample

Data were available for a total of 293 participants. The sample was further reduced to 263 (89.8%) due to missing data for baseline measures. Missing data for academic grade of enrollment when asked, "What grade are you in?" reduced the sample to 246 (84%), reflecting high levels of respondent participation. Remaining participants were high school students enrolled in grades 9-12. Participants were recruited from Recovery High Schools and non-Recovery High Schools, treatment

facilities, and Alternative Peer Groups, and participation was voluntary. There were 127 adolescent males and 119 adolescent females, grades 9-12. Table 1 displays the frequencies for the participants' ages which ranged from 14-19 ($M = 16.32$, $SD = 1.09$) as well as other demographic variables.

Measures

Gender. Participants were asked to identify their gender. The questionnaire allowed participants to select male or female from a drop-down menu. This dichotomous variable was coded (0) for male and (1) for female.

Youth-parent relationship. Adolescents reported their satisfaction with their relationship with a parent, using 12 items of the Youth Happiness with Parent Scale (DeCato, Donohue, Azrin, & Teichner, 2001). This was assessed using a rating between 0% - 100%, with increments of 10%, to the following questions: How happy am I today with my parent in this area of our relationship?

- The way s/he talks to me?
- His or her reaction to my friends and things I do with them?
- My curfew –when I have to come home?
- Household rules – rules around the house?
- His or her reaction to my schoolwork?
- Rewards – good things that I get from him or her?
- Methods of discipline – ways I am punished?
- Household chores – chores around the house?
- His or her reaction to my use of alcohol?
- His or her reaction to my use of drugs?

- His or her reactions when I do things against the law.

Attitude towards school. Adolescents reported their attitude towards school using 10 items from Behavior Assessment System for Children (Reynolds & Kamphaus, 1992). Participants responded yes or no responses to the following:

- Finishing my school work is important to me.
- I can hardly wait to quit school.
- I don't care about school.
- I don't like thinking about school.
- I get bored in school.
- I hate school.
- I wish there were no report cards.
- School feels good to me.
- School is a waste of time.
- School is boring.

Items were coded with no (0) and yes (1). Sum scores were analyzed.

Student's school of enrollment. This measure is based on participants' report of their school of enrollment at baseline, three-month, six-month and 12-months. Participants were asked the question, "What school are you currently attending?" The responses formatted for the question included: 1) alternative or charter school, 2) homebound (receiving academic services from the school in the home setting), 3) home school, 4) traditional public or private high school, 5) post-secondary: recovery based, 6) post-secondary: non-recovery based, or 7) Recovery

High School. Items were coded as (0) non-Recovery High School and (1) Recovery High School.

Academic performance. The dependent variable is academic performance. Participants were asked “What was your grade point average at the most recent grading period?” This is a one-item measure from the High School Questionnaire (Moberg & Finch, 2008) that is based on multiple classes and is a calculated average of the letter grades earned in school following a 0 to 4.0 scale.

Statistical Approach

Data for 246 participants were used in the analysis. The small data, missing at random should not be an issue due to the large sample size (Tabachnik & Fidell, 2011) and may be explained by the failure or refusal of participants to provide valid responses due to confidentiality concerns, inapplicability of responses, missed questions, or the result of schedule or time constraints. To ensure that the designated statistical test will have adequate power to detect a true result when it exists, a calculation to determine an appropriate sample size was necessary. Although there is no clear agreement among researchers on the required sample size for a regression analysis, researchers use anywhere between 10 and 50 cases for each variable that is included in the analysis (Abu-Bader, 2011).

For the current study, Abu-Bader’s recommendation of having at least 50 participants, plus eight times the number of factors will be adopted (2011). Using this equation, $(50 + 8 * 4 = 82)$, 82 participants would be the minimum number of participants recommended to include in the sample of the current study, far less than 208; and therefore, the sample size should be adequate to detect an effect size.

Despite a thorough literature review, the search failed to reveal a suitable measure of effect size. This is due to the scarcity of research on individual, family, and peer variables among students enrolled in continuing care models. Furthermore, a pilot study has not been conducted. In the current study of identifying the factors that will best predict academic performance, the stepwise multiple regression analysis will be executed. As a secondary measure of effect, an ANOVA with predicted scores may be run and the eta squared can indicate a measure of effect size (Tabachnik & Fidell, 2011).

Results

Prior to conducting the analysis, several descriptive statistics and graphs were generated. 48.4% (n=118) of the participants reported being enrolled in Recovery High Schools, while 46.7% reported being enrolled in Traditional High Schools and 4.9% in Charter or Alternative High School Programs. The mean GPA 2.57 ($SD=.87$) among the sample was measured and guided by the range of 0-4.0, using the High School Questionnaire (Moberg & Finch, 2008). The mean cumulative score for attitude towards school, indicated by the Behavior Assessment System for Children (Reynolds & Kamphaus, 1992) among the sample was .57 ($SD=0.26$). The possible responses range from 0 to 1.0, and participants' responses ranged between 0.10-1.0. Participants also rated their happiness by responding to the Youth Happiness with Parent Scale (DeCato, et al., 2001). Ratings ranged between 0 - 100, and the mean score among the sample was 56.20 ($SD=21.46$). Additional tests and graphs were generated to test the assumptions of normality of the distributions, linear relations between academic performance and the factors, homoscedasticity

and multicollinearity. Measures indicated that the shapes of the distributions were approaching normality. Pearson's correlation coefficients showed a linear relationship between academic performance and all factors and the normal probability plot of the residuals indicated normally distributed errors. A multicollinearity diagnostic showed that none existed.

The results of the stepwise multiple regression analysis revealed that three of the four factors emerged as significant predictors of school academic performance ($F = 7.35, p < .001$). With a beta of $-.20$ ($p < .01$), gender emerged as the strongest predictor of school academic performance, accounting for 4.7% of the variance in academic performance. The second strongest factor was attitude towards school ($\beta = -.19, p < .01$), accounting for an additional 3.3% of the variance in academic performance. The third strongest factor was youth parent relationship ($\beta = .138, p < .05$), which accounted for 1.8% of the variance in academic performance. School of enrollment, however, did not predict school academic performance and was removed from all models. Together, attitude toward school, gender, and youth-parent relationship accounted for 9.8% of the variance in academic performance as shown in Table 2. These results indicate that higher academic performance in school is a function of gender, more positive attitude toward school, and more positive ratings of youth-parent relationships. All statistical analyses were performed using the software package SPSS™ (Version 24 for Windows).

Discussion

The first goal of the present study was to first examine how well the factors (gender, youth-parent relationship, school of enrollment, and attitude towards

school) predicted academic performance among adolescents in recovery, and identify how much of the variance in academic performance could be explained by these factors. The second goal was to determine which factor was the best predictor of academic performance. The findings revealed that three of the four factors - gender, attitude towards school, and youth parent relationship – are in fact predictors of academic performance, and accounted for 9.8% of the variance in academic performance. First, gender emerged as the strongest predictor of academic performance, accounting for 4.7% of the total variance. The model revealed that gender did predict higher levels of academic performance and that overall, males reported higher GPAs. However, it is unknown whether this is atypical. The current findings support existing research that identifies gender as an important factor of interest when determining risk and tailoring recovery services (Perry & Pauletti, 2011; SAMHSA, 2016). Therefore, it remains important to understand how teachers, social workers, and support providers, who are in daily contact with adolescents in the recovery process are attuned to the needs of every individual adolescent within their care.

This study also found that attitude towards school was related to academic performance. This finding suggests that an adolescent's motivation toward school may predict academic performance. Further testing is warranted to support the development of interventions tailored to increase support both at the individual and environmental levels. Attitude towards school emerged as the second strongest predictor of academic performance, accounting for an additional 3.3% of the variance in academic performance. This contribution is numerically small, but

presents an important factor of consideration, as attitude towards school has a direct relationship with academic performance (Heard, 2007). This finding also suggests the need for additional research and possibly qualitative data collection to help explain the participants' ratings and their conceptualization of how they measure their attitude towards school.

The third variable, youth-parent relationship, emerged as a predictor of academic performance. In this study, the family system characteristic related to increased academic performance for a recovering adolescent was parent-child relationship. In agreement with the hypothesis, youth-parent relationship is a predictor of academic performance and these results support the notion of parental involvement in an adolescent's recovery process. These results support the rich body of research on the importance of parent-child communication (Volk, Edwards, Lewis, & Sprenkle, 1989; Winters, Botzet, Fahnhorst, 2011). These findings also support Bowen's Family Systems Theory (1978) and the emotional connections of families as well as their influence on behavior throughout the entire life cycle (Bowen, 1978; Titelman, 1998). Perceptions of higher levels of family communication are negatively related to adolescent substance use disorders (Volk, Edwards, Lewis, & Sprenkle, 1989; Winters, Botzet, Fahnhorst, 2011). Thus, clinical interventions aimed at improving family communication and relations may increase buffers and decrease the behaviors that place adolescents at risk of relapse. Additionally, youth generally return to their families after a day at school, and therefore, a family's functioning has the potential to influence how an adolescent

functions and performs. Therefore, it remains important to consider the inclusion of families in treatment and continuing care services.

Results did not support the hypothesis that school of enrollment would emerge as a predictor of academic performance among the sample. School of enrollment did not predict school academic performance and was removed from all models. It is possible that statistically, the factor was removed because it no longer made a significant contribution, once the other three factors were added to the model. It is also possible that the one-item measure of GPA limited the potential variance accounted for by school of enrollment. Another consideration is the possibility that only using data at the six-month time period limited the possibility of accounting for any variance in GPA, based on school of enrollment.

Notably, the results of this study identified three variables – gender, attitude towards school, and parent-child communication - as predictors of academic performance. The exploratory nature of this research study suggested the use of the stepwise multiple regression as the most appropriate test because the results reveal which combination of variables explain the desired outcome. In the current study, the results suggest that future research and theory building may consider the variables - gender, attitude towards school, and parent-child relationships – when exploring the academic performance among adolescents in recovery.

Despite being one of the first studies to use quantitative methods to evaluate continuing care measures, findings of the current study must be viewed in light of at least three important limitations. First, despite the use of a regionally diverse sample, the design of this study does not allow for inferences, and available data does not

include large subgroups of minority adolescents. Additional research is warranted as we learn more about the experiences of this population of youth. While the results at the six-month follow-up suggest positive implications for adolescent recovery, a six-month follow-up is inadequate to predict longer term recovery outcomes, and future research should extend the length of follow-up for at least one year or longer. A final limitation is the self-reported, one-item measure for academic performance (GPA). Although averaged, GPA is a limiting measure of academic performance. The one-item self-reported measure of GPA is potentially a limiting metric of the reliability of academic achievement. Standardized measures in addition to transcripts or cumulative semester grades might render a more reliable measure. Grades reported by parents and adolescents at the various periods of data collection should be considered. As well, composite scores or additional measures at various time periods might present a more accurate measure of academic performance.

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Table 1. General Demographics

(n=246)		<i>n</i>	%	<i>M (SD)</i>
Age				16.32 (1.09)
	14	9	3.7	
	15	41	16.7	
	16	73	29.7	
	17	101	41.1	
	18	20	8.1	
	19	2	0.8	
	Total	246	100.0	
Race/Ethnicity				
	Asian only	6	2.4	
	Native American only	3	1.2	
	African American only	9	3.7	
	Caucasian only	182	74.0	
	Hispanic only	15	6.1	
	Two races/ethnicities	23	9.3	
	Three or more races/ethnicities	4	1.6	
	Other	4	1.6	
	Total	246	100.0	
Household Income				
	\$40,000 and under	57	25.1	
	\$40,000 - \$75,000	66	29.1	
	\$75,000 - \$100,000	36	15.9	
	\$100,000 or more	68	30.0	
	Total	227	100.0	
Grade				
	9	23	9.3	
	10	51	20.7	
	11	89	36.2	
	12	83	33.7	
	Total	246	100.0	
GPA		212		2.57 (.87)

Table 2. Results of Multiple Regression Analysis - Predictors of Academic Performance

Factor	<i>R</i>	<i>R</i> ²	<i>β</i>	<i>t</i>	<i>p</i>	<i>F</i>	<i>p</i>
Gender	.217	.047	-.203	-3.011	<.01	10.19	<.01
Attitude toward school	.282	.080	-.185	-2.735	<.01	8.884	<.01
Youth-parent relationship	.312	.098	.138	2.004	<.05	7.348	<.001

CHAPTER 4

STUDY 3

Glaude, M., & Torres, L. R. (2016). Hispanic Perspectives on Recovery High Schools: If We Build Them, Will They Come? *Journal of Groups in Addiction & Recovery*, 11(4), 240-249.

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The issue is the first to address group recovery supports for a vulnerable population, namely adolescents, internationally. The special issue also fills a gap in the literature, documenting the continuum of care through the integration of international adolescent recovery support services.

Abstract

Recovery High Schools have been among the continuum of care for adolescents experiencing addiction since 1979 (Moberg & Finch, 2008). Outcome studies for Recovery High Schools are limited, and even less is known about Recovery High School engagement of Hispanic adolescents. Recovery High School students are overwhelmingly middle-class non-Hispanic White students with prior formal treatment (Moberg & Finch, 2008). Hispanic youth are more likely to live in discordant low-income ethnic enclaves, placing them at high risk for addictive disorders (Torres, Kaplan, & Valdez, 2011). The individualized approach of Recovery High Schools could make them a culturally relevant continuing care intervention. This paper reviews the literature to explore the use of Recovery High Schools by Hispanic adolescents.

Hispanic Perspectives on Recovery High Schools: If We Build Them, Will They Come?

Since 1979, Recovery High Schools—specifically designed for students recovering from substance use disorders—have provided a continuum of care for adolescents with addictions (Moberg & Finch, 2007). Recovery High Schools offer a full range of academic services within a structured environment that encourages, promotes, and facilitates recovery. To date, Moberg, Finch, and Krupp (2014) provide the most complete description of the program models used in Recovery High Schools. With funding from the National Institute on Drug Abuse, Finch and colleagues are currently examining the effectiveness of Recovery High Schools and their impact on behavioral, academic, and substance use outcomes compared to students who attend regular high schools post-treatment. While data on whether Recovery High Schools indeed lead to superior outcomes is still emerging, we know far less about the use of Recovery High Schools by Hispanic youth.

Students who attend Recovery High Schools are overwhelmingly White, upper middle class, more likely to come from two-parent homes, and more likely to have had prior formal treatment for substance use disorders (Moberg & Finch, 2007). Hispanic youth, on the other hand, are more likely to live in ethnic-dense communities characterized by social strife, including single parent homes, high rates of poverty, community violence, and substance-using environments, which places them at higher risk for substance use disorders (Torres, Peña, Westhoff, & Zayas, 2008; Torres, Kaplan, & Valdez, 2011). Moreover, intervention options for Hispanic

youth are few, and when they exist they are either unaffordable or not culturally relevant.

As we continue to learn about the effectiveness of Recovery High Schools, some important empirical questions remain about Recovery High Schools and Hispanics. For instance, what do Hispanic families know about Recovery High Schools, and how did they learn it? How do Hispanic families view Recovery High Schools? How do they engage with Recovery High Schools? Do Hispanic families find Recovery High Schools acceptable and culturally relevant? And of course, are outcomes for Hispanic students who enroll in Recovery High Schools comparable to those of non-Hispanic students?

To date, the scarce numbers of Hispanics enrolled in Recovery High Schools have made it impossible to answer these questions. The opening of Recovery High Schools in areas with large concentrations of Hispanics, from Houston, TX which is almost 50% Hispanic to Laredo, TX which is along the Texas-Mexico border and is 96% Hispanic, offers us an unprecedented opportunity to explore some of these questions. This paper presents an overview of the literature as a first step to summarize our understanding of the utilization of intervention services by Hispanic youth; discuss some of the salient issues we need to explore with regard to Hispanics and Recovery High Schools; and present a trajectory for the balance of the current research study and future studies.

Background

Many intervention approaches have been developed over the last few decades to address adolescent substance use disorders. A search of the Substance

Abuse and Mental Health Services Administration's (SAMHSA) *National Registry of Evidence-Based Programs and Practices* using the delimiters "substance abuse treatment" and "co-occurring disorders" for areas of interest; "13 to 17 (Adolescent)" for age; and limiting the search to interventions evaluated in studies with 50% or more of the selected groups; yields 27 interventions. Add the delimiter "Hispanic or Latino" for races and ethnicities, and the list drops to 3 interventions: Brief Strategic Family Therapy, Functional Family Therapy for Adolescent Alcohol and Drug Abuse, and Phoenix House Academy. Add "school" as the setting, and the list drops to zero. Clearly, there is a dearth of treatment and intervention options for Hispanic youth with substance use disorders (Szapocznik, Lopez, Prado, Schwartz, and Pantin, 2006).

The prevalence of substance use among adolescents requires an expansion of specific care options for these youth (Sussman, Skara, & Ames, 2008). Among the continuum of care options for adolescents are recovery schools that offer academic programs, supportive after-school opportunities, and individual and group counseling within a sober/drug-free environment that supports recovery (Moberg & Finch, 2007). Once an adolescent exits inpatient treatment, the likelihood of relapse may be higher if they return to the same school environment of initial enrollment attended. Moreover, many families forego traditional (e.g., inpatient) treatment for their adolescent with a substance use disorder and the adolescent enrolls into a Recovery High School.

Developmentally, adolescents are transitioning from childhood to adulthood, presenting unique challenges that require intervention options that are tailored

specifically to a brief history of use that may influence life-long efforts towards recovery. In one particular study by Ciesla, Valle & Spear (2008), severity of cannabis use was determined to be a significant predictor of success of recovery efforts among adolescents. Moreover, recovery efforts that facilitate participation in support groups and motivate school attendance were determined to significantly reduce relapse (Ciesla, Valle, & Spear, 2008). Such efforts would seem to provide viable options for all youth, but despite their rates of substance use, Hispanic adolescents are not representative of the youth who are engaged in such treatment and post-treatment options. While SAMHSA (2015) has for two decades maintained that there is “no wrong door” into treatment, for Hispanic youth, there is often no door at all into treatment.

Method

Five databases (PsychINFO, ERIC, Medline, Google Scholar, and Psychological & Behavioral Sciences Collection) were searched using the following keywords: Hispanic* OR Latino/a* AND substance use* OR abuse OR treatment OR intervention OR recovery. These databases were selected for their coverage of the social sciences and health related literature. The university social science reference librarian was consulted to ensure the search strategy was appropriate and exhaustive. Materials published between 2001 and 2015 were included for review, with 2001 representing the release of the most comprehensive publication solely devoted to Latino health since the original 1994 edition (Aguirre-Molina, Molina, & Zambrana, 2002).

The Current Review

Nationally, Hispanic youth are disproportionately impacted by substance use disorders (SAMHSA, 2015). The 2013 Youth Risk Behavior Surveillance Survey (YRBSS) ranks Hispanic adolescents at the top across multiple categories of alcohol and substance use risk behaviors (Kann et al., 2014). Hispanic adolescents' current alcohol use (37.5%) exceeded the national average (34.9%) as well as the averages of their non-Hispanic White (36.3%) and Black (29.6%) peers (Centers for Disease Control and Prevention [CDC], 2014). Further, the 2014 YRBSS results indicated that Hispanic youth's current marijuana use (27.6%) exceeded the national average (23.4%) and ranked among the top in comparison to their White (20.4%) and Black (28.9%) counterparts. Additionally, results showed high rates of illicit drug debut by Hispanic youth that exceed those of their same aged peers, indicating initiation of heroin (3.4%), hallucinogens (8.4%), and a startling rate of cocaine initiation (9.5%) that was almost twice that of the national average of 5.5% (Kann et al., 2014). Rates of substance use and alcohol consumption characterize some of the most significant factors contributing to health disparities between Hispanic adolescents and non-Hispanic White adolescents (Prado, Szapocznik, Maldonado-Molina, Schwartz, & Pantin, 2008).

Hispanics, substance use, and interventions. While these national statistics indicate elevated use of illegal substances and increased risks for alcohol and substance dependence among Hispanic youth, the limited research available underscores the need for greater understanding of this problem. Yet, estimating the needs of these Hispanic youth is extremely challenging, as this group is very

heterogeneous, continues to grow rapidly, and the demographics within this group are quickly changing; as such, it is a moving target. Torres et al. (2008) suggested that of particular importance to the United States is the circulatory migration pattern of immigrants from Mexico, as well as countries in Central America, particularly the Northern Triangle (i.e., El Salvador, Honduras, and Guatemala) and those in the Caribbean Basin (e.g., Cuba, Dominican Republic, and Puerto Rico). These are among the largest Hispanic subgroups in the U.S., and factors such as geographic proximity, relative low cost of travel, and large families in both countries (the U.S. and the country of origin) ensure a continuous flow in both directions.

Other researchers emphasized the impact of acculturation levels and nativity, stating that levels of substance use are positively correlated with acculturation and acculturation stress (Gil & Vega, 2001). With regard to nativity, U.S.-born Hispanics have higher rates of substance use than foreign-born Hispanics. With regards to acculturation, among foreign-born Hispanics, rates increase with length of time in the U.S., and among U.S.-born Hispanics, rates increase with generation (that is, third generation Hispanics have higher rates than second generation Hispanics, who in turn have higher rates than first or immigrant generation Hispanics). Adjustment, or the lack thereof, is implicated in the development of substance use behaviors among Hispanics, with acculturation stress as a strong predictor (Gil, Wagner, & Tubman, 2004). Whereas acculturation experiences among Hispanic groups is extensively being studied, and the relationship between acculturation and drug use is also being determined, best practices for recovery services remain scant.

Insight into treatment provided by Vega and Lopez (2001) suggested that there is a circular, self-defeating cycle, whereas fewer Hispanics finish school—partly because of substance use issues—which results in fewer Hispanics being available to become service providers, which then results in fewer providers who are culturally competent and could help prevent the cycle from continuing. This scarcity translates to a gap in the necessary services that improve academic and treatment outcomes for Hispanic youth. Programs that boost high school completion rates and stimulate careers in the human services through apprenticeship and internship experiences are vital to the engagement of these youth (Vega & Lopez, 2001). They further stated that emphasis should be placed on attracting bilingual educators and practitioners to help facilitate the recruitment of Latino youth in becoming the future helping professionals (Vega & Lopez, 2001). These recommendations were the outcomes of their analyses of epidemiologic studies, needs assessments, and studies that evaluated availability and utilization of quality services.

More recently, Alegría et al. (2006) linked low retention rates, as well as the absence of appropriate services, as major challenges of delivering treatment services to Hispanic drug users, resulting in a disproportionate cluster of negative consequences among the Hispanic population. Further, additional research that focused on clustering of drug involvement revealed high levels of substance use behavior among a large sample of school-aged Hispanic adolescent youth from Central America (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua), Panama and the Caribbean nation of the Dominican Republic (Dormitzer et al., 2004). Dormitzer and colleagues focused on clustering of drug involvement among

school-attending youth in this 2004 study to determine estimates for initiation and use of various substances. Results indicated that males were more likely than females to use all substances and overall rates of interests were as follows: alcohol (52%), tobacco (29%), inhalants (5%), marijuana (4%), and other illegal drug use (5%). This seminal work revealed experiences of Hispanic adolescents in countries of origin (Panama, Central America, and the Dominican Republic) and presents the first estimates of drug involvement of youth who attend school in these seven countries. This suggests that the problem is not uniquely a U.S. problem—although substance use rates by Hispanic youth in the U.S. are far higher than those in Latin America (Torres et al., 2008). Exposure to drugs or drug using behaviors prior to immigrating is a risk factor for developing substance use disorders after immigrating, in the context of acculturative stress.

Another study, by Aguilar-Gaxiola et al. (2006) reviewed fifteen years of research on the epidemiology and status of illicit drug use, utilization of services and the relationship between HIV and drug use in Latin America. They noted that some of the variability in the results of the research across Latin American nations is due to the variations in methodological approaches. The authors stated that there is a need to create an international level collaboration for research. Even with internationally standardized research methods, such a partnership would seem overreaching, given the various cultural implications. Researchers have found that among Hispanic groups, cultural values continue to emerge as a strong indicator of successful engagement and intervention (Castro et al., 2006). In fact, Castro et al. (2006) examined almost three decades of literature on substance abuse prevention

and intervention with Hispanic populations (1974 – 2003) and found that adapting prevalent theories to the reality and context of Hispanic groups was necessary. Further, the researchers suggested that among the culturally-focused adaptations would be theories relevant to Hispanics and the inclusion of cultural variables in subsequent studies (Castro et al., 2006).

Engaging Hispanics in treatment is paramount to reducing the negative outcomes of substance use. In a 2008 study, characteristics of inclusion were explored by Amodeo, Chassler, Oettinger, Labiosa, & Lundgren. They explored whether client characteristics related to retention were associated with the completion of treatment among a sample of 164 Latino substance users who were admitted into a residential program that was characterized as culturally competent. The researchers determined that those clients who were most likely to prematurely terminate treatment had self-reported co-occurring psychiatric diagnoses. This study contributes findings beyond prior studies by considering the broader implications of the universal challenges involved in treating individuals with co-occurring disorders. The results also indicated that Hispanic substance users have a more difficult time remaining in residential treatment.

Understanding the major factors that contribute to substance use and subsequent addiction is relevant to the development of treatment interventions, as Hispanic youth are at increased risk for substance use disorders due to a host of individual, community, and societal factors (Torres et al., 2008). The short-term and long-term consequences of substance use behaviors during adolescence, as well as the evaluation of the efficacy of prevention and intervention efforts are all important

concerns both in the United States and abroad (Torres et al., 2008). Research has indicated that improved access and increased utilization of qualified and comprehensive mental health services is needed (Vega & Lopez, 2001). Further, scholars emphasized the need for additional research and bilingual mental health practitioners to serve Latino groups (Vega & Lopez, 2001). The evolution of such treatment and recovery efforts for youth is being evidenced and best practices are emerging. Among the most effective programs are school-based services.

de Miranda and Williams (2011) reviewed the history of adolescent recovery efforts and reported an increase in the number of academic institutions that provide supportive secondary and higher education and recovery services. More specifically, the authors demonstrate how Recovery High Schools and colleges have devoted efforts to providing safe environments with specialized and supportive recovery services (de Miranda & Williams, 2011). Despite this overall trend, there is a scarcity of literature on culturally competent, evidence-based treatment options for Hispanic youth, especially in school settings. Increased knowledge of the differences and similarities between Hispanic subgroups, and between Hispanics and non-Hispanics, could facilitate improved assessment and identification of the co-occurring conditions that are precipitated by their mental health concerns and risky substance use behaviors. This increased knowledge can also result in more culturally appropriate intervention models for Hispanic youth experiencing substance misuse or addiction.

Responding to the call for diversity. As previously stated, students who attend Recovery High Schools are overwhelmingly White, upper middle class, more

likely to come from two-parent homes, and more likely to have had prior formal treatment for substance use disorders (Moberg & Finch, 2007). Hispanic youth, on the other hand, are more likely to live in ethnic-dense communities characterized by social discord, including single parent homes, high rates of poverty, community violence, and substance-using environments (Torres, Peña, Westhoff, & Zayas, 2008; Torres, Kaplan, & Valdez, 2011). These factors all place Hispanic youth at greater risk for substance use disorders, with fewer treatment options in existence. Further compounding the few available treatment options, existent barriers to treatment include unaffordability—despite advances made under the Affordable Care Act, Hispanics remain the single largest uninsured group in the country—and services that are culturally inappropriate.

Recovery High School efforts in Texas. In the latter part of 2014, Houston was added as a data collection site on the National Institute on Drug Abuse (NIDA) funded study examining the effectiveness of Recovery High Schools as Continuing Care (5R01DA029785-04). Houston was added because of the presence of two well-established Recovery High Schools, Archway Academy and Three Oaks Academy, as well as an existing network of adolescent treatment and recovery programs. Given Houston's status as the fourth largest city in the U.S., and it being a distinctive Hispanic city, Houston also held the promise of helping increase the understanding surrounding recovery services available to Hispanic youth living in the Houston area. Houston presents a unique opportunity to explore the utilization of recovery services among diverse groups because the city is a national and international hub. Houston encompasses the major thoroughfare of the I-10

corridor, and is a southeastern city five hours from the Texas-Mexico border.

Conservatively, Houston has about a 43.8% Hispanic or Latino population (United States Census Bureau, 2015). Programs in Austin, Dallas, and Laredo were also explored, visited, and recruited as partners. Laredo in particular offers an unprecedented opportunity, with the opening of a new Recovery High School in a city 97% Hispanic and their willingness to be part of our study.

Hispanic youth services along the Texas and Mexico border. The City of Laredo, located in Webb County, Texas along the border with Mexico (across the Rio Grande River from Nuevo Laredo, Mexico) is 97% Hispanic. The almost 6,000 youth enrolled in the six Laredo Independent School District (LISD) high schools are almost 100% Hispanic. About 60 of these students attend the district's Non-Traditional (Recovery) High School. Another 40 attend an Alternative High School, and for many of these youth, substance use is part of the challenges they experience. The LISD also has three Traditional High Schools and an Early College High School. Occasionally, students from these schools are also identified as having challenges related to substance use. Connecting with this key population that would not be accessed elsewhere is vital to exploring and understanding their use of Recovery High Schools as part of their continuum of care. This partnership can increase the overall understanding of the experiences of these Hispanic youth and potentially add some vital instruments to the protocols, culturally tailored for Hispanic youth and their parents.

Also along the Texas and Mexico border, is a community-based, nonprofit social services organization, Serving Children and Adults in Need, Inc. (SCAN).

SCAN has a 32-year history of providing a variety of comprehensive, culturally-grounded services to a population that is almost 95% Hispanic and which resides in this Southwest Texas community bordering Mexico. SCAN programs provide diverse prevention, intervention, and treatment services for children, adolescents, adults, and families. SCAN has more than 30 programs providing services in 14 different counties along the Texas-Mexico border.

Pouring the foundation. Scientific research pertaining to adolescent substance use and addiction is most authentically and fully evaluated within a public health, namely preventive framework (Yzaguirre, 2001). The ultimate goals of substance abuse research are to contribute to the knowledge base; increase understanding; advance treatment services; and most importantly, enable society to more effectively reduce and prevent abuse of harmful substances and drugs. The list of options for many American adolescents may be of potential use when they are experiencing substance abuse or related problems; yet, the effectiveness of these services for Hispanic youth in the Houston area and nationally is still undetermined. The services may be well suited and comprehensive enough to incorporate the needed diversity and supple enough to embrace almost all of the cultural differences Hispanics possess. Yet, until our Hispanic youth enter these facilities and enroll in these recovery schools in higher numbers, answers to the questions of best practices remain unanswered. Conversely, there is a need to take advantage of organic opportunities like the one provided by the Laredo Independent School District's Recovery High School so we can learn more about the place these schools can play in Hispanic communities before we advocate for their broad dissemination.

Mixed-methods (quantitative and qualitative) approaches can help us better understand the academic, behavioral, and substance use outcomes of Hispanic youth enrolled in Recovery High Schools and can help us shed light on the phenomenology of Recovery High Schools in Hispanic communities, that is, the *experience* of Recovery High Schools by Hispanic youth and families.

Conclusion

The prevalence of alcohol and drug use within our Hispanic communities has heightened our awareness of the need for substance use research and sensible, evidence-informed drug abuse policies. We know historically that substance use research and funding is inevitably shaped by prevailing assumptions and values. This may seem altogether appropriate, as drug research is primarily funded by the public through taxation, and those in power are influenced by societal opinions. Nevertheless, Hispanic youth are at potential risk of not being heard or served through our treatment facilities, despite their growing rates of substance use, because they are not represented in our treatment facilities. Yet, if we build it, will they come?

Recovery High Schools involve the family in treatment; however, the adolescent defines family. Hispanics are largely family-centered and research by Vega and colleagues suggests they do well in family-based treatment (e.g., Brief Strategic Family Therapy) (2007). Further, Hispanics are a heterogeneous group, and Recovery High Schools lend themselves to be tailored to specific groups of students. Such customization within Recovery High Schools allows work to combat and reduce stigma, which is one of the key barriers to treatment for Hispanics. The

LISD and SCAN programs provide resources to gain relevant knowledge as well as a framework for assessing priority treatment services for Hispanic youth. These facilities have been built, but will they come?

In this spirit of true scientific evaluation and reflection, it is important to highlight that the ultimate goal of this contribution, as a component of the larger and ongoing study, is to affect social policy for the purposes of reducing the adverse health and social consequences associated with substance use and abuse. This includes the reduction of the staggering social costs associated with substance abuse treatment. This paper reviews the current literature of utilization of Recovery High School as a continuum of care among Hispanic communities as a means of preventing abuse and to advance our knowledge regarding the causes and best preventive methods.

The value of the investment in substance abuse and addiction research is measured by the number of lives saved and the success of each young person who lives recovery daily, attends secondary and higher education, enters the workforce, and experiences the joy of happiness and well-being. This paper provides an overview of the literature and begins the conversation of how Recovery High Schools can play an important role in unveiling the stories and the experiences of Hispanic adolescents who suffer and influence their families' experiences because of substance use and addiction. Answering the question, "If we build it, will they come?" is a critical first step to provide intervention alternatives to the largest minority group in the U.S.

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CHAPTER 5: Conclusion

The role of continuing care as a factor in relapse prevention of adolescents in recovery has received greater attention in the literature for the past several years. Research involving relapse prevention and adolescent recovery has examined how individual, family, and peer factors influence short and long-term outcomes. The purposes of these three investigations were to first, determine the association of the school environment and measures of life satisfaction and perceptions of social support; second, examine the relationships between gender, youth-parent relationship, school of enrollment, and attitude towards school as predictors of a recovering adolescents' academic performance; and third, provide a review of the literature of available continuum of care resources specifically for Hispanic youth experiencing substance use disorders.

Collectively, these studies support a case for investment in prevention and early treatment programs that can benefit adolescents, across gender and cultures, toward healthier transitions into early adulthood. These studies expand our understanding of the factors of continuing care that may help adolescents in recovery, and these investigations may inform practices that could reduce or even prevent negative outcomes such as lower academic performance and increased mental illness associated with substance use disorders. Implications for research, social work practice, and policy implications of these studies will now be presented.

Implications for Adolescent Substance Use Research

There is a scarce amount of literature available on measures of life satisfaction and social support among adolescents in recovery. Therefore, Study 1's

examination of the associations of the school environment and measures of life satisfaction and perceptions of social support with adolescents utilizing continuing care can inform future studies. Findings from Study 1, and the inconsistencies within the literature, support the need for further investigation of possible gender differences. Future studies should take into consideration the recommendations that follow in order to improve future studies and have more complete results.

In terms of future research on school environment and continuing care, it should be noted that valid and reliable measures of life satisfaction and perceptions of social support need to be established. The GAIN (Dennis, 2010) has been established as a reliable biopsychosocial assessment tool and there are other scales that may also be considered to provide accurate measures of the life satisfaction and perceptions of social support variables. Additionally, with the Alternative Peer Groups model being unique to Texas sites, the extent to which they influenced the responses is unknown. The Alternative Peer Group therapeutic services include intensive peer-support and family-centered services to assist in preventing relapse. Thus, although it is possible that other states have similar supportive services, future research should assess the extent to which ratings are influenced by Alternative Peer Group participation.

Study 2 examined the relationships between gender, youth-parent relationship, school of enrollment, and attitude towards school as predictors of recovering adolescents' academic performance. Findings support previous research that gender is an important factor when determining risk and tailoring recovery services (Perry & Pauletti, 2011; SAMHSA, 2016). Attitude towards school also

emerged as a predictor of academic performance and is directly related (Heard, 2007). Future research studies in this area should collect qualitative data to help inform a more in depth understanding of how adolescents conceptualize and determine their attitude towards school. Youth-parent relationship also emerged as a predictor of academic performance in this study. These results support the rich body of research on the importance of parent-child communication (Volk, Edwards, Lewis, & Sprenkle, 1989; Winters, Botzet, Fahnhorst, 2011) as well as Bowen's Family Systems Theory (1978) as a framework to guide future studies of adolescents in the recovery process.

Results did not support the hypothesis that school of enrollment would emerge as a predictor of academic performance among the sample. It is possible that statistically, the factor was removed from the analysis because it no longer made a significant contribution, once the other three factors were added to the model. It may also be that the weak association between academic performance and school of enrollment is related to the low priority of academics among adolescents experiencing substance use disorders. Although not captured during the data collection process, participants often commented to the research team that the academics of the Recovery High Schools were not rigorous. And, with abstinence and recovery as a general goal, whether in a Recovery High School or non-Recovery High School, should academic performance be the priority? In addition to taking into account the limitations of a one-item measure of academic performance (GPA), future studies should include other measures of academic performance, including attendance, participation, and accountability over time.

The sample used in studies 1 and 2 do not include large subgroups of minority adolescents. Future studies should include Hispanic, African American, Asian, and American Indian adolescents in an effort to increase understanding of substance use disorders and utilization of continuing care among minority adolescent populations. In addition to broader inclusions of race and ethnicity, future studies should also target a vast array of adolescents in recovery from differing income levels, social classes and gender. Recruitment should be as inclusive as possible of all adolescents. Particular attention for recruitment should focus on outreach to minority adolescents, as they are historically over-represented as adolescents impacted by substance use disorders.

Recruitment of Hispanic adolescents is key to increasing the knowledge base about the efficacy of continuing care for the largest ethnic minority group in America. It is also important to be mindful that this is a diverse group made of families with origins from Mexico, Latin America and the Caribbean. As cited in the literature review of Study 3, Recovery High Schools may be an appropriate continuing care option for Hispanic adolescents experiencing substance use disorders. The family-centered approach used within the programs aligns well with the cultural norm of the importance of the family embraced within the Hispanic communities. Future research should explore the extent to which these school-based and after-school programs are being made accessible to the Hispanic community.

Implications for Social Work Practice with Adolescents

Social work's involvement in the recovery process among adolescents has boundless potential. However, teachers, administrators, and licensed drug

counselors are primary in the school settings, especially those working in the Recovery High Schools. Continuing care and Alternative Peer Group programs are optimal environments that provide vulnerable youth access to recovery services. Social workers are well trained in the biopsychosocial perspective, as well as substance use and co-occurring mental disorders. There is clearly no reason why social workers could not employ effective behavioral techniques in practice as a treatment approach / modality to support continuing care efforts among adolescents in the recovery process. Moving forward, it remains important to understand how support providers (social workers, teachers, etc.) who interact with adolescents on a daily basis are attuned to the needs of individual adolescents within their care. And, given the strong associations between measures of life satisfaction and recovery, clinicians must clearly understand adolescent development and effectively utilize communication to increase understanding of how adolescents measure and rank aspects of their lives and environment.

Additionally, youth generally return home to their families after school, and therefore, a family's functioning has the potential to influence how an adolescent functions and performs. Therefore, it remains important to consider the inclusion of families in treatment and continuing care services. Clinical social workers should keep family-centered therapy as a priority in the adolescent's recovery process. Clinical interventions should prioritize improving family communication and relations to increase buffers and decrease the behaviors that place adolescents at risk of relapse (Volk, Edwards, Lewis, & Sprenkle, 1989; Winters, Botzet, Fahnhorst, 2011).

Clinical social workers who work with Hispanic adolescents must be mindful of culturally competent practice as well as confidentiality. These social workers have the opportunity to help reduce social isolation and help increase support systems within communities and families. Social workers can also help with translating immigration policies and assist with challenges presented with acculturation. A thorough understanding of collectivist values and the dynamics of race are also important. Such cultural humility can increase trust and result in appropriate referrals, such as referrals to a Recovery High School for continuing care.

At the community level, social workers can inform neighborhoods, families and churches of the availability of continuing care programs, especially Recovery High Schools. Social workers can also work with local providers, such as physicians, schools and treatment facilities to provide education and awareness about continuing care options. At these multiple levels, social workers are change agents and are essential components in the attempt to reduce barriers experienced by adolescents in the recovery process.

Implications for Policy Impacting Adolescents' Access to Continuing Care

Social work has an ethical obligation to ensure that adolescents have access to the health services they need, including treatment for substance use, such as continuing care services after formal treatment. Social workers should educate policy makers of the importance of increasing access to Recovery High Schools among students experiencing substance use disorders. As well, social workers should serve as advocates in the implementation of legislation, particularly as it

relates to health care provisions that increase access of Recovery High Schools and Alternative Peer Group models.

Social workers can provide feedback about the efficacy of continuing care models based on current research. As well, social work should be frontline to the development of policies and protocols to implement new Recovery High School programs. For instance, social workers can assist in the assessment and feasibility of partnering with Charter Schools to create much needed Recovery High Schools throughout the nation, both in urban and rural areas.

Costs related to attending a Recovery High School range between \$1,000 and \$2,500 a month. Having to pay these expenses is likely a barrier for adolescents and their families. The ability to use school vouchers could minimize this barrier. Social workers should advocate for the use of these school vouchers to expand access and enable students to attend Recovery High Schools, at no expense to the student's family.

Final Thoughts

Recovery High Schools as part of the continuum of care have existed in the U.S. since 1979. These schools are tailored to meet the academic and therapeutic needs of adolescents in the recovery process. Recovery High Schools decrease isolation, and increase hope among students experiencing substance use disorders (ARS, 2016; de Miranda & Williams, 2011; Finch, Moberg & Krupp, 2014; Moberg & Finch, 2007). Furthermore, despite the severity of a diagnosis of a substance use disorder, prolonged abstinence can result in physical, emotional and cognitive recovery. Therefore, substance use during adolescence allows an opportunity for

intervention, subsequent abstinence, and recovery. Even with the vulnerability of adolescence, these youths remain malleable. There are still opportunities for linkage to resources within the school, work and community settings because they've not yet had the chance to burn all of their bridges.

The results of the current studies reveal that Recovery High Schools are an appropriate model of continuing care for youth experiencing substance use disorders. This is an important contribution to the adolescent recovery literature. These results support that the aim of future policy should be to make continuing care accessible and affordable for all adolescents experiencing substance use disorders.

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