

**A CAUSAL ANALYSIS OF DEVELOPMENTAL ASSETS,  
BEHAVIORS AND DELINQUENCY AMONG  
HISPANIC YOUTH IN TEXAS**

by

JACKSON DE CARVALHO

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ABSTRACT

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Jackson de Carvalho, PhD.

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Co-Supervising Professor: Dr. Emily Spence

Co-Supervising Professor: Dr. Guillermo Zuniga

The purpose of this study was to identify the main predicting developmental assets for the prevention of juvenile delinquency among Hispanic youth in Texas by adopting advanced research methods. According to Benson (1995), and Lerner and Benson (2003), developmental assets are building blocks of development that help young people grow-up to be healthy, caring, and responsible. Grounded in extensive research (Benson, Galbraith, & Espeland, 1994; Benson, Galbraith, Espeland, 1998; Benson, 2001), the framework of developmental assets is a valuable tool to identify predictors for the prevention of juvenile delinquency among Hispanic youth, and

serves as benchmark data to gauge community-based policy and program initiatives aimed at enhancing thriving behavior.

Thus, the present study is a secondary data analysis employing a sample of 200 male and female Hispanics 14-16 years of age selected from a public school in Dallas, Texas.

Using structural equation models, the present study revealed significant direct and/or indirect effects of developmental assets on delinquency. Results confirmed that lower levels of developmental assets increase the propensity of young people to engage in high-risk behaviors. On the other hand, a positive correlation was observed between higher developmental assets and thriving behaviors and a negative correlation between thriving behaviors and juvenile delinquency. Overall, findings of the present study showed that external assets predicted internal assets, which in turn predicted high risk behaviors, thriving behaviors and delinquency. Identification of the main predictors of delinquency and protective factors can greatly increase the ability to prevent and treat delinquent behaviors. This conclusion suggests that the model used is robust and suitable for an explanation of adolescent's delinquent behaviors, although, a cross validation study using the same model is necessary.

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## CHAPTER 1

### INTRODUCTION

According to the Uniform Crime Report (2003), about 2.3 million youth under the age of eighteen are arrested every year in the United States, and many more cases go unreported. Most juvenile crime is increasingly committed at younger ages, and frequently marked by brutality and gratuitous violence. The Texas Department of Criminal Justice (2003) and the Uniform Crime Report (2003) reported that in the last 15 years, the state of Texas has experienced an increase of 94% in the arrest rate of juveniles between 14 to 16 years of age. Juveniles are persons age 10-16 only, as defined in Section 51.02, 2A of the Texas Family Code, although the FBI's UCR defines a juvenile as an individual 10-17 years of age.

#### 1.1 Statistical Depiction

The Fiscal Year Statistical Report (2000), however, shows that minority youths make up the majority of those involved in the justice system. Unfortunately, Hispanics comprise the largest group of juveniles detained in Texas. In effect, 42 % of the youth detained in the Texas Youth Commission (TYC) is comprised of Hispanics, although Hispanics represent only 32.0% of the state's population (Building Blocks for Youth, 2001; TYC, 2002; U.S. Census Bureau, 2001). According to the U.S. Census Bureau

(2001), the term Hispanic is used to describe persons from a Spanish speaking country or individuals with a common Spanish descent.

Although juvenile delinquency has dropped all over the country, a state-by-state comparison shows Texas to be lagging behind other jurisdictions (Kaplan, Schiraldi, & Ziedenberg, 2000). The annual average growth detention rate for juveniles in Texas is of 11.8%, which is almost double that of any other U.S. state (Villarruel, & Walker, 2002). Juvenile delinquency is defined by Atwater (1996) as an antisocial misdeed in violation of the law by a minor. Behavior that fits within this definition will vary to some degree, based on the social environment in which the child lives. This kind of behavior commonly includes getting into fights, running away from home, using illegal drugs, stealing, vandalizing property, engaging in violent behavior towards other individuals, and violating school rules, home rules or local criminal laws.

According to Texas Department of Criminal Justice (2003), juvenile delinquency constitutes the violation of any law punishable by incarceration such as: “violation of juvenile court order entered under Section 54.04 or 54.05 of the Texas Family Code (except by truancy, running away, or fineable only offenses), contempt of magistrate orders, DWI and other related offenses and third offense driving under the influence of alcohol by a minor” (p. 24). For the purpose of this study however, juvenile delinquency is defined as actions that violate criminal laws.

According to Siegel, Welsh, and Senna (2003), violation of a criminal law involves prosecution by the government of a person for an act that has been classified

as a crime. A crime is any act or omission (of an act) in violation of a public law forbidding or commanding it. Crimes include both felonies (more serious offenses) and misdemeanors (less serious offenses). Felonies are usually crimes punishable by imprisonment of a year or more, while misdemeanors are crimes punishable by less than a year. Juveniles convicted of a crime may be placed in detention probation, or fined.

At any rate, the high incidence of juvenile delinquency in Texas increased the incidence of young Texans being arrested and it has contributed to additional state spending on juveniles serving time (TYC, 2003). At \$110 a day, the state cost of caring for each juvenile detained at the Texas Youth Commission (TYC) is nearly three times the average \$40 a day cost for adult prisoners (Beck, 2002). In light of these figures, this study proposes to examine factors that contribute to thriving behaviors, high risk and arrest of Hispanic juveniles in Texas within the framework of developmental assets.

According to Benson & Lerner (2003) and Lerner (1998), developmental assets are opportunities, skills, relationships, values, and self-perceptions that all young people need in their lives in order for them to achieve the goals prescribed by the mainstream society. Thus, this study will contribute to preventive and interventive approaches on juvenile delinquency in Texas by identifying possible gaps in services in the areas of family, neighborhood and school (Kaplan, et al. 2000).

## 1.2 Reasons for the Problem

According to Kaplan et al. (2000) and Villarruel and Walker (2002), many factors influence the growing rates of delinquent behavior among Hispanic youth in Texas. Villarruel, and Walker (2002), suggest that the high rate of delinquent behavior among Hispanic youth may be the result of unequal access to resources, and/or services and goods in society. Menon (1997) and Benson (1997), affirm that most of the youth with high-risk behaviors come from poor communities, and the reason why they fall pray to juvenile delinquency is because they lack high levels of external and internal assets. Moore and Redd (2002), however, affirm that high-risk behaviors do not always lead to delinquency, but certain factors, when present, significantly increases the likelihood of delinquent behavior.

Siegel, Welsh, & Senna (2003) and Johnson and Lerner (2003) explain that the degree and intensity to which adolescents exhibit high-risk behaviors determine how much at-risk they really are. Benson (1993) refers to high-risk behavior as destructive and illegal activities, which include violence, low academic achievement, alcohol and substance abuse. For the purpose of this study high-risk behavior is viewed as activities that violate social norm or laws, and defined as school problems, anti-social behavior and depression and/or attempted suicide.

School problems such as on campus availability of drugs, alcohol, and weapons, as well as poor attendance and low academic achievement are consistently-reported risk factors (Johnson and Lerner, 2003). According to Siegel and Senna (2000); Juskiewicz (2000) and Perez-McCluskey 2002), the prevalence of school problems among Hispanic

youth may be the result of distress caused by a high acculturation process. Cuellar and Roberts (1997), state that high acculturation can lead to estrangement from the adolescent's ethnic group, social support and family connectedness. In this case, acculturation is the process whereby the attitudes and behaviors of adolescents of Hispanic culture are modified as a result of contact with the predominant Anglo American culture.

The cultural absorption of a Hispanic youth into the main cultural body increases if the adolescent experiences discrimination or is prevented from gaining social status. Nevertheless, the need to maintain a Hispanic cultural identity created by group pressure often prevent assimilation into the dominant culture, which add to other stressors adolescents normally experience. This high acculturation process greatly impacts the adolescents' biopsychosocial development and sometimes leads to the formulation of their own values and goals. The degree to which adolescents conform to social norms, laws and expectations of the dominant group often differ between individuals with high and low levels of acculturation (De La Rosa, 2002).

Furthermore, Benson (2003) and Moore and Redd (2002) state that all communities have significant proportions of adolescents who lack key developmental assets and are subsequently engaged in high-risk behaviors. However, minority adolescents from poor communities seem to be the most victimized by the lack of adequate community resources to promote adolescent development (Atwater, 1996; Eitzen, & Zinn, 2004). According to Villarruel and Walker (2002); Kaplan, et al. (2000) and Males and Macallair (2000), the causes for high delinquency rate are often the



result of culturally biased policies that are lacking in promoting integrative community building programs targeting the development of all youth, especially those from disadvantaged groups. Unequal distribution of resources through federalized policies (National Capital Strategies, 2001) often results in poor school climates, increased school dropouts, poorly developed social skills, delinquent behavior, and imprisonment.

The new federalization trend condoned by the Tenth Amendment (U.S. Department of Education, 2001), sanctions most education policies to be decided at the state and local levels, which allows more freedom for municipalities to implement suitable programs that can respond to local problems. Such policies, however, are not helping the disadvantaged school environment because economically deprived areas where most minority groups reside often have the worse resources for their educational process (Eitzen, & Zinn, 2004; Freire, 1998; U.S. Department of Education, 2001).

A Report to the 77th Texas Legislature regarding high school dropouts in the year 2000, for instance, showed that school districts with the highest proportion of minority students historically have been the poorest funded because of insufficient property taxes. Poor districts have been severely hampered in implementing community-building programs that would promote caring neighborhoods, constructive use of time, positive school climate and so forth (Macedo, 2000; and Crawford, 1999; Eitzen and Zinn, 2004; Lerner & Benson, 2003). As a result, adolescent members of minority groups end up with high rates of school drop out and arrest. According to the Texas Education Agency Citation (2000), the poverty rate among high school dropouts is estimated at 31 percent.

On the other hand, Benson and Lerner (2003) emphasize that thriving behavior is more frequent among adolescents with a higher degree of developmental assets. Building blocks developed through community building programs play a key role in the formation of a wide range of factors that lead to thriving behavior. According to Scales, Benson, Leffert and Blyth (2000), thriving indicators are attitudes and behaviors that show how successful a student can be when dealing with the normal concerns of daily life.

For the purpose of this study thriving behavior is defined as the ability to pursue and achieve goals that are congruent with the social norm such as maintaining good health, succeeding in school, and valuing diversity. Thus, a youth who is not involved in delinquent behavior, and has not been imprisoned, has high levels of school success, maintenance of good health and values diversity is considered to be a thriving individual. According to Benson (1997), adolescents experiencing thriving behaviors are those with the highest degree of assets. Sesma (2004) argued that developmental assets have the potential to positively impact the lives of young people. According to Lerner (2002), having more assets increases the chances that young people will thrive in society and have more positive life experiences.

Alternatively, the lower degree of external assets a youth may experience could point toward what Benson and Lerner (2003) refer as widespread ruptures in the macro system, which is responsible for the faulty development of key internal assets and the high incidence of arrest among adolescents. Therefore, this study proposes to identify the main predicting assets or indicators for thriving and high risk behaviors and

delinquency. The identification of these assets or indicators can contribute to the formulation and implementation of policies and programs designed to reduce juvenile delinquency.

### 1.3 Developmental Assets as a Framework

This section will explain the conceptualization of Developmental Assets as a framework that will examine the main predicting factors for delinquency of Hispanic youth in Texas. Overall, studies on adolescents are framed from a deficit perspective focusing totally on the adolescent's limitations and the problems to be solved. According to Lerner (1998) and Benson (1997), approximately 15 years ago, the Search Institute, a Minneapolis youth development research institute began to ask a different kind of research question. Rather than asking, "What puts young people at risk?" the institute started asking, "What gives young people strength?" That kind of question led to the creation of the framework of developmental assets. Benson and Lerner (2003) explain that developmental assets are positive factors in young people, families, neighborhoods and schools as they were found to be the most important in promoting young people's healthy development. Furthermore, Lerner and Benson (2003) make clear that developmental assets are "social and psychological strengths that function to enhance health outcomes for children and adolescents" (p. 8).

In the 1990's The Search Institute identified 40 building blocks reflecting youth relationships, supports, and personal values which are the underpinning of healthy development, and resistance to negative influences and delinquent behaviors (Sesma, 2004). After surveying over two million youth across the North America, the Search

Institute identified these essential building blocks of adolescent development and labeled them as the 40 assets. The assets clearly show the significant roles families, schools, congregations and neighborhoods play in shaping young people's lives (Benson & Lerner, 2003; Lerner, 1998). These assets are opportunities, skills, relationships, values, and self-perceptions that all young people need in their lives in order for them to achieve the goals prescribed by the mainstream society.

According to Lerner and Benson (2003) and Scales and Lefer (1999), since 1958 the Search Institute has tried to develop a framework supported by scientific studies purposely “designed to fuel and guide community-based approaches to strengthening the natural and inherent socialization capacity of communities” (Lerner & Benson, 2003: p. 28). This framework identifies 40 key factors for youth healthy biopsychosocial development. Together, the assets offer a set of benchmarks for positive child and adolescent development (Lerner & Benson, 2003).

Originally, in 1990, the Institute identified only 30 external and internal developmental assets, but through empirical research, extensive review of youth development literature, and interviews with practitioners and other experts, the Institute has refined and strengthened the asset framework (Sesma, 2004). Through a study conducted in Minneapolis and Albuquerque, the Search Institute expanded the conceptual framework to 40 developmental assets (Benson, 1997; Scales & Lefer, 1999; Lerner & Benson, 2003).

Besides adding 10 new assets, the new framework of 40-assets also includes two new categories, a serious adjustment of the entire assets framework focusing on broader

community issues “expanding the concept of health to include the kind of skills and behaviors needed to succeed in employment, education and civic life” (Lerner, & Benson, 2003: p.31). These assets have tremendous power to protect youth from harmful choices and encourage healthy ones.

The more developmental assets juveniles experience, the more likely they will avoid deviant behaviors and become positive, contributing members of the community (García, Lamberty, Jenkins, McAdoo, Crnic, Wasik, & Garcia, 1996). Communities that pay attention to these assets are able to see the difference as alcohol use, illicit drug use, and violence rates decline (Benson and Lerner, 2003). A longitudinal research study conducted by Lutheran Brotherhood and Search Institute at Sun City a community near Georgetown, Texas revealed that when adults focus on promoting the healthy development of children and adolescents their engagement in delinquent behavior decrease (Scales, Benson, Roehlkepartain, 2001).

The framework of developmental assets is a valuable tool for discerning both obvious and more subtle differences within and among groups of young people. These insights can lead to new understandings of how to increase the possibilities for young people to experience upward mobility, thrive through life, and be contributing members of society by identifying among the 40 assets the strongest indicators for high-risk and/or thriving behaviors (Benson, Galbraith, Espeland, 1998).

The asset framework is divided in two categories comprised of external (things that other people provide for youth) and internal assets (things that develop within young people themselves). In other words, external assets identify important roles that

families, schools, congregations, neighborhoods, and youth organizations can play in promoting healthy development (Sesma, Roehlkepartain, 2003; Lerner & Benson, 2003). These external experiences support and empower young people, set boundaries and expectations, and define positive and constructive use of young people's time.

On the other hand, Lerner & Benson (2003) explain that internal assets identify characteristics and behaviors, which reflect positive internal growth and development of young people. These assets are about positive values and identities, social competencies, and commitment to learning. The internal developmental assets will help young people to make thoughtful and positive choices and, in turn, be better prepared for situations in life that challenge their inner strength and confidence. According to Lerner & Benson (2003), the 40 Developmental Assets are:

Support – Youth need to know they have people in their lives who support and love them (family, other adults, neighbors, schools, parent involvement).

- 1) Family support
- 2) Positive family communication
- 3) Other adult relationships (from 3 or more non-parent adults)
- 4) Caring neighborhood
- 5) Caring school climate
- 6) Parent involvement in schooling

Empowerment – Youth need to feel valued, appreciated, and have chances to serve

- 7) Community values youth
- 8) Youth as resources (role in community)

9) Service to others (one hour or more per week)

10) Safety (at home, school, neighborhood)

Boundaries and Expectations – Youth need to know what their limits are

11) Family boundaries

12) School boundaries

13) Neighborhood boundaries

14) Adults as role models

15) Positive peer influence

16) High expectations

Constructive Use of Time – Youth need creative activities, youth programs, a faith community, and time at home.

17) Creative activities (3 or more hours per week)

18) Youth programs (3 or more hours per week)

19) Religious community (1 or more hours per week)

20) Time at home (at home without friends for two nights)

Commitments to Learning – Youth need to take school and learning seriously

21) Achievement motivation

22) School engagement

23) Homework (1 hour per day)

24) Bonding to school

25) Reading for pleasure (3 or more hours per week)

Positive Values – Youth need to develop values such as caring, equality and justice, integrity, honesty, responsibility, and restraint.

26) Caring

27) Equality and Justice

28) Integrity

29) Honesty

30) Responsibility

31) Restraint

Social Competencies – Youth need to develop the abilities to plan, make decisions, and resolve conflict peacefully.

32) Planning and decision-making

33) Interpersonal competence

34) Cultural competencies

35) Resistance skills

36) Peaceful conflict resolution

Positive Identity – Youth need to know who they are and that they are valuable

37) Personal power (control over things that happen to them)

38) Self-esteem

39) Sense of purpose

40) Positive about personal future.



Thus far, the Search Institute's developmental assets framework seems to motivate and equip individuals, organizations, and their leaders with a tool for effectively nurturing competent, caring, and responsible youth. It addresses in one integrative approach all of the key factors and strategies that appears to be necessary for communities to nurture healthy youth (Lerner & Benson, 2003). The conceptual framework of the asset model that is used on this study is encapsulated in the diagram at the end of the literature review. It is worth to note that Search Institute's studies measuring developmental assets found that the typical American adolescent possesses only 18 of the 40 assets (Sesma, 2004). An extensive review of the current research literature did not show which assets are stronger predictors. This gap indicates that additional psychometric work needs to be done for the purpose of providing researchers and evaluators with a psychometrically sound tool to measure assets and outcomes.

#### 1.4 Justification for This Study

A great lacuna exists in research exploring the impact of developmental assets on juvenile delinquency among Hispanic youth in Texas. In addition, the concept of developmental assets has hardly been tested in empirical research focusing on juvenile delinquency (Sesma, 2004). Many institutions such as the YMCA and the Boys and Girls Club of America, are investing heavily in the notion that the more developmental assets juveniles have, greater are the chances for their success in society. Most of the studies are conducted by the Search Institute, which is an independent nonprofit organization whose mission is to provide leadership, knowledge, and resources to promote healthy youth, and communities.

At the heart of the institute's work is the framework of the 40 assets, which are hypothesized to be positive experiences and personal qualities that young people need in order for them to become healthy, caring, and responsible individuals (Lerner & Benson, 2003). The current literature however, does not register any research on juvenile delinquency using the 40 assets as a framework.

According to Benson, and Lerner (2003), Roehlkepartain, Benson and Sesma (2003) and Benson (1997), developmental assets have great power to protect youth from high-risk behaviors, while empowering thriving. Communities that pay attention to these assets are able to see the difference as alcohol use, illicit drug use, and violence rates decline. The alleged reduction of deviant behavior caused by higher degrees in assets (Benson & Lerner, 2003), is a compelling reason to test this framework in the study of juvenile delinquency. Perhaps, Frederic Douglas understood it well when he said that it is easier to build a strong child than to repair a broken man (as cited in Roehlkepartain, et al., 2003). When children experience more assets in their lives, success in school, maintaining healthy behaviors and more positive attitudes can be demonstrated (Benson, 1997; Lerner, 1998, 2002; Benson, Galbraith, & Espeland, 1998).

Using the youth from an urban public school in North Texas as a sample, this study proposes to identify the extent to which a developmental assets play a role in influencing thriving a high risk behaviors, as well as preventing juvenile delinquency. According to Lerner and Johnson (2003), having more assets increases the chances for adolescents to have more positive life experiences and thrive in society. What's more,

this study proposes to identify the main predicting assets for thriving behavior. The identification of these assets can provide benchmark data to gauge community-based policy and program initiatives aimed at enhancing thriving behavior. Additionally, this study will test the suitability of the Search Institute's model for criminological studies, and add to the existing body of knowledge and theory, particularly regarding the prevention of delinquency with a special focus on Hispanic youth.

Thus far, the different interventions used by the Texas juvenile justice system have not significantly reduced the proportion of imprisoned Hispanic juveniles. The use of the developmental assets as a framework for this study, therefore, can identify essential predictors to inform policy formulation and program design aimed to bridge possible gaps in services linked to positive youth outcomes (McAadoo, Crnic, Wasik, & Garcia, 1996; Sesma & Roehlkepartain, 2003). Furthermore, this study will motivate communities, policy makers, service providers, advocates, researchers, parents, and youth to address the fact that juvenile crime is playing a destructive role in the lives of communities in Texas. Moreover, this project will provide an important data source, which will assist new and better research both on the validity of developmental assets as indicators for community building and how these assets play a key role in the prevention of delinquency among Hispanic youth.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Theoretical Framework

A review of the literature shows that the main contributing factors for delinquent behaviors are related to environmental features as revealed in many theories attempting to describe, explain and predict youth outcomes. For the purpose of this project, the Developmental Systems Theory was used in the theoretical framework as it integrates the ideas of synthesis, reductionism and holism. According to Wapner and Demick (1999) and Bronfenbrenner and Ceci (1994) and Bronfenbrenner (1995), synthesis is the process of synergy, which emerges from the eclectic union of reductionism and holism. Reductionism is simply the analysis of a system composed by parts and subsequently studying those parts independently to find definition, which is the true beginning of the scientific method. Holism means to observe the system as a whole in order to find its purpose as a part of something larger. Thus, within the context of this study synthesis, reductionism and holism are fundamental to explain the dynamic of developmental assets leading to high risk-behavior and thriving behaviors, which ultimately results in the presence or absence of juvenile delinquency.

## 2.2 Theory

A review of the literature showed that factors related to thriving, high risk behaviors and delinquency can be described, explained and predicted with The Developmental Systems Theory. Lerner and Benson (2003) recommend this theory for the study of developmental assets and their impact in the behavior of youth. The Developmental Systems Theory has been postulated by Donald Ford and Richard Lerner. These two leading developmentalists integrated the results of many research investigations into a larger framework to offer researchers, professionals, and students a better understanding of how multiple elements interact in a system, and shape a person's life (Ford & Lerner, 1992). According to Ford and Lerner (1992) and Wapner and Demick (1998, 1999), this is the first integrative theory on human development. Through a synthesis of developmental contextualism and the living systems framework, this theory examines how a person carries out transactions with their environment and through that transaction how their psychosocial and behavioral elements are impacted by the environment. This theory emphasizes attention to environmental context in which the person lives.

According to Lerner and Benson (2003), Developmental Systems Theory explains the representation of the complex, dynamic organization of developmental assets and their impact in youth's life across time and contexts. This theory will help to explain the impact of developmental assets in the criminal justice of Hispanic youth as it focuses on the unity of structure and function of the assets as element within a

system and their distinction and interplay between individuals, which often results in stability, variability, and change.

As Developmental Systems Theory points to an integrative approach to juvenile delinquency, it synthesizes three key ideas essential for the study of the imprisonment of Hispanic youth in Texas. These key ideas are: holism, development, and systems-orientation (Wapner and Demick, 1998). The holistic perspective assumes that all the biopsychosocial elements involved in forging attitude, behavior and outcomes of the Hispanic youth are interrelated. Subsequently, it serves to explain how variables such as support as well as empowerment, positive identity, positive values affect commitments to learning and social competencies are intracconnected and interconnected with individuals in a micro and macro systems.

The interconnectedness of the youth with external assets that offer love, support and guidance leads to a formation and/or nurturing of internal assets such as commitment to learning, achievement motivation, positive values, social competencies, and positive identity (Lerner, 2002). The attainment of these assets significantly impacts the development of juveniles, and consequently their propensity to juvenile delinquency. This assumption is confirmed by the research findings of Mannes, Lewis, and Hintz (2002) in a project entitled The National Asset-Building Case Study Project conducted in Minnesota, Florida, Oregon and Michigan. Results of the research study revealed that the increase of developmental assets resulted in the increase of thriving behavior, which can subsequently result in a reduction of risky behavior.

The development perspective it explains that the youth's development is a result from the organism's interaction with the environment. Although, the average youth aspires to achieve high levels of functioning or success, Sesma, & Roehlkepartain (2003), Wapner and Demick (1998, 1999) argue that the integration of levels of organization in the youth's system impact development, which ultimately leads to delinquency or other outcomes (Scales, et al. 2000). Thus, individuals' development and functioning is often the result of interaction within and between levels of organization of assets (Lerner, & Benson, 2003). Therefore, the interactions between the youth and developmental assets are in the form of reciprocal or mutually causal relationships through which the changes in any of the assets can lead to stability, variability, and change.

Furthermore, the systems perspective, views the individual as a unit of analysis where the "psychological (self-esteem), and sociocultural (role) levels of organization of the person are operative and interrelated with the physical (environment), interpersonal (friend, relative)" (Werner, 1957: p. 761) and sociocultural (boundaries and expectations) levels of organization of the youth's environment.

The inclusion of these features of human functioning through this theory helps to explain the delinquent behavior of young people from a biosychosocial, or integrative perspective of human development. Besides, the component of valuation is central in this theory as it focuses on all dimensions of psychosocial functioning. In particular, it points to valuing, planning, and acting as critical components of the complex panoply of person-in-environment transactions (Bronfenbrenner, 1994). In

other words, this theory explains the impact of developmental assets on the positive life experience, delinquent behavior or other outcome of young people from the perspective that the functioning of each component in the assets model is at least in part influenced by the collective state of the entire organization and/or levels of functioning of assets (Ford & Lerner, 1992; Lerner & Benson, 2003). According to the Developmental Systems Theory, assets are built primarily through relationships. How juveniles relate to their peers, teachers, family members and other adults is essential to whether or not they experience an asset-rich environment.

### 2.3 Justification for the Main Variables

The current literature shows a great gap in empirical research regarding the delinquent behavior of Hispanic youth in Texas. An extensive review of the current literature showed no empirical studies on the criminal behavior of juveniles using developmental assets as a conceptual framework. On the other hand, there is a growing body of research studies at the national level painting a dismal picture of a high delinquency rate among Hispanic youth and their involvement in the criminal justice system. The findings of such studies often reflect the low degree of the same developmental assets the Search Institute deems responsible for high-risk behaviors (Leffert, Benson, Scales, Sharma, Drake, and Blyth, 1998).

The studies of Benson, Roehlkepartain, and Sesma (2004) and Hawkins, Herrenkohl, Farrington, Brewer, Catalano, Harachi, and Cothorn (2000) showed that the absence of a single asset as a predicting factor does not, by itself, preclude thriving and/or lead to delinquency. In fact, these authors said that no single cause accounts for



thriving or high-risk behavior, and no single pathway leads to a life of delinquency. The confluence of certain risk factors however, seems to contribute to juvenile delinquency over the course of adolescent development. The design of the 40 assets encapsulated in the eight assets categories takes into consideration the dynamics and inter-relationship of the most relevant factors (revealed in the current literature) as they influence the range of behaviors defined as juvenile delinquency. Risk factors are defined by the Office of Juvenile Justice and Delinquency Prevention (2000), as scientifically established determinants for which there is strong objective evidence of a causal relationship to a problem.

Protective factors are those that potentially decrease the likelihood of criminal behavior. Thus, a group of eight developmental asset categories reflecting the external and internal assets developed by the Search Institute is used as a framework for this study. The inclusion of the asset categories as independent variables is based in the most relevant factors that emerged in empirical researches through a literature review, which is discussed below.

### *2.3.1 Support*

The studies of Immarigeon (1996), Hagan and Foster (2001) showed that a low degree of support expressed through the neighborhood, school and the family system is strongly correlated with a youth's propensity to engage in criminal behavior. According to Wright and Wright (1994), the family is the foundation of human society. In fact, Loeber and Stouthamer-Loeber (1986) reviewed approximately 300 families in delinquent behavior studies and found that the greatest predictors for juvenile

delinquency were the lack of parental involvement, parental rejection, and the lack of positive family communication.

Children who are rejected by their parents, who grow up in homes with considerable conflict, or who are inadequately supervised are at the greatest risk of becoming delinquent. If anything would play a large part in juvenile criminal behavior it would be the family, because the family system is the strongest socializing force in life. They teach children to control unacceptable behavior, to delay gratification, and to respect the rights of others. Conversely, families can teach and or encourage delinquent behavior to children (Wright & Wright 1994).

According to Prochnow and DeFronzo (1997) and Juby and Farrington (2001), the least amount of structure the family provides, the more likely the child is driven to commit criminal activities. In addition, a lack of parental involvement increases the risk for juvenile delinquency (Hawkins, et al., 2000). On the other hand, a high degree of parental support can function as a catalyst for thriving behavior. Conversely, a low degree of positive family communication and parental support with children may increase children's future risk for criminal behavior (Williams, 1994).

According to Williams (1994), Elliott (1994) and Foshee and Bauman (1992), there is a gap in the literature regarding the relationship between family support and delinquent behavior. Nevertheless, during a review of the literature, several studies emerged identifying different types of social support as strong predictor for juvenile delinquency. For instance, a study conducted by Michigan State University in 2002, reported that the leading causal factor for the imprisonment of Hispanic juveniles was

family matters (Villarruel & Walker, 2002). Families of Hispanic adolescents often lack the basic knowledge of how to negotiate social barriers resulting in low levels of family support, in areas like parent involvement in school, or the provision of legal resources in times of trouble including Immigration and Naturalization Service (INS) related problems.

Villarruel and Walker (2002) explain that it is difficult or in some cases, impossible for youth from migrant families, to comply with probation requirements due to family instability. As a result, minor legal problems become serious violations. The fact that immigrant parents are often unable to communicate across the linguistic and cultural boundaries, they regularly abstain from following up or intervening in behalf of their children in legal and academic matters. Subsequently, the lack of family support often leads minority juveniles to delinquent behaviors.

Juszkiewicz (2000) suggests that low levels of school support, lack of youth programs and lack of caring neighborhoods are often responsible for youth's involvement in the juvenile justice system. Perez-McCluskey (2002) also suggests that Hispanic youth often fall into delinquency because the lack of family, school and neighborhood support does not empower them to assimilate the values prescribed by the dominant group or upper social strata. Bound by the limitations of their own culture in addition to the lack of multicultural competency, families of immigrants are often trapped in poor neighborhoods where their adolescent offspring, lack positive role models and other external assets such as schools that provide a caring and encouraging environment. As a result, they become disenchanting with the social system and begin

to develop their own values and goals and the means to achieve these goals. Such nonconformist attitudes often results in high-risk behaviors, and possible involvement in juvenile delinquency (Benson & Lerner, 2003).

Moreover, a 1997 study conducted by the Public Policy Research Institute at Texas A&M University explored correlates for delinquency and imprisonment of juvenile in Texas. According to Menon (1997), the interviewees were 151 probation officers, 118 district and county attorneys, 94 judges, 84 law enforcement personnel, 48 private attorneys and 31 TYC workers. The following predicting factors were identified as the perceived main contributors for delinquency and imprisonment of Hispanic youth in Texas: family matters (30.6%), socioeconomic matters (29%), and matters related to the juvenile's environment (13.9%) such as high crime neighborhoods and gang activities.

Out of 209 practitioners who responded to the question regarding the commitment of juveniles into the Texas correctional system, 63% confirmed they had to rely on the Texas Youth Commission (TYC) when placement slots elsewhere were unavailable. The overall respondents, however, suggested the break-up of the family, socio-economic problems, and juvenile's environment as the leading factors for juvenile delinquency and their imprisonment in the TYC (Menon, 1997). In regards to family matters, the most frequent answer was family background. 30.7% of the respondents listed the weakening of the family such as single parent households, absence of fathers and lack of role models. Socioeconomic factors were represented by lack of employment opportunities, lack of educational attainment and welfare

dependence. In reference to community and neighborhood factors, 21% of the respondents listed high-crime neighborhood and gang activities as indicators for youth imprisonment.

According to Loeber, and Hay (1996) and Loeber, Keenan, and Zhang (1997), the effects of family/home stability are complex and do not have a direct, positive correlation with escalating juvenile delinquency. However, when mediated by other factors such as poor family communication (marital discord), poverty and community disorganization, family stability shows a strong correlation with juvenile delinquency (Wright and Wright, 1994).

Factors related to neighborhood often emerge in studies seeking to identify causes for juvenile criminal behaviors. A caring neighborhood is another indicator of social support as well as for empowerment, and boundaries and expectations. The study of environmental factors however, is concerned primarily with social considerations. For example, a longitudinal study conducted in 343 Chicago neighborhoods by Sampson, Raudenbush, and Earls (1997) was described by the New York Times as the largest study ever undertaken on the causes of juvenile delinquency. According to Wandersman & Nation (1998), Mancionis (2000), Hsia and Hamparin (1997) and Eitzen and Zinn (2004), juvenile crime tends to occur more often in neighborhoods characterized by residential instability. In an effort to answer the question of why crime tends to happen in low strata neighborhoods the authors of this study examined the influences of poverty, family composition, friendship and kinship ties, neighborhood participation, neighborhood responsibility, and neighborhood trust.

The authors surveyed 8,782 Chicago residents while measuring neighborhood responsibility and trust.

Using a logistic regression analysis, Sampson, Raudenbush, and Earls (1997) were able to measure the relationship between these risk factors and the level of violent crime in each of 343 Chicago neighborhoods. The study found that neighborhoods with a low degree of caring and support as measured by social ties among persons, norms and trusts were the leading contributing factor for youth involvement in crime (Coleman, 1990; Sampson, Raudenbush, & Earls, 1997).

### *2.3.2 Empowerment*

According to Bronfenbrenner (1979), Catalano and Hawkins (1996) and Johnson (1997), a youth's propensity to high-risk or thriving behavior is profoundly shaped by their interaction with the environment. An emphasis on social settings compels researchers and service providers to examine the deficits regarding the types and quality of social interactions that can empower adolescents through the challenges of their development. According to the Office of the Attorney General (1997), when youth feel valued, appreciated, and have a chance to serve, their involvement in criminal behavior decreases exponentially. In fact, a review of the U.S. Department of Health and Human Services (1996) examined of existing evaluations of 161 youth development programs and confirmed that the deficit of empowerment in the life of a Hispanic youth is a strong predictor for juvenile delinquency.

Out of the original 161 programs selected only 77 programs met the scope of the study and criteria of analysis. The findings of the study showed that the prevention

of juvenile delinquency resulted from a wide range of positive youth development approaches. However, empowerment through providing the youth with a role in community building featured as one of the most relevant approaches leading to thriving behavior. Nineteen of the 77 effective programs focused on home, school and neighborhood safety showed positive changes in youth behavior including significant improvements in interpersonal skills, quality of peer and adult relationships, self-control, problem solving, cognitive competencies, self-efficacy, commitment to schooling, and academic achievement.

The person-in-environment perspective (Bronfenbrenner, 1979-1995) suggests that the socializing influences of caregivers, school officials, classmates, and neighborhood residents are primary to child development, along with the standards and values of the youth's cultural group and community. Advocates for positive youth development urge attention to the interaction of the environment and the individual. Attention to cultural factors in different ethnic communities is often emphasized as key to positive youth outcomes (Deyhle, 1995; Parker, Deyhle, & Villenas, 1999).

### *2.3.3 Boundaries and Expectations*

According to Hawkins, et al. (2000), failure to set clear expectations, inadequate youth supervision, monitoring, and severe or inconsistent family discipline practices are found to be strong predictors for juvenile delinquency. The research of LoSciuto, Rajala, Townsend and Taylor (1996) evaluated an intervention that addressed 11 positive youth development constructs including expectations and boundaries set by the family, schools and by the neighborhood. The goal of the study

was to evaluate the relationship between an intergenerational mentoring approach and delinquent behavior on high-risk adolescent students. The evaluated program included components such as the mentoring of at least two hours twice a week by adults of 55 years old or older; one hour every two weeks of community service activities with the mentor as used by Weissberg, Caplan and Bennetto (1988) in the Positive Youth Development Curriculum, and parental involvement targeting to strengthen parent-child bonds by coaching parents in more effective parenting styles.

The study used an experimental pretest, posttest research design and at the time of evaluation, data had been collected for three years. Experimental and control group classes were selected randomly from among teachers in three different schools. The sample was comprised of 562 children attending three public middle schools in Philadelphia neighborhoods who completed both the pretest and the posttest (LoSciuto, Rajala, Townsend, & Taylor, 1996).

The findings of the study reported significant positive outcomes including increased positive attitudes on four dimensions (school, the future, elders, and older people); improved control and resistance to situations involving criminal and violent behavior; and higher levels of thriving behavior. Furthermore, Hawkins, et al. (1992) and Benson, Galbraith and Espeland (1998) argue that youth who experience a deficit in clear boundaries and expectations in addition to positive role models and positive peer influence are more likely to be involved in delinquency. The studies of Farrell and Meyer (1997) on assessing the effectiveness of the Youth Against Violence Project, found that a low degree of boundaries and expectations is a strong predictor of criminal



and violent behavior. The research used an experimental design with an initial sample that included 295 intervention and 307 control group members. The study results showed that students in the control group who did not have clear family, school and neighborhood boundaries in addition to positive adult role models and positive peer influence showed significantly higher degrees of criminal behavior.

Research on the role and influence of the family, school and neighborhood in shaping a juvenile's behavior, has generally been directed at examining the boundaries and expectations and/or the structural and organizational composition of the youth's environment. Loeber and Stouthamer-Loeber (1986) reviewed approximately 300 families and concluded that the greatest predictors of future delinquency were parental supervision, parental rejection, and parent-child involvement. Marital relations, parental role model, parental discipline, and parental absence were also identified as having significant influence on a child's imprisonment or other outcomes.

Furthermore, an evaluation of the Big Brothers/Big Sisters program conducted by Tierney, Grossman and Resch (1995) aimed to address the relationship between positive role model, peer influence and criminal behavior. The study reported significant outcomes on behavioral and attitude measures in six impact areas: antisocial activities, commitment to learning, relationships with family, positive identity, social competency and positive values.

The core strategy of Big Brothers/Big Sisters is to expose youth to a positive adult role model through a mentoring relationship approach. The study used an experimental design, which randomly assigned participants to the intervention

condition or a wait-list control group. All data reflected pre-post measurement from interviews conducted at baseline and at immediate posttest 18 months later. The sample was comprised of 959 youth in the overall program. The findings showed a significant difference between the intervention and the control group, which included decreases in drug use (e.g., 45%,  $p < .05$ ), violent behavior (e.g., 32%,  $p < .05$ ), the number of times a youth skipped class (e.g., 37%,  $p < .05$ ) or a day of school (e.g., 52%,  $p < .05$ ), and the number of times a child lied to his parents (e.g., 37%,  $p < .05$ ).

Moreover, significant positive outcomes were found in the perceived ability to complete schoolwork (e.g., 71%,  $p < .01$ ), and improved parental relationships reflected as increases on indicators of trust (e.g., 64%,  $p < .05$ ). Specific sub-group effects showed the program had the greatest impact on substance abuse reductions for ethnic minority boys (e.g., 67.8%,  $p < .05$ ) (Tierney, Grossman & Resch, 1995). According to Loeber and Farrington (1998), the behavior and attitudes of peers and siblings is a strong predictor to a youth's future involvement in violent and/or criminal behavior. Youth who befriend delinquent peers have a higher propensity to engage in violence during adolescence. The converse is also true however; youth who have peers who disapprove of delinquent behavior may inhibit later violence.

#### *2.3.4 Constructive Use of Time*

According to Benson (1997), young people need constructive, enriching activities for growth through creative activities, youth programs, congregational involvement, and quality time at home. As youth spend more time with caring adults who help them nurture skills and creativity, the more likely they are to grow up

healthy. Research conducted by the Office of Juvenile and Delinquency 2000 revealed that indicators showing a low degree of constructive use of time such as time at home, religious community and youth programs increase the risk for delinquent behavior and/or imprisonment among youth (Hsia & Hamparin, 1997; Bishop & Frazier, 1996; Juskiewicz, 2000; Males & Macallair, 2000; Tonry, 1995).

Recent scholarly analyses of community crime causes (e.g., Wilson, 1996) focus on the linkages between community life and decisions made at higher management levels in failing to provide community building programs with creative activities, youth and faith programs. According to Klein (1995) and Klein and Forehand (1997), the deficit of youth programs, religious community and creative activities in a community is a strong predictor for youth's gang membership. Klein's studies on gang membership concluded that gangs "cannot long be controlled by attacks on symptoms alone; community structure and capacity must also be targeted" (1995, p.147).

Klein (1995) argues that humans are social animals in need of group cohesion. Cohesion-building efforts among at risk juveniles often result in gang involvement, which can be deflected with the availability of constructive use of time activities (Torres, 1981; Johnson, 1997). The hypothesis of constructive use of time as a deterrent to gang membership and subsequent criminal behavior was tested in study conducted by Klein (1995). The sample was comprised of 100 youth gang members who were individually introduced to creative activities, youth programs and religious community. Afterward, gang members were encouraged to drop out of the gang, which

some of them did as long as the intervention was available. The results of this study showed that gang arrests declined 35% during that period. Gang cohesion also remained low for a six-month follow-up period after the intervention ended. Several years after the program ended, Klein reports, gang cohesion and crime returned to its baseline levels.

Furthermore, Howell (1995) states that constructive use of time such as “after school recreation programs can address the risk factors of alienation and association with delinquent peers” (p. 95). Protective factors may include opportunities for involvement with religious organizations, youth programs, skills for leisure activities, and bonding with positive role models. According to Howell (1995) a three-year study of a Canadian public housing project offers the strongest evidence of the deficit of constructive use of time as a predictor for crime where low income children were provided an intense after-school program in sports, music dancing, and scouting.

A control group lived in a public housing project with minimal city services. The control group was comprised of age-eligible children who participated in the recreation program. Compared to a baseline period of two years prior to the program, arrests of juveniles in the control group declined 75 percent. In the same time period, arrests of juveniles in the comparison group rose 67%. Sixteen months after the program ended the effect had worn off, providing further evidence of the merits of constructive use of time as a deterrent to criminal behavior.

### *2.3.5 Commitment to Learning*

A growing number of research studies (Gottfredson, 1981; Elliott, 1993; LoSciuto, et al., 1996; Battistich, Schaps, Watson & Solomon, 1996; Battistich, Solomon, Watson & Schaps, 1997; Arrigona et al., 2002) report an inverse relationship between commitment to learning and criminal behavior. In a study conducted by Arrigona et al. (2002) the most prevalent factor in delinquent behavior was commitment to learning or school problems. The sample was representative of the 7,402 cases adjudicated by the court to probation (community supervision), placement outside the home, commitment to the Texas Youth Commission (TYC) and/or certification to stand trial as an adult. 74% of juveniles adjudicated were shown to having a history of expulsion, enrollment in an alternative program, dropping out of school, or failing a grade. The most prevalent factors among the juveniles with a deficit in commitment to learning were previous or current enrollment in an alternative education program (46%) and failing a grade (45%).

An evaluation study conducted by Battistich, Schaps, Watson and Solomon (1996) on the Child Development Project, showed a significant decrease in criminal behavior. The intervention consisted in helping schools to become caring communities of learners. Parents were targeted to build stronger connections between home and school. Besides classroom and school community-building activities, the program focused on a comprehensive approach to instructional practices, which consisted of cooperative learning, a values-based reading, language arts program, and developmental discipline techniques (Battistich, et al., 1996). The study employed a

quasi-experimental research design, specifically a cohort sequential method involving two demonstration and two comparison schools in each district, at a total of 24 elementary schools from six school districts around the United States. The study began in 1992 with baseline assessments, followed by an annual assessment using group-administered questionnaires to the whole sample of (N = 1645).

The findings showed that alcohol, marijuana use, carrying weapons and vehicle theft significantly declined (4%) at the demonstration schools during the first year of the intervention and stayed the same during the second year. In contrast, alcohol, marijuana use, carrying weapons and vehicle theft increased significantly during the same period (2-3% increases each year). According to LoSciuto, Rajala, Townsend, and Taylor (1996), programs that use school, family and community-based interventions showed significant pro-social effects on youth outcomes. According to LoSciuto, et al. (1996), the family-school-community programs that incorporated parent or family involvement, and used resources or opportunities from the local communities significantly contribute to youth's to thrive and succeed. Consequently, programs that foster commitment to learning are effective deterrent to criminal behavior.

#### *2.3.6 Positive Value*

According to Johnson (1997); Lerner and Johnson (2003); Klein and Forehand (1997) and Muehlenberg (2002), youth who foster positive values such as integrity, honesty, responsibility, equality, justice and restraint tend to be less involved in delinquent behavior. The presence of positive values in the youth's development

reduces high-risk behaviors and increase thriving tendencies in young people (Johnson, 1995). Dryfoos (1990) conducted a study named the Positive Youth Evaluation Project and 77 youth development programs were evaluated. The study used an experimental design, and programs were analyzed by constructs, domains, strategies, and other elements of successful youth development.

The study concluded that a positive youth outcome could result from a wide range of positive youth development approaches. Out of the 77 programs evaluated, 19 effective programs showed positive changes in youth behavior. The positive changes included improvement in the areas of positive values, commitment to learning and social competency. These improvements were revealed in their interpersonal skills, restraint, quality of peer and adult relationships, self-control, problem solving, cognitive competencies, self-efficacy, commitment to schooling, and academic achievement. Subsequently, effective programs showed significant improvements in problem behaviors, including drug and alcohol use, school misbehavior, aggressive behavior, violence, truancy, high risk sexual behavior, and smoking.

Furthermore, Cardenas, Montecel, Supik, and Harris (1992) evaluated the impact of the Valued Youth Partnership Program, which addressed positive values constructs, and found them to be paramount in the prevention of delinquent behaviors. The evaluation used a quasi-experimental design and a sample of 194 participants was drawn from a population of at-risk limited-English-proficient middle school students on four campuses in two public schools districts in San Antonio, Texas. The findings of the study showed a significant relationship between positive values and pro-social

behavior, which indicates that a low degree of positive values such as integrity, honesty, responsibility, and restraint contributes to delinquency (Cardenas, et al., 1992).

### *2.3.7 Social Competency*

Many reputable researchers (Gendreau & Ross, 1998; Lavery, Siegel, Cousins, & Rubovits, 1993; Heimer & Matsueda, 1994; Pratt & Cullen, 2000) found that low degree of social competency is a strong predicting factor for delinquent behavior. Researchers also assert that juvenile delinquents often lack the interpersonal competence, resistance and peaceful conflict resolution to solve interpersonal problems. For example, the results of a meta-analysis by Pratt and Cullen (2000) suggested that juveniles with low social competency such as lack of resistance skills, impulsiveness, lack of peaceful conflict resolution, lack of social competency, and poor planning and decision-making skills resolved their social problems less adequately than did a comparable group. Findings as such have paved the way for the inclusion of social skills training as part of rehabilitation programs for juvenile delinquents (Gendreau & Ross, 1987).

Although Gendreau and Ross (1987) argue that social competency can be developed, and thus, included as an important component in rehabilitation programs for juvenile delinquents, it is viewed by Lavery, Siegel, Cousins and Rubovits (1993) and Heimer and Matsueda (1994) as a personality trait. On the other hand, Eysenck (1976) indicated that some delinquents are more, not less, socially competent than the average person. He distinguished "criminals to their fingertips" from those "who simply cannot get by in our complex society" (p. 115).



The research study of ter Laak, de Goede, Aleva, Brugman, van Leuven and Hussmann (2003), which hypothesized that there is a negative relationship between delinquency and social competence employed a sample of 33 girls incarcerated in one correctional institution in the Netherlands. The girls in the study of ter Laak, et al. (2003) were incarcerated for a period of 5 to 62 weeks ( $M = 18.6$  weeks,  $SD = 10.6$  weeks). Their ages ranged from 12 to 18 years ( $M = 15.5$  years,  $SD = 1.3$  years). Although the results of the study supported the notion that delinquent acts need a certain level of social competence, the overall findings showed that the negative correlation of the proposed hypothesis was statistically significant: negative assertion ( $r = .36$ ,  $p < .05$ ). In other words, the study hypothesized that delinquency is an expression of lack of social competence. However, the findings showed that higher degrees of social competence resulted in less involvement in delinquency. The more crimes the girls reported, the less conscientious and the more neurotic they were. Therefore, ter Laak, et al. (2003) concluded that personality factors together with social competence could predict delinquency.

The merits of social competence as an indicator of delinquent behavior are further revealed in the study of Botvin, Baker, Dusenbury, Botvin and Diaz (1995), analyzed two evaluations in 56 New York State public schools. One evaluation covered the immediate posttest results of a three-year intervention. The other evaluation was a follow-up data collected three years after the end of the intervention. The intervention emphasized the practice of social competencies including decision-

making, refusal and resistance, anxiety management, communication, and assertiveness in relation to delinquent behavior.

The study employed an experimental pre-post-follow-up design, which divided the schools into three geographic regions (eastern New York state, central New York state and Long Island), and then randomly assigned to one of three groups: a prevention program with one-day formal teacher training and implementation feedback, a prevention program with videotaped provider training and no feedback, or a no intervention group C. The samples used for the long-term analyses included 3597 students who completed pretests, posttests, and follow-up measures. Both intervention groups showed significantly lower deviant behavior rates compared to the control group. In addition, both intervention groups had significantly higher interpersonal skills knowledge than the control group.

Additionally, Ellickson, Bell, and Harrison (1993), Ellickson, Bell, and McGuigan (1993), and Ellickson and Bell (1990) evaluated the immediate posttest and long-term impact of Project ALERT. The program focused in providing students with refusal and resistance skills development strategies (interpersonal competence, resistance skills), and aimed to motivate young people to resist delinquent behaviors, and to give them the social competencies to comply with pro-social norms. An experimental pre-post-follow-up design was used to evaluate the Project ALERT, in which 30 schools were chosen from eight school districts in California and Oregon. The results showed that the level of deviant behaviors based on baseline risk level reduced significantly for the experimental group.

### *2.3.8 Positive Identity*

According to Benson (1997), the formation of positive identity is subjective to the love and support youth receive; they “need to know and understand their limits and boundaries, and they need to feel they are empowered” (p. 81). Benson explains that when adolescents feel “loved and supported unconditionally, they are more apt to feel secure enough to take appropriate risks, and learn more” (p.81). However, when there is a significant deficit from positive identity in a juvenile, delinquency arises out of a search for an alternative positive identity through deviant ideations and behaviors fulfilled often through the group (Koh, 1998). The new social identity acquired through the membership in a delinquent group gives the delinquent a sense of positive distinctiveness, which is derived from the rejection, and reversal of socially prescribed norms. Through the deviant identity they receive validation, and delinquent gang members subsequently, achieve a sense of social status. According to Koh (1998), low degrees of positive identity are very strong indicators of juvenile delinquency.

For instance, an evaluation study conducted by Schinke, Botvin, Trimble, Orlandi, Gilchrist and Locklear (1988), on the Bicultural Competence Skills program, which focused on helping children to develop a positive identity based on bicultural fluency, found a positive correlation between positive identity and pro-social behavior. The study employed an experimental pretest, posttest, follow-up design with a sample of 137 Native American youth. The immediate posttest measurement and a 6-month follow-up showed a significant difference in favor of the intervention group. The study showed significant changes on the pro-social behavior of the children after the

intervention was measured with the posttest. The intervention showed significantly higher ratings for control over things that happened to them, the ability to generate alternative suggestions to peer pressure, sense of purpose and higher conflict resolution skills.

### *2.3.9 Depression and Attempted Suicide*

Sheras (2000) affirms that the problems of depression and suicide are significant predictors of delinquent behavior among juveniles. Sheras states that suicide rates are at 19.4% among delinquents and that suicide is highly correlated with depression and substance abuse. Depression and suicide often emerge in the literature as two of the most common diagnostic formulations used to describe juvenile delinquents. Moreover, the study of Ferguson (2005) found that “the increase of youth with mental health needs involved in the juvenile justice system is a growing problem” (p. 119).

According to Hovey (1997), Hispanic adolescents form a high-risk group of depression and suicide, but Hispanic females are the most likely to report seriously considering suicide of any ethnic group. Hovey suggests that depression and suicide may be the result of a distress caused by a high acculturation process. Cuellar and Roberts (1997), state that high acculturation can lead to estrangement from the adolescent’s ethnic group, social support, family connectedness and a positive sense of self. The level of distress increases if the adolescent experiences discrimination or is prevented from gaining social status.

A research study conducted by Campos (1999) measured the incidence of high-risk behaviors by youth and the relationship to depression and attempted suicide and delinquent behavior. This was a longitudinal study that used archival data. The sample was comprised of 14,011 students in grades 7 to 12, and aged 12 to 18 years with a gender breakdown 6,840 (48%) males, and 7,141 (51.2%) females of various ethnicities. The data was collected from 1989 to 1996 and used the Health Track School Health Survey. The survey instrument covers 40 health risks going from hereditary mental disorders to serious drug use. The study used stepwise multiple regression analysis to analyze the data with gender forced into each analysis first. Results of the multiple regression between independent and dependent variables showed that females are more likely to experience depression and engage in suicide attempts than males. The results also showed a positive correlation between depression, attempted suicide and delinquent behaviors.

#### *2.3.10 Substance Use/Abuse*

According to the Office of Juvenile Justice and Delinquency Prevention (2005), it is difficult to draw causal inferences between the constellations of factors that are most crucial in explaining delinquency. Thus, the Office of Juvenile Justice and Delinquency Prevention (OJJDP) invested heavily in a series of longitudinal studies in an effort to clearly identify strong causal pathways to delinquency.

Social scientists and policy makers agree that longitudinal studies, instead of cross-sectional studies, offer the best research design to gain information on the causes of delinquency as there are better opportunities to discriminate among correlates and

factors. Some of the longitudinal studies examining the relationship between substance use/abuse and delinquency are: Denver Youth Survey, Pittsburgh Youth Study and the Rochester Youth Development Study. The Denver Youth Survey is a longitudinal research study including 1,527 youth randomly selected from 20,000 homes in high-risk neighborhoods with high crime rate in Denver, CO. The participants were 806 boys and 721 girls from 7 to 15 years of age. The interview with the participants started in 1988 and continued through 1999.

The study found that a percentage of 17% of serious delinquents is using hard drugs. However, 48% of hard drug users are engaged in high levels of delinquency. The Pittsburgh Youth Study on the other hand, is a longitudinal study of randomly selected inner-city boys, which started in 1987 with the purpose to explore the association between alcohol and drug use, and delinquency. The study found that 65% of the delinquent youth were involved in alcohol and drug use.

The Rochester Youth Development Study employed a sample of 1,000 7-8 grade students from Rochester, New York since 1988. The findings of the study showed that early substance abuse was related to teen pregnancy, school problems and delinquency.

### *2.3.11 School Problem*

Maguin & Loeber, 1996; Huizinga, Weiher, Menard, Espiritu and Esbensen (1998); Lipsey and Derzon, 1998; Hawkins, Farrington, and Catalano, 1998; Macionis (2003) and Eitzen and Zinn (2004) make it plain that in spite of the school sector being the second major social system historically charged with responsibility for socializing

youth, it can play a decisive role in a person's inclination to delinquency. The probability becomes higher when neither the school nor the family is able to provide children with knowledge, skills, and principles that would direct them towards acceptable behavior.

Siegel (1992) explains that school problems often lead to school failure, which leads to school dropout and delinquency. School failure, generates negative responses from teachers, family, and friends. Subsequently, the youth may develop a hostile attitude towards school and its environment and delinquent behaviors begin to occur. The problem worsens when students are expelled from school for their bad behavior and have no other occupation.

Furthermore, a longitudinal study named The Seattle Social Development Project (SSDP), which employed a sample of 808 children since they entered the fifth grade in 1985, found that school dropouts experienced the highest offense rates of delinquency (Catalano and Hawkins, 1996). Participants came from 18 schools located in high-crime areas in Seattle, Washington. The SSDP research project began in 1981 with the purpose of testing the relationship between school failure, drug abuse, and delinquency. Bivariate relationships involving risk factor constructs in the individual, family, school, peer and community domains and delinquency were examined at each age to assess changes in their strength of prediction over time. Findings from the study revealed that youth experiencing school problems were notably more likely than others to engage in delinquent behavior.

According to Arrigona, Prescott, and Trusty (2002), a study conducted by the Texas Juvenile Probation Commission (TJPC) with the purpose of identifying the leading factors in a youth's life that may relate to juvenile delinquency, analyzed a sample of 1,595 juvenile records from juvenile probation departments in 1999. 84% of the juveniles were age 15 or older. The variables measured were: availability/ use of drugs, family history of the problem behavior, family management problems, frequent transition/ mobility, academic failure and negative peers. A data collection survey was developed based on input from urban juvenile probation department chiefs from different counties in Texas. Data on social factors were grouped into indicators classified as high needs, high risk and social stability.

The findings of the study showed that school problem was the most prevalent factor with 74% of juveniles identified as having a history of expulsion, dropping out of school, or failing a grade (Arrigona, Prescott & Trusty, 2002). According to Howell, Krisberg, Hawkins and Wilson (1995), poorly funded schools provide fewer extracurricular activities, and teachers are often underpaid and overworked. In such a school climate it is likely that teachers will develop low expectations from students, and students whom do not have the support of the teachers and parents may feel that they are not expected to succeed and are likely not to succeed (Benson, 1997). Obviously, not all youth who experience school failure end up in prison, but large numbers of incarcerated juveniles are marginally literate or illiterate and have experienced school failure and retention (Center on Crime, Communities & Culture, 1997).



The research study of Hawkins, Herrenkohl, Farrington, Brewer, Catalano and Harachi, (1998) also showed that poor academic performance is related to the onset of delinquency in both boys and girls. Higher academic performance, conversely, is associated with refraining or desisting from offending. The primary purpose of the study was to identify the main predictors of delinquency among 12 to 15 year old boys and girls. The study used the National Longitudinal Survey of Children and Youth (NLSCY) from Canada as a secondary data. The data came from Cycle III, which was collected in 1998 from youth 12 to 15 years of age. Self-administered questionnaires were filled out by 31,194 subjects across the ten provinces with the purpose of examining a number of different aspects of their lives.

The secondary data analysis employed a cross-sectional weighting variable created by Statistics Canada. The operationalization of self-reported delinquency was done by selecting 14 questions from the NLSCY as dependent variables and matched with comparable Criminal Code offences. Subsequently, the study used logistic regression to measure the relationship between the independent variables and the dichotomous variable. The findings indicate that negative school behavior (i.e., truancy and suspensions) accounted for the largest variation in the SRDS. The strongest predictor for female delinquency was found to be: failing a grade at school. On the other hand, positive academic aspirations showed to have a negative correlation with delinquency.

### *2.3.12 Maintaining Good Health*

According to Sesma (2004), the Search Institute's studies have consistently shown that young people who experience good health are a lot less likely to engage in delinquency and are more likely to report thriving behaviors. A research study conducted by Scales, Benson, Leffert and Blyth (2000) employing a sample of 6,000 youth tested the relationship between maintaining good health and thriving behavior. The study concluded that good health combined with other indicators such as success in school and valuing diversity contributes substantially to thriving behavior.

Furthermore, Sesma (2004) reported another research conducted in New York by the Search Institute, which aimed to measure the relationship between assets and behaviors. The study used a sample of 2,700 students in grades 7 – 11. The Attitude and Behaviors instrument was administered to survey the subjects. Logistic regression was subsequently used to analyze the relationship between the independent and the dependent variable. The findings of the study revealed that maintaining good health was the most salient indicator for thriving reported by 59% of younger students and 50% of older students.

On the other hand, the research study of Rawal, Romansky, Jenuwine and Lyons (2004) confirmed the prevalence of mental illness among juvenile offenders. However, it showed a negative correlation between mental illness and juvenile delinquency among Hispanic youth. The study used a stratified random sample of 473 subjects. The mean age of the sample was 15.2 years (SD=1.5). The sample was comprised of 83% males (n=394), and females formed 161% (n=76) of the total

sample. The statistical package SPSS was used and one way analysis of variance (ANOVA) with post hoc tests were employed to analyze all data. The relationship between ethnicity and mental health history was established by using chi-square tests, which showed that Hispanics displayed significantly more mental health problems than the other participating groups. Surprisingly however, Hispanic youth in the sample showed notably more severe symptoms of delinquent behavior.

Nevertheless, the studies of Sussman, Dent, Stacy, Burton and Flay (1995) found that health in general is a paramount component for academic success. Like adults at work, students at school have difficulty being successful if they are depressed, tired, bullied, stressed, and sick, using alcohol or other drugs. In addition, the studies of Hawkins, et al. 2002 and Baezconde-Garbanati (2001) and Scales, et al. (2000), consistently found a strong relationship with measures of health and thriving; concluding that when students are fit, healthy, and ready to learn, they achieve more success in all areas of their lives.

### *2.3.13 Success in School*

Scales & Leffert (1999) and Sales, Benson, Leffert and Blyth (2000) state that academic achievement was found to be the most consistent predictor of youth thriving in many studies done by the Search Institute. For instance, according to Sharma and Griffin, (2003), a longitudinal research study conducted on St. Louis Park, Minnesota confirmed a strong relationship between academic achievement and thriving among adolescents. In fact, this study found a positive correlation (.35 for girls and .45 for

boys) that asset-achievement concurrently and longitudinally lead to higher GPA. The study found assets and GPAs were positively correlated.

Current research shows a growing evidence of a strong relationship between academic achievement and thriving outcomes such as higher income. The study of Allensworth (1997) however, found that many Hispanics are emigrating from Latin America to Texas with low academic levels. According to Alba, Logan and Bellair, (1994) immigrant Hispanics together with native-born Hispanics in Texans who fail to complete high school, are finding that high-salary jobs generally require an advanced education. This situation sets up potentially debilitating prospects for adolescent Hispanics to thrive socially and economically, which make them vulnerable to delinquency. In fact, the studies of Arrigona, Prescott, and Trusty (2002) and Villarruel and Walker (2002) found that 80% of the Hispanic adolescents in juvenile detention did not graduate from high school.

#### *2.3.14 Valuing Diversity*

According to Eitzen and Zinn (2004) and Macionis (2003), the demographic landscape of America is rapidly changing with significant social and economic implications for its citizens. The increasing cultural diversity of the U.S. population requires that adolescents who are soon to engage in the workforce most receive diversity support and become multiculturally competent in order to compete successfully in the job market and thrive in society. Lucero (2000) states that adolescents who value diversity and recognize the race, social class, ethnicity, sexual orientation, and gender are more likely to experience healthy development and thrive.

The positive impact of valuing diversity on thriving was confirmed in the research study of Scales et al. (2000). The study employed a sample of 6,000 youth evenly distributed across 6 ethnic groups to test the relationship between valuing diversity and thriving outcomes. The Attitude and Behavior (AB) instrument was used to survey the subjects measuring each thriving indicator with one survey question and scoring it as a continuous variable (with more thriving being indicated by higher scores). Bivariate correlations were computed between the thriving indicators to examine the strength of the relationship between the predictor and the dependent variables.

Furthermore, regression analyses and separate stepwise regressions were conducted to examine the extent to which valuing diversity predicts thriving behaviors and how that may vary according to the different ethnic groups. Thus, developmental assets explained 34% to 43% of the variance in valuing diversity. The strongest indicators for valuing diversity were equality, social justice, and cultural competence (Lucero, 2000). At any rate, the results of the study strongly reflect the relationship of valuing diversity and thriving outcomes suggested by the current research literature. The strength of the relationships between these variables will lead to the identification of the main predicting assets for the prevention of juvenile delinquency among Hispanics in Texas.

#### 2.4 Research Question

1. Which are the main predictors for delinquency among Hispanic youth in Texas in the areas of:

- a) External assets
- b) Internal assets
- c) High-risk behaviors
- d) Thriving behaviors

### 2.5 Hypotheses

Figure 2.1 shows a proposed model with multiple contextual pathways and relationships that lead to juvenile delinquent behaviors. Subsequently, five significant pathways are hypothesized based on the preceding literature review, and they read as follows:

Hypothesis 1: Higher levels of external assets will lead to higher levels of internal assets.

Hypothesis 2: Lower levels of internal assets will lead to higher levels of high risk behaviors

Hypothesis 3: High levels of internal assets will lead to higher levels of thriving behavior

Hypothesis 4: High levels of high risk behaviors will lead to juvenile delinquency

Hypothesis 5: Lower levels of thriving behaviors will lead juvenile delinquency

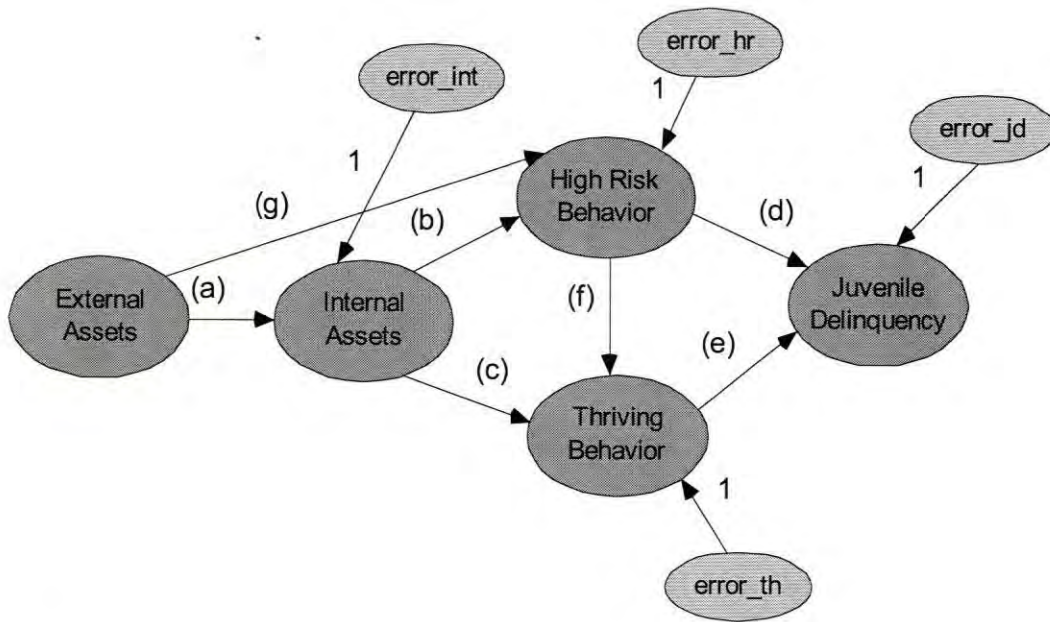


Fig. 2.1. Hypothesized Model

## CHAPTER 3

### METHODS

#### 3.1 Study Design

The present study uses a secondary data analysis. The data for this dissertation were drawn from surveys administered by the Principal and the Dean of a public high school in Dallas, Texas. The surveys were administered from October 2005 to April 2006, and contained no identifiable personal information from any of the participants. The developmental asset study was supported by the Dallas Independent School District (DISD). The administrators of the DISD have a special interest in examining the causes of adolescents' behaviors in social contexts based on the assumption that families, neighborhoods and schools play important roles in the choices adolescents make leading to high risk or thriving experiences.

The sample for this research study included 200 14-16 year old male and female Hispanics. The measures were developed by the Sunset High School research team to incorporate an extensive range of areas which included: adolescents' emotional, mental, and physical health status; measures of adolescents' diverse context such as family relationship, friendships, and adolescents' perception of school and neighborhood. Measurements were developed by the Search Institute.



### 3.2 Sampling Design for the Study

A subset of the data sample was used for this dissertation. This permitted private-use data containing information on 200 non identifiable Hispanic adolescents. The school used a cross-sectional survey design with non-probability sampling to collect the survey information from 200 of their own students of 14 to 16 years of age. A great advantage of cross-sectional research is that it is economical in time and can study a large number of subjects at little cost. For the participants, there is only one period for data collection, and the researcher is not faced with the difficulty and cost of maintaining contact with subjects over a long period of time (Rubin & Babbie, 2006). The school is located in low to middle income in the urban Dallas area, and 98 % of the students are of Hispanic ethnicity.

### 3.3 Criteria of Inclusion and Exclusion

Inclusion criteria for the sample included required that all subjects were of 14 to 16 years of age and of the Hispanic ethnicity, while all others were excluded.

### 3.4 Sample Size

Cohen (1992) states that, "In research planning, the investigator needs to know the  $N$  necessary to attain the desired power for the specified  $\alpha$  and hypothesized ES" (p. 156). Several approaches have been explored to determine a sample size to produce adequate statistical power for the study. Adequate statistical power is broadly defined as the probability that a test will detect a statistically significant effect, in a sample of size  $N$ , at a pre-specified level of alpha, given that the effect actually exists (Rubin & Babbie, 2006).

An adequate sample size with a confidence level of .05, decreases the possibility of committing a type I error (Gray & Guppy, 2003; Weinbach & Grinnell, 2004). To reject the null hypothesis when it is true is to make what is known as a type I error (Rubin & Babbie, 2006). On the other hand, a larger sample with an alpha of .05 increases the power and decreases the chances of committing a type II error, which is failing to reject the null hypothesis when in fact there is a difference (Rubin & Babbie, 2006; Rosenthal, 2001).

Subsequently, power analysis is an important measure to be included in the determination of sample size as it is increasingly recognized that power is not just a statistical or methodological concern, but an ethical matter (Cohen, 1992; Maccallum, Browne & Sugawara, 1996). According to Klein (1998), a medium sample size of 100 to 200 should be used as a rule of thumb in Structural Equation Modeling. Maccallum et al. (1996) proposed a more fluid approach to determine sample size. They suggested that in order to ensure that a statistical test will have adequate power it is necessary to calculate how large an  $N$  is required through power analysis for test of fit while considering the degrees of freedom of the overall model.

Thus, the sample size is calculated base on the effect size of the RMSEA, in terms of null and alternative values of the RMSEA, in addition to the number of observed variables and number of parameters while considering a specific alpha level and power. Satorra & Saris (1993) designed a study to determine the effect of varying sample size relative to the number of parameters being estimated as follows: First, a model is specified to match the expected effect sizes in the study using population data

allowing the calculation of expected means and covariances. Secondly, parameters of interest are restricted to zero (or the values expected under the null hypothesis). This model is then adjusted, and the Chi-square is calculated, which will be used to calculate the non-centrality parameter and to estimate the probability of detecting a significant effect.

Kaplan (1995) further developed power analysis procedures using structure equation modeling framework by including the goodness of fit value of the overall model and estimating power for the statistical significance of the individual parameters. Moreover, Kaplan (1995) explains that in order to ascertain power for each individual parameter, “a unit degree-of-freedom assessment can be obtained for each univariate restriction in the model” (p. 103).

The present study employed a traditional SPSS power analysis for regression to estimate sample sizes targeting to obtain power of .80 (Jackard & Wan, 1996). By setting the alpha level at .05, it was calculated that a sample size of 160 would result in a power of .80. Since the present study has a sample size of 200, it complies with the sample size of calculated by the power analysis and satisfies all proposed rule of thumbs of the current research literature.

### 3.5 Instrument

The survey instrument used by the school was constructed by combining all the 58 items from the Developmental Assets Profile (DAP) and some of the items from the Attitude and Behavior (A & B) scales. These scales were developed by the Search Institute. The DAP Instrument was designed to measure the adolescent’s

developmental assets within the context of the four External Asset Categories (Support, Empowerment, Boundaries and Expectations, Constructive Use of Time), the four Internal Asset Categories (Commitment to Learning, Positive Values, Social Competencies, Positive Identity). The reason why the Search Institute is using the 8 categories (or 5 context views) as units of analyses is because 40 independent variables are unwieldy for analytic purposes (Sesma, 2004).

Additionally, the interdependence (i.e., non-independence) of these 40 constructs makes it likely that statistical problems (e.g., multicollinearity) would occur in the course of analysis (Gray & Guppy, 2003). Furthermore, the 40-asset model was designed more as community mobilizations tool that is, something that would energize communities to mobilize on behalf of young people. For this purpose, the 40 assets model has worked wonderfully. However, as time went on and the Search Institute's thinking has evolved, the need for a more traditional research tool emerged, which gave inception to the DAP (Sesma, 2004).

The Developmental Asset Profile (DAP) instrument has been in regular use with representative respondents of 11-18 year old youth, and an expert panel in the Search Institute found it to be of high acceptability and intelligibility (Sesma, 2004). The DAP instrument has been used with a 5.7 reading level population as follows: 1,300 youth in grades 6 – 12 in the Twin Cities, MN area; subset of 200 used for test/retest data and 1,190 youth in grades 6 – 12 in the Portland, Oregon area. The fact that the Cronbach's alpha reliability tests on the DAP resulted in ranging from .85 to .97 indicate that it has a high internal consistency. Badly constructed questions that do

not elicit clear-cut or consistent responses and indicators that are tangential to the core construct of the domain will tend to give unreliable results (Rubin & Babbie, 2006).

According to Sesma (2004), the constructs assessed were the Four External Asset Categories (Support, Empowerment, Boundaries and Expectations, Constructive Use of Time); Four Internal Asset Categories (Commitment to Learning, Positive Values, Social Competencies, Positive Identity); and Five social contexts (Personal Assets, Social Assets, Family Assets, School Assets, and Community Assets).

Using Cronbach's coefficient alpha, internal consistency averaged .81 for the eight asset category scales and .88 for the five context scales and 2-week test/retest reliability averaged .79 for the eight asset categories scales and .84 for the context scales.

A convergent validity test was conducted using the Search Institute's Attitudes and Behaviors (A&B) survey to test the validity of the DAP instrument. The results yielded a correlation of .82 for total asset scores, .76 for external asset scores, .80 for internal asset scores and .62 for average assets category scores. Although specific empirical tests of the DAP's sensitivity to change have not yet been conducted, relatively low measurement error (as indexed by high stability coefficients) suggests that the DAP is sensitive enough to detect true change.

Other questions were used from another instrument called the Attitude and Behavior (A&B), which measures the mediating, and dependent variables of the study for the present dissertation. According to Sesma (2004), the A&B survey was developed by the Search Institute in 1989, and revised in 1996. The A&B survey has

been applied to more than 2 million students in more than 2,000 communities. Using Cronbach's coefficient alpha, internal consistency averaged .72 and 2-week test/retest reliability averaged .83. According to Salvia and Ysseldyke (1991), "alpha levels of .70-.90s are considered acceptable to excellent for social science research, and a reliability of .60 should be the minimum" (p. 142) for reporting on groups of respondents. A table showing the alpha reliability of different constructs is found in appendix B.

### 3.6 Variables

The measurement model of this dissertation includes latent variables and respective indicators measured by questions suggested by the Search Institute, and shown to have high validity and reliability. In addition, the selected variables for the present study were determined through empirical findings of the relevant literature discussed earlier and theory applicability to the data available (Jhonson & Lerner, 2003; Jhonson, 1997). Thus, the model in Figure 2.1 is designed to examine the relationship between developmental assets, high-risk behaviors, thriving behaviors and delinquency. Factors that impact juvenile delinquency are represented in the model by latent variables and their respective constructs.

The independent latent variables are: external assets, internal assets, high-risk behaviors, thriving behaviors and one latent dependent variable: Juvenile Delinquency. The indicators are: support, empowerment, boundaries and expectations, constructive use of time, commitment to learning, positive values, social competencies, positive identity, maintaining good health, success in school, valuing diversity, school

problems, drug use/abuse, depression and attempted suicide, criminal behavior and frequency of arrest.

According to Sesma (2004), the definition of the variables in the model is:

1. External assets: the positive experiences young people receive from the micro and macro systems around them.
  - a) Support: Family life provides high levels of love and support.
  - b) Empowerment: Parents, school and community encourage and empower youth to do well.
  - c) Boundaries and expectations- The family, school, and neighborhood provide clear rules and consequences; monitors youth's whereabouts and empower youth to be high achievers.
  - d) Constructive use of time- Youth spend one hour or more per week in youth programs, creative and cultural activities, and religious services or spiritual activities.
2. Internal assets: characteristics and behaviors, which reflect positive internal growth and development of young people.
  - a) Commitment to learning - Young person is motivated to do well in school.
  - b) Positive values- Young person places high value on helping other people.
  - c) Social competencies- The degree to which the youth perceive themselves as accountable for both personal achievements and failures.
  - d) Positive identity- The degree to which the youth feels he or she has control over "things that happen to me."

3. High-risk behaviors: activities that violate social norm or laws.
  - a) Depression and attempted suicide- a mental state characterized by a pessimistic sense of inadequacy and a despondent lack of activity leading to the act of attempting to kill oneself.
  - b) Drug use/abuse- The repeated or uncontrolled use of controlled substances
  - c) School problem- The subject is experiencing poor academic performance and/or displaying unacceptable school behavior.
4. Thriving behaviors: the ability to pursue and achieve goals that are congruent with the social norm.
  - a) Maintaining good health- The subject strives to have the desirable or normally expected measure of biopsychic fitness.
  - b) Success in school- The subject meets academic expectations, has good grades and displays desirable behaviors.
  - c) Valuing diversity- being aware of, sensitive to, and appreciating differences of: age, gender, race, culture, physical abilities, sexual orientation and lifestyles.
5. Delinquency: actions that violate criminal laws
  - a) Criminal behaviors1- Amount of times you have stolen something from a store?
  - b) Criminal behavior2- Amount of times you have gotten in trouble with the police?
  - c) Criminal behavior3- Amount of times you beat up someone
  - d) Criminal behavior4- Amount of times you damaged property just for fun
  - e) Frequency of arrest- The amount of arrests experienced by an individual.



### 3.7 Measurement of the Variables

The external and internal assets variables in the present study were measured with an ordinal scale. This measure will ascertain the degrees of developmental assets experienced within the contexts of the four external asset categories (support, empowerment, boundaries and expectations, constructive use of time) and the four internal asset categories (commitment to learning, positive values, social competencies, positive identity).

The mediating variables are high risk behaviors and thriving behaviors. High-risk behavior is measured through the following indicators: depression and attempting suicide, drug use/abuse, and school problems. The latent variable thriving behaviors is measured through the following indicators: maintain good health, success in school and valuing diversity. The independent variables of the present study are measured using the summed scores of ordinal items.

The Search Institute has adopted an ordinal scale as a form of measurement in the DAP instrument that consistently asks questions framing the answers in the following format:

Nor At All or Rarely, Somewhat or Sometimes, Very or Often, Extremely or Almost Always (Search Institute, 2004: p. 2). The A&B instrument on the other hand, vary in the instrument answer format such as: not important, somewhat important, not, quite important and extremely important. It also uses: very often, often, sometimes, seldom, never; as well as strongly agree, agree, not sure, disagree and strongly disagree.

The constructs used in the DAP are as follows:

Support: This variable is measured with an ordinal scale coded 0 for Not At All or Rarely, 1 for Somewhat or Sometimes, using the sum of items measured on an ordinal scale. The indicators for this variable will include the degree of love the family gave to the subject, the amount of support received from adults other than parents, and how much neighbors cared and helped watch out for the subject.

1. Empowerment: This variable includes indicators such as how much parents, schools, teachers, neighbors, and family supported, helped and encouraged the subjects to succeed.
2. Boundaries and expectations- Statements such as: a school that enforce rules that are fairly, a family that knows where I am and what I am doing, a school that give students clear rules, and avoid things that are dangerous and unhealthy are used as indicators to measure this variable.
3. Constructive use of time- This variable includes items assessing how involved the participants are in youth programs, creative and cultural activities, religious services or spiritual activities and spending quality time at home with parents. Commitment to learning – Statements used to measure this variable will include: care about school, active engagement in learning new things, doing homework, developing good health habits and so on.
4. Positive values- The indicators to measure this variable include: how sensitive are the youth to the needs of others, how much do they enjoy reading or being read to, the degree to what they resist bad influences, the extent to which they think it is important to help other people, and how well they stay away from

tobacco, alcohol, and other drugs.

5. Social competencies- Statements such as I take responsibility for what I do, tell the truth even when it is not easy, stand up for what I believe in resolve conflict without anyone getting hurt, and deal with frustration in a positive way are used to measure the degree to which the youth perceive themselves as accountable for both personal achievements and failures.
6. Positive identity- Statements such as I feel good about myself, I feel in control of my life and future, feel safe at school, feel valued and appreciated by others and feel safe and secure at home are used as indicators to measure this variable.  
Depression and attempted suicide- This variable includes items assessing levels of depression and propensities to attempt suicide.
7. Substance use/abuse- This variable includes items estimating how many times the participants consumed tobacco, alcohol, cocaine and marijuana  
School problem- This variable is measured by the following statements: come to class without bringing paper or something to write with, come to class without your homework finished, come to class without your books, and during the last four weeks, how many days of school have you missed because you skipped or “ditched”?
8. Maintaining good health- This variable will be measure by statements that will assess good health habits including the avoidance of things that dangerous or unhealthy
9. Success in school- This variable is measured by items assessing degrees of

academic achievement.

10. Valuing Diversity- Statements such as getting to know people who are of a different race than I am, respecting the values and belief of people who are of different race than I am, knowing a lot about people of different race than I am and enjoy being with people who are of different race than I will be used to measure this variable.

To examine the validity and reliability of variables, the results of factor analysis as well as reliability analysis (Cronbach's alpha) were included. Factor analysis was used to identify a dimensional structure of a theoretical construct and identify the validity of indicators by assessing the magnitude of the relationship between the latent variables and the constructs (Bollen, 1989). According to Stevens (1992) loadings of .40 or higher should be used to identify variables that load on each factor. Thus, confirmatory factor analysis was used to verify the exact structure of the relationship in the modified instrument.

Reliability analysis is concerned with the consistency of measurement, which in this case Cronbach's alpha was used to evaluate the internal consistency for the present study. According to Pedhazur & Schmelkin (1991), the results of Cronbach's alpha test rating .7 and higher constitute sound reliability.

### 3.8 Multivariate Analysis

Structural equation modeling (SEM) was used to test the hypothesized developmental assets model of the relationship between external assets, internal assets, high-risk behaviors, thriving behaviors and juvenile delinquency. According to

Pedhazur and Pedhazur (1991), structural equation modeling is a powerful collection of multivariate analysis techniques, which specifies the relationships between variables. It also considers the modeling of interactions, nonlinearities, correlated independents, measurement error, correlated error terms, and multiple latent independents each measured by multiple indicators.

The difference between SEM and other conventional methods of statistical analysis is accentuated by significantly distinct characteristics. For example, the basic statistic in SEM is the covariance. While conventional regression analysis attempt to minimize differences between observed and expected individual cases, SEM aims to minimize differences between observed and expected covariance matrices. In other words, SEM, based on the covariance statistic, attempts “to understand patterns of correlations among a set of variables and to explain as much of their variances” (Kline, 1998, pp. 10-11). It is worth to note that covariance statistics convey more information than a correlation (Hu & Bentler, 1999).

Unlike conventional analysis, SEM allows the inclusion of latent variables into the analyses (Kline, 1998). Besides, SEM is not limited to relationships among observed variables and constructs; it allows the study to measure any combination of relationships while examining a series of dependent relationships simultaneously (Pedhazur & Pedhazur, 1991 and Hu & Bentler, 1999).

Thus, the analysis aims to test the hypothesized relationships among the latent variables and respective constructs as shown in Figure 2.1. The arrows in the model, with their directionality, each reflect a hypothesis inferring a causal relationship. First,

external and internal assets variables are expected to have an indirect effect on juvenile delinquency through both high-risk behavior and thriving behaviors variables. It is also hypothesized that external and internal assets indirectly and inversely influence juvenile delinquency by strengthening thriving behaviors. Secondly, the present study estimated the full model separately to see which of the constructs is stronger predictors for high risk behavior, and which ones are stronger predictors for thriving behavior. Thirdly, the present study examines the relationship of socio-demographic variables such as age, and gender and ascertains their impact on juvenile delinquency.

Lastly, developmental assets are hypothesized to have a direct and/or indirect relationship with delinquent behavior: (1) direct inverse/deleterious effects of developmental assets on juvenile delinquency; (2) indirect effects of developmental assets on delinquent behaviors through the mediating variables; (3) direct effects of non-developmental assets variables on delinquent behaviors. The detailed relationships among these variables are displayed in figure 2.1.

Overall, analysis for the present study stemmed from a measurement model to define hypothetic latent constructs in terms of measured variables, and a structural model to describe relationships among latent variables. Analysis of the measurement model was conducted by using Confirmatory Factor Analysis to answer the research question. In order to apply SEM in estimating relationships among variables, the AMOS software program was used to analyze and test the validity of the model while identifying main predictors. Among several computer programs such as CALIS, EQS,

AMOS and LISREL, AMOS was selected due to its suitability for essentially all stages of data analysis (Kline, 1998).

## CHAPTER 4

### ANALYSIS AND RESULTS

#### 4.1 Analysis

The work presented in this dissertation was designed to identify the main predicting assets that influence delinquency in 14 to 16 year old Hispanic students. A secondary data base featuring a sample of 200 participants was utilized for the present study in which nineteen observed variables were used to create five latent variables. Confirmatory factor models were tested for each of the five latent variables.

The latent variable, *external assets*, was created using the observed variables const (constructive use of time), bound (boundaries and expectations), empow (empowerment), and suport (support). The latent variable, *internal assets*, was created using the observed variables, commit (commitment to learning), posit (positive value), socomp (social competency), and pdent (positive identity). The latent variable, *high risk behavior*, was created using the observed variables schprob (school problem), subst10 (substance use/abuse), and depres (depression and attempt suicide). The latent variable, *thriving behavior*, was created using the observed variables, mantgh (maintain good health), sschol (success in school), and vdivrst (value diversity). Finally, the latent variable, *juvenile delinquency*, was created using the observed variables, crimin1 (criminal behavior1), crimin2 (criminal behavior2), crimin3



(criminal behavior<sup>3</sup>) crimin<sup>4</sup> (criminal behavior<sup>4</sup>), and freque (frequency of arrest). The nineteen observed variables that were used in the separate Confirmatory Factor Model (CFA) analyses to create the latent variables are described in Appendix C. Once the CFA measurement models for each latent variable were tested and acceptable, a structural equation model was tested that hypothesized specific relationships among the latent variables.

#### 4.2 Analytic Procedures

Since Structural Equation Modeling (SEM) was the primary statistical method to test the validity of the hypothesized model and illustrate the interrelationship between variables, this chapter describes how the data was analyzed and explains the results presented. The goal is "to find a model that not only fits the data well from a statistical point of view, but also has the property that every parameter of the model can be given a substantively meaningful interpretation" (Joreskog, 1993, p. 295).

Research findings presented in this chapter consist of three parts. The first part of the analysis involved descriptive statistics of the sample included in this study. The second part of this chapter discusses measurement model and overall model fit and hypotheses tests, which is specified as answers to the first and second set of research questions. The third part discusses key findings for the study.

In an effort to assess the relationship between the latent variables and respective constructs in the measurement model, a separate CFA was used. To answer the second set of research questions (hypotheses) a subsequent analysis was conducted on the structural model measuring the significance of the relationship between latent variables

and the dependent observable variable. Thus, the current study will use a deductive approach to evaluate structural models by starting with a full conceptual model and subsequently testing alternative models using the chi-square difference test (Pedhazur & Pedhazur, 1991; Hu & Bentler, 1999).

#### *4.2.1 Treatment of Missing Data*

Prior to the analyses, external assets, internal assets, high-risk behaviors, thriving behaviors and respective constructs were examined for missing values and tested for assumptions. Exploratory analyses were conducted to ascertain for oddities (e.g., patterns) in terms of missing data. Exploratory analyses of all asset variables were also conducted. Descriptive statistics (i.e., mean, standard deviation, sample size) were calculated for all asset variables, followed by an examination of the descriptive statistics, and no missing values were found in the data explored from the secondary data base. Scale items were screened individually for missing data, outliers and the presence of sufficient spread.

Furthermore, a test of the instrument's psychometric properties in the current sample was conducted. Cronbach's Alpha test was carried out to assess internal reliability of the survey. First, the Cronbach's Alpha test was performed for each of the variables separately and then, the same test was used to establish the reliability of the instrument en total. The Cronbach's Alpha for External Assets is .881, for Internal Assets is .875, for High Risk Behavior is .592, for Thriving Behavior is .833, for juvenile delinquency is .919 and a Cronbach's Alpha for the total instrument was of .906.

Research findings presented in this chapter will be divided into three sections: a) descriptive statistics of the sample included in this study, b) inferential analysis to the results of the current study using multiple correlations, and Structural Equation Model and, c) key findings for the study.

#### *4.2.2 Descriptive Analysis*

The descriptive statistics for the observed independent variables are tabled separately for each latent variable and include the correlation matrix, mean, and standard deviation. These descriptive statistics present noteworthy characteristics and provide opportunities to make important comparison of the measured variables. The sample consists of 200 adolescents who were surveyed in 2006: 71 male adolescents (35.5 %) and 129 female adolescents (64.5%). Approximately 21% of the youth are of 14 years of age, 36% are of 15 years of age and 43% are of 16 years of age. The mean age of the adolescents is 15.22 years old.

Descriptive statistics on delinquency reported that 117 (58.5%) of the adolescents had been arrested, while 83 (41.5%) had not been arrested. In summary, greatest proportion of the total sample had been arrested (Table 4.1).

Table 4.1 Descriptive Statistics on Socio-Demographic Characteristics

<b>Arrested for Delinquency</b>			
<u>Response</u>		<u>Frequenc</u> <u>y</u>	<u>Percent</u>
	yes	117	58.5
	no	83	41.5

Table 4.1 - continued

	Total	200	100.0
<b>Sex</b>			
	Females	129	64.5
	Males	71	35.5
	Total	200	100.0
<b>Age</b>			
	14 Years Old	42	21.0
	15 Years Old	72	36.0
	16 Years Old	86	43.0
	Total	200	100.0

Furthermore, a cross tabulation analysis revealed the following impact of demographic variables on arrest:

Table 4.2 Cross Tabulation

<b>Age</b>			
	<b>ARREST</b>		Total
	<b>YES</b>	<b>NO</b>	
14	28	14	42
15	40	33	72

Table 4.2 - continued

	16	49	36	86
<b>Sex</b>				
male	50	21	71	
female	67	62	129	
Total	117	83	200	

Gender is one of the main factors consistently emerging in most of previous research studies examining predictors for delinquent behaviors. The effect of gender on delinquent behavior, however, is inconsistent in the current research literature. Most studies, however, showed that males are more likely to experience arrest than females. For instance, the research study of DeComom (1998) revealed that by the time adolescent males reach 18 years of age, they have 1 in 50 chances of being arrested, while females have 1 in 400. It is noteworthy that males are more prone to violent crimes than females (Giordano, Cercovich & Rudolph, 2002). The participants on the present research who responded positively for arrest were likely to have been involved in non-violent delinquent behaviors. If they were arrested for violent crimes, most likely they would be in jail instead of enrolled in high school.

Empirical research studies are finding that the arrest rate for females engaged in delinquent behavior is progressively increasing; this increasing trend of female arrests on the general population seems to be reflected in the present study (52% of females arrested and 70% of males arrested). Thus, even though the males in this study are offending at a higher rate, the large proportion of offending females is nonetheless

substantively significant. These findings were congruent with the findings of previous studies such as by Cuellar (2005), which found that Hispanic females ages 12-17 are at higher risk of arrest than females of any other ethnic group. At any rate, the Uniform Crime Report (2005) showed that arrest rate among women is progressively increasing. In fact, the research studies of Thompson (2005) “revealed that females are more likely to have a higher commit rate than that of male juveniles” (p. 46).

The present study found that the arrest rate increased as the ranges of the adolescents age increased from 14 to 16. Furthermore, it is plausible to see the older segment of the sample experiencing more arrest since they had more time to experiment with the same delinquent behavior and school problems, which led the majority of their group to delinquency.

In addition to the descriptive data on participant demographic characteristics, supplementary descriptive analytical techniques were used to further explore the data set and allow for a better understanding of the study participants and their responses. Thus, descriptive statistics for the observed variables of each latent variable are tabled separately and include the correlation matrix, mean, and standard deviation.

The latent variable, *External Assets*, was indicated by the following observed variables, Suport, Empow, Bound, and Const with their correlation, mean, and standard deviation in Table 4.3 All correlations among the observed variables were statistically significant at the  $p < .05$  level of significance.

Table 4.3 External Assets Indicator Variables

---

Correlation Matrix

Variables	Suport	Empow	Bound	Const
Suport	1.000			
Empow	.650	1.000		
Bound	.843	.720	1.000	
Const	.620	.648	.657	1.000
Mean	10.83	10.14	14.94	5.79
S.D.	4.37	2.99	4.91	2.54

---

Note: n = 200 participants

The latent variable, *Internal Assets*, was indicated by the following observed variables, pdent, socomp, posit, and commit with their correlation, mean, and standard deviation in Table 4.4. All correlations among the observed variables were statistically significant at the  $p < .05$  level of significance.

Table 4.4 Internal Assets Indicator Variables

---

Correlation Matrix

Variables	Pdent	Socomp	Posit	Commit
Pdent	1.000			
Socomp	.656	1.000		

Table 4.4 – continued

Posit	.634	.705	1.000	
Commit	.698	.727	.592	1.000
Mean	9.04	11.61	16.77	8.20
S.D.	2.64	3.37	4.42	3.41

Note: n = 200 participants

The latent variable, *High Risk Behavior*, was indicated by the following observed variables, *depres*, *subst10*, and *schprob* with their correlation, mean, and standard deviation in Table 4.5. The original variable *subst* was rescaled to *subst10* (*subst* divided by 10) to bring its mean and variance into alignment with the other two observed variables because the disparately large variance of *subst* caused problems in the CFA measurement model. All correlations among the observed variables were statistically significant at the  $p < .05$  level of significance.

Table 4.5 High Risk Behavior Indicator Variables

Correlation Matrix

Variables Depres Subst10 Schprob

Depres	1.000		
Subst10	.461	1.000	
Schprob	.484	.288	1.000



Table 4.5 - continued

Mean	7.67	2.67	1.85
S.D.	3.68	1.73	1.33

Note: n = 200 participants

The latent variable, *Thriving Behavior*, was indicated by the following observed variables, *vdivrst*, *sschol*, and *mantgh* with their correlation, mean, and standard deviation in Table 4.6. All correlations among the observed variables were statistically significant at the  $p < .05$  level of significance.

Table 4.6 Thriving Behavior Indicator Variables

Correlation Matrix

Variables VDivrst Sschol MantGH

VDivrst	1.000		
Sschol	.684	1.000	
MantGH	.522	.720	1.000

Mean	4.18	5.62	8.12
S.D.	2.63	2.48	3.24

Note: n = 200 participants

The latent variable, *Juvenile Delinquency*, was indicated by the following observed variables, *crimin1*, *crimin2*, *crimin3*, *crimin4*, and *freque* with their

correlation, mean, and standard deviation in Table 4.7. All correlations among the observed variables were statistically significant at the  $p < .05$  level of significance.

Table 4.7 Juvenile Delinquency Indicator Variables

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Correlation Matrix

Variables Crimin1 Crimin2 Crimin3 Crimin4 Freque

---

Crimin1	1.000				
Crimin2	.754	1.000			
Crimin3	.776	.809	1.000		
Crimin4	.755	.812	.767	1.000	
Freque	.720	.660	.678	.725	1.000
Mean	1.69	1.68	1.72	2.09	.68
S.D.	1.51	1.33	1.44	1.74	.65

---

Note:  $n = 200$  participants

#### 4.3 Measurement Model Research Questions

The measurement model or confirmatory factor analysis (CFA) research questions were stated to determine whether the observed variables were good indicators of the latent variables. Therefore, separate confirmatory factor models were run for each set of observed variables hypothesized to indicate their respective latent variable.

#### 4.3.1 External Assets CFA

The following observed variables were diagrammed in AMOS and linked to an SPSS data file to test if the indicator variables were acceptable in defining the latent variable *External Assets* (Figure 4.1). Including correlation of error covariance ( $r = .275$ ) between Empow (issues related to feeling safe error\_e) and Const (constructive use of time error\_c) improved model fit.

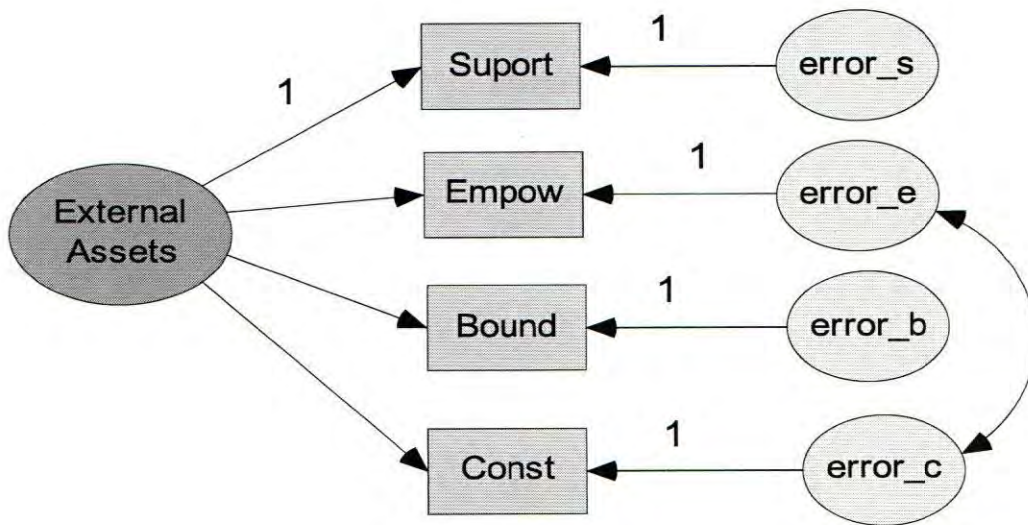


Figure 4.1 External Assets CFA Model

The CFA model results are in Table 4.8. The four indicator variables fit the hypothesized CFA model ( $\chi^2 = .776$ ,  $df = 1$ ,  $p = .378$ ). The percent variance explained (68%) was calculated as the sum of the communalities divided by the number of variables ( $\Sigma h^2/m = 2.729/4$ ). Therefore, 68% of the latent variable, *External Assets*, was defined by the four observed variables with 32% unexplained or left to other variables not included in the model. The Goodness-of-Fit index ( $GFI = .998$ )

indicated that 99% of the variance-covariance among the observed variables in the sample matrix was reproduced by the hypothesized confirmatory factor model. The observed variable, Bound, had the highest factor loading (validity coefficient) and corresponding communality estimate. When *External Assets* increases by one standard deviation, Bound increases by .958 (similar interpretation for the other factor loadings).

Table 4.8 External Assets CFA

Variable	<u>External Assets</u>	
	Lambda ( $\lambda$ )	$h^2$
Suport	.880	.774
Empow	.748	.560
Bound	.958	.919
Const	.690	.476

Percent Variance Explained: 68%  
 Chi-square = .776, df = 1, p = .378  
 GFI = .998

#### 4.3.2 Internal Assets CFA

The following observed variables were diagrammed in AMOS and linked to an SPSS data file to test if the indicator variables were acceptable in defining the latent variable *Internal Assets* (Figure 4.2). Including correlation of error covariance ( $r = -$

.503) between Posit (having positive values error\_p) and Commit (commitment to learning error\_c) improved model fit.

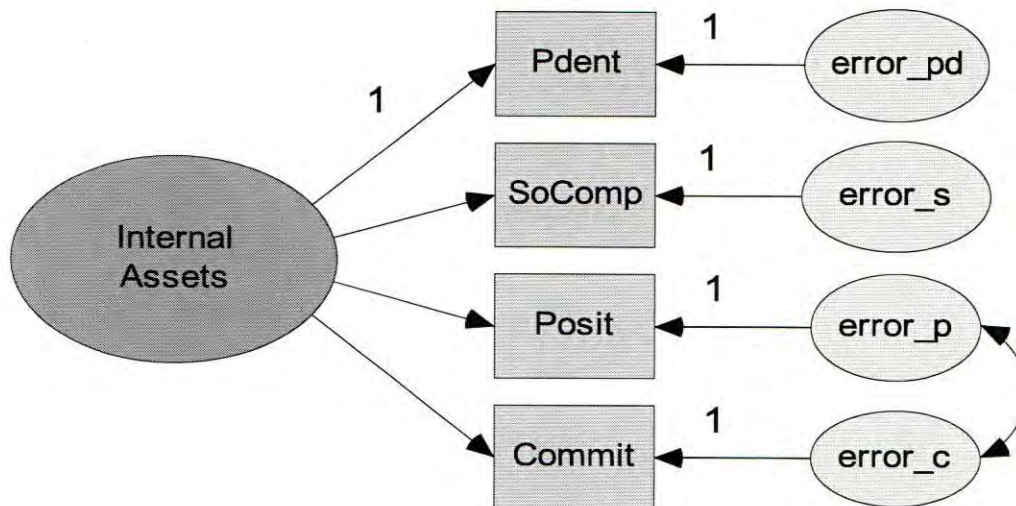


Figure 4.2 Internal Assets CFA Model

The CFA model results are in Table 4.9. The four indicator variables fit the hypothesized CFA model (chi-square = .725, df = 1, p = .394). The percent variance explained (69%) was calculated as the sum of the communalities ( $h^2$ ) divided by the number of variables ( $\Sigma h^2/m = 2.772/4$ ). Therefore, 69% of the latent variable, *Internal Assets*, was defined by the four observed variables with 31% unexplained or left to other variables not included in the model. The Goodness-of-Fit index (GFI = .998) indicated that 99% of the variance-covariance among the observed variables in the sample matrix was reproduced by the hypothesized confirmatory factor model. The observed variable, Commit, had the highest factor loading (validity coefficient) and corresponding communality estimate. When *Internal Assets* increases by one standard

deviation, Commit increases by .877 (similar interpretation for the other factor loadings).

Table 4.9 Internal Assets CFA

Variable	Internal Assets	
	Lambda ( $\lambda$ )	$h^2$
Pdent	.783	.612
Socomp	.839	.703
Posit	.829	.687
Commit	.877	.770

Percent Variance Explained: 69%  
 Chi-square = .725, df = 1, p = .394  
 GFI = .998

#### 4.3.3 High Risk Behavior CFA

The following observed variables were diagrammed in AMOS and linked to an SPSS data file to test if the indicator variables were acceptable in defining the latent variable *High Risk Behavior* (Figure 4.3). In alignment with Schumacker and Lomax (2004), the original variable *subst* was rescaled to *subst10* (*subst* divided by 10) to bring its mean and variance into alignment with the other two observed variables because the disparately large variance of *Subst* caused problems in the CFA measurement model. For model identification purposes, the variance of the latent variable, *High Risk Behavior*, was set to 1.0 or standardized.

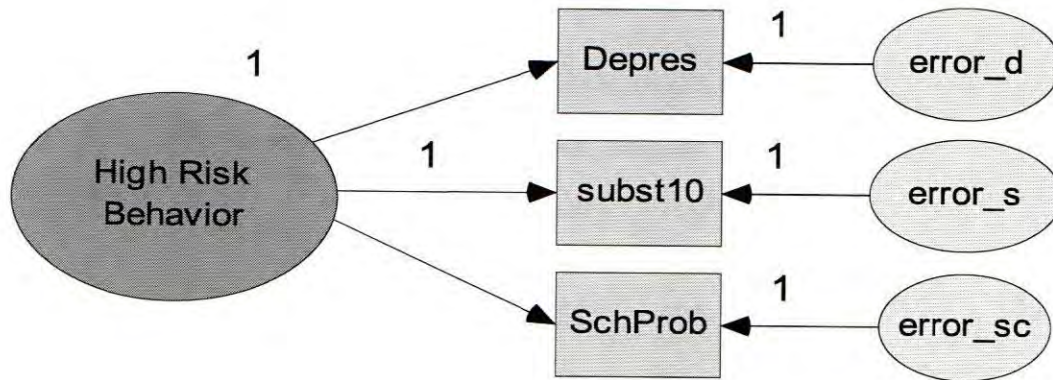


Figure 4.3 High Risk Behavior CFA Model

The CFA model results are in Table 4.10. The three indicator variables fit the hypothesized CFA model (chi-square = .438, df = 1, p = .508). The percent variance explained (46%) was calculated as the sum of the communalities ( $h^2$ ) divided by the number of variables ( $\Sigma h^2/m = 1.378/3$ ). Therefore, 46% of the latent variable, *High Risk Behavior*, was defined by the three observed variables with 54% unexplained or left to other variables not included in the model.

The Goodness-of-Fit index (GFI = .99) indicated that 99% of the variance-covariance among the observed variables in the sample matrix was reproduced by the hypothesized confirmatory factor model. The observed variable, *Depres*, had the highest factor loading (validity coefficient) and corresponding communality estimate. When *High Risk Behavior* increases by one standard deviation, *Depres* increases by .858 (similar interpretation for the other factor loadings).

Table 4.10 High Risk Behavior CFA

Variable	High Risk Behavior	
	Lambda ( $\lambda$ )	$h^2$
Depres	.858	.737
Subst10	.568	.322
SchProb	.564	.319

Percent Variance Explained: 46%  
 Chi-square = .438, df = 1, p = .508  
 GFI = .99

#### 4.3.4 Thriving Behavior CFA

The following observed variables were diagrammed in AMOS and linked to an SPSS data file to test if the indicator variables were acceptable in defining the latent variable *Thriving Behavior* (Figure 4.4). The variances of the three indicator variables were similar and therefore set equal in the CFA model ( $er1 = er1 = er1$ ), which also helped in model identification. Including correlation of error covariance ( $r = -.91$ ) between VDivrst (value diversity error\_v) and MantGH (maintain good health error\_m) improved model fit.



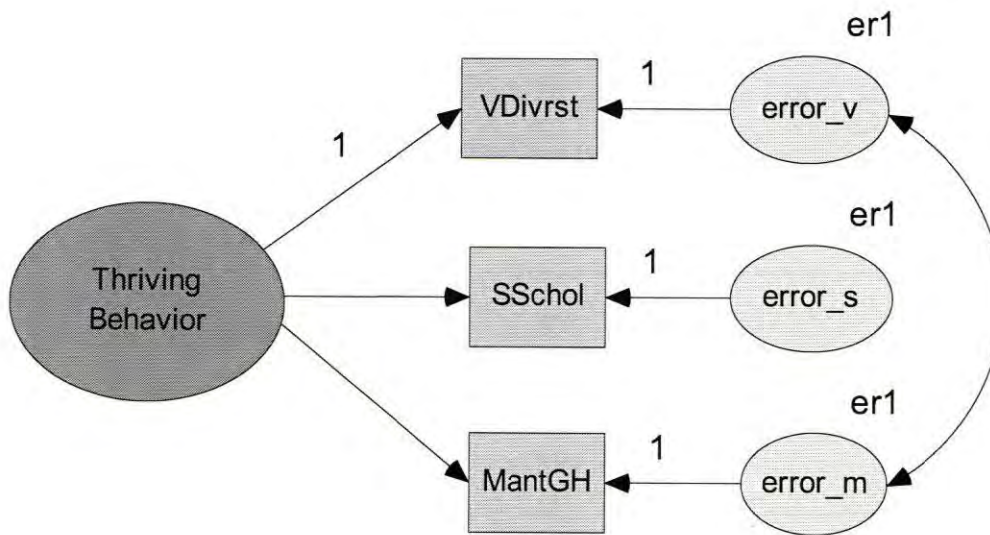


Figure 4.4 Thriving Behavior CFA Model

The CFA model results are in Table 4.11. The three indicator variables fit the hypothesized CFA model (chi-square = .114, df = 1, p = .735). The percent variance explained (72%) was calculated as the sum of the communalities ( $h^2$ ) divided by the number of variables ( $\Sigma h^2/m = 2.155/3$ ). Therefore, 72% of the latent variable, *Thriving Behavior*, was defined by the three observed variables with 28% unexplained or left to other variables not included in the model. The Goodness-of-Fit index (GFI = 1.00) indicated that 100% of the variance-covariance among the observed variables in the sample matrix was reproduced by the hypothesized confirmatory factor model. The observed variable, MantGH (maintain good health) had the highest factor loading (validity coefficient) and corresponding communality estimate. When *Thriving Behavior* increases by one standard deviation MantGH increases by .894 (similar interpretation for the other factor loadings).

Table 4.11 Thriving Behavior CFA

Variable	<u>Thriving Behavior</u>	
	Lamda ( $\lambda$ )	$h^2$
VDivrst	.834	.696
SSchol	.812	.659
MantGH	.894	.800

Percent Variance Explained: 72%  
 Chi-square = .114, df = 1, p = .735  
 GFI = 1.00

#### *4.3.5 Juvenile Delinquency CFA*

The following observed variables were diagrammed in AMOS and linked to an SPSS data file to test if the indicator variables were acceptable in defining the latent variable *Juvenile Delinquency* (Figure 4.5). Including correlation of error covariance ( $r = -.23$ ) between Crimin2 (trouble with police error\_c2) and Freque (frequency of arrest error\_fr) as well as correlation of error covariance ( $r = .12$ ) between Crimin1 (stolen from store error\_c1) and Freque (frequency of arrest error\_fr) improved model fit.

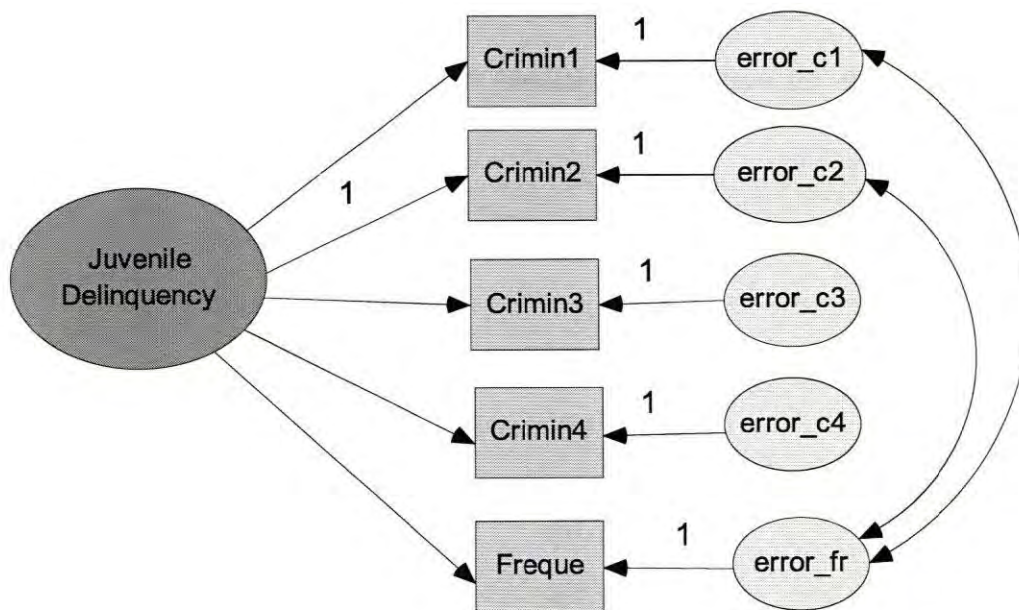


Figure 4.5 Juvenile Delinquency CFA Model

The CFA model results are in Table 4.12. The five indicator variables fit the hypothesized CFA model (chi-square = 7.78, df = 3,  $p = .051$ ; chi-square/df = 2.59, df = 1,  $p = .104$ ). The percent variance explained (75%) was calculated as the sum of the communalities ( $h^2$ ) divided by the number of variables ( $\Sigma h^2/m = 3.747/5$ ). Therefore, 75% of the latent variable, *Juvenile Delinquency*, was defined by the five observed variables with 25% unexplained or left to other variables not included in the model. The Goodness-of-Fit index (GFI = .98) indicated that 98% of the variance-covariance among the observed variables in the sample matrix was reproduced by the hypothesized confirmatory factor model. The observed variable, Crimin2 (trouble with police), had the highest factor loading (validity coefficient) and corresponding

communality estimate. When *Juvenile Delinquency* increases by one standard deviation Crimin2 increases by .907 (similar interpretation for the other factor loadings).

Table 4.12 Juvenile Delinquency CFA

Variable	<u>Juvenile Delinquency</u>	
	Lamda ( $\lambda$ )	$h^2$
Crimin1	.851	.724
Crimin2	.907	.824
Crimin3	.880	.775
Crimin4	.890	.793
Freque	.794	.631

Percent Variance Explained: 75%  
 Chi-square = 7.78, df = 3, p = .051; Chi-square/df = 2.59, df = 1, p = .104  
 GFI = .98

All of the confirmatory factor models for the latent variables had acceptable model fit. The Juvenile Delinquency confirmatory factor model had model fit statistics close to the  $p < .05$  level of significance, however the additional model fit statistic of chi-square divided by degrees of freedom indicated acceptable model fit (chi-square/df =  $7.78/3 = 2.590$ ) when compared to the tabled chi-square value of 3.84, df = 1, at the .05 level of significance. The model fit statistics for the measurement models are summarized in Table 4.13.

Table 4.13 Confirmatory Factor Analysis Measurement Model Fit Statistics

Measurement Model	Chi-square	df	p	GFI	Percent Variance
External Assets	.776	1	.378	.99	68%
Internal Assets	.725	1	.394	.99	69%
High Risk Behavior	.438	1	.508	.99	46%
Thriving Behavior	.114	1	.735	1.00	72%
Juvenile Delinquency	2.590	1	.104	.98	75%

#### 4.4 Measurement Model and Overall Model Fit

The present study examines a causal relationship in which the change in developmental assets and other social variables is presumed to impact delinquent behaviors. Thus, structural equation modeling (SEM), is the primary analytic method for the present study used to examine the theoretical model in an effort to answer the research question and its accompanying proposed hypotheses. This method consists of a measurement model to define hypothetical latent constructs in terms of measured variables, and a structural model to depict relationships among latent constructs. Measured variables are those that can be observed directly while latent variables are

not, and must be inferred from measured variables. The measurement model, however, embodies the relationships between measured variables and latent variables.

On the other hand, the structural model represents the relationships between latent variables only (Byrne, 2001). In order for the relationships among the variables to be analyzed in SEM and generate a sensible set of results, an adequate number of known correlations or covariances are required. Thus, each equation must be properly identified.

#### 4.5 Model Identification and Estimation

Byrne (2001) and Schumacker and Lomax (2004) explain that the concept of identification refers to the idea of having at least one unique solution for each parameter estimate in the model. When models have only one possible solution for each parameter estimate they are known to be just-identified. Models with infinite number of solutions are known to be underidentified and models with more than one possible solution, but has one best or optimal solution for each parameter estimate are known to be overidentified.

According to Byrne (2001), Pedhazur and Pedhazur (1991) Schumacker and Lomax (1996), the model should be overidentified, which means it must have more data values than the parameters to be estimated. For the current structural model, the model is overidentified as the number of data points is greater than the number of parameters to be estimated. The over identification imposed restrictions on the model, which allowed for a test of the hypotheses specified.

The identification of the current model in the present study followed the subsequent steps of SEM: 1) determine input matrix and estimation method, (2) assess the identification of the model, (3) evaluate the model fit, and (4) re-specify the model and evaluate the fit of the revised model. In step one, the Maximum Likelihood method (ML) is utilized for the proposed model. Schumacker and Lomax (1996) explain that maximum likelihood is the procedure of finding the value of one or more parameters for a given statistic which makes the known likelihood (the hypothetical probability that an event that has already occurred would yield a specific outcome distribution) the maximum value of a set of elements. Considering the current set of observations, the method of maximum likelihood finds the parameters of the model that are most consistent with these observations. The parameters of the model are: (1) variances and covariances of latent variables, (2) direct effects (path coefficients) on the dependent variable, and (3) variances of the disturbances (residual errors).

In step two, assessment of the ability of the proposed model to generate unique solutions was conducted. According to Byrne (2001) and Schumacker and Lomax (1996), an effective model identification process allows a calculation of the estimate for all the parameters independently and for the model as a whole.

In step three, the overall model fit (the goodness of fit between the hypothesized model and the sample data) is assessed with several goodness-of-fit indexes. According to Pedhazur & Smelkin (2001) and Schumacker and Lomax (1996), chi-square statistics is one of the most commonly used techniques to examine overall model fit. A non-significant goodness-of-fit  $X^2$  statistic is favored because it

indicates that the implied covariance matrix is nearly identical to the observed data. If the estimated covariance matrix does not provide a reasonable and parsimonious explanation of the data then the model may be re-specified by changing model parameters.

Lastly, an adjustment of the hypothesized model is conducted by examining the goodness-of-fit indices to improve the model based on theoretical justification as the model is re-specified by changing model parameters. The estimated covariance matrix may or may not provide a reasonable and parsimonious explanation of the data, which may lead to the model being accepted or rejected. Thus, an adjustment and improvement of the model allows identification of data related problems and potential sources of poor fit. Furthermore, the adjustment process can provide new insights regarding the relationship between observed and latent variables.

Once the final model was specified through an over identification process, the next step was to test the apparent validity of estimates of the parameters. Subsequently, the next step was to test the hypothesized model statistically to determine the extent to which the proposed model is consistent with the sample data, which includes the fit of the model as a whole and the fit of individual parameters. The next step is to assess the fit of the hypothesized model and the sample data by examining the parameter estimates, standard errors and significance of the parameter estimates, squared multiple correlation coefficients for the equations, the fit statistics, standardized residuals and the modification indices.



The hypothesized model was tested by using two most popular ways of evaluating model fit: The  $X^2$  goodness-of-fit statistic and fit indices. The statistics literature shows no consistent standards for what is considered an acceptable model; a lower chi square to df ratios indicates a better model fit (Schumacker & Lomax, 1996).

Due to Chi-square's sensitivity to sample size, it is not easy to gain a good sense of fit solely from the  $X^2$  value. Thus, other indexes of model fit were examined. These indexes made adjustments for sample size and model complexity. Hence, other fit indices were utilized to evaluate model fit: GFI (Goodness-of-Fit Index), AGFI (Adjusted Goodness-of-Fit Indices), CFI (Comparative Fit Index), SRMR (Standardized Root Mean Squared Residual) RMR (root mean square residual) and RMSEA (Root Mean Square Error of Approximation).

Pedhazur & Pedhazur (1991) and Byrne (2001) explain that GFI represents the overall degree of fit, which are the squared residuals. Values of .90 or above for the GFI indicate a good fit and values below 0.90 simply suggest that the model can be improved. On the other hand, AGFI is the Adjusted Goodness of Fit Index. It considers the degrees of freedom available for testing the model. Values above 0.90 are acceptable, indicating that the model fits the data well. SRMR is the Standardized Root Mean Squared Residual, and it is a standardized summary of the average covariance residuals. SRMR should be less than .10.

#### 4.6 Structural Equation Research Questions

A structural equation model was hypothesized to explain the relationship among the latent variables defined by the confirmatory factor models or measurement models. The correlations, means, and standard deviations among the latent variables are in Table 4.14

Table 4.14 Latent variable correlations, means, and standard deviations

Latent Variable	Juvenile Delinquency	External Assets	Internal Assets	High Risk Behavior	Thriving Behavior
Juvenile Delinquency	1.000				
External Assets	-.336	1.000			
Internal Assets	-.444	.634	1.000		
High Risk Behavior	.649	-.503	-.538	1.000	
Thriving Behavior	-.548	.577	.786	-.679	1.000
Mean	1.55	11.57	7.18	1.93	5.24
Standard Deviation	1.17	3.74	1.99	.88	2.18

The initial model (Figure 4.6) hypothesized that *External Assets* predicts *Internal Assets* (path labeled (a)); *Internal Assets* then predicts *High Risk Behavior* (path labeled (b)) and *Thriving Behavior* (path labeled (c)); and finally *High*

*Risk Behavior* predicts Juvenile Delinquency (path labeled (d)) and *Thriving Behavior* predicts *Juvenile Delinquency* (path model labeled (e)). However, this initial model, Model A, did not have acceptable model fit statistics as the GFI value is below 0.90 suggesting that the model could be improved.

Modification indices were suggested that involved adding a path labeled (f) from *High Risk Behavior* to *Thriving Behavior* implying that *High Risk Behavior* predicts *Thriving Behavior* (Figure 4.7). The modified model, Model B, however did not have acceptable model fit statistics as the AGFI value was below 0.90 and the ration of chi square to degrees of freedom was well above two indicating that the model did not fit data well.

Modification indices further suggested adding a path labeled (g) from *External Assets* to *High Risk Behavior* implying that *External Assets* also predicts *High Risk Behavior* (Figure 4.8). This final model, Model C, had acceptable fit statistics. The GFI value of model C was .99, which was higher than the two previous models and the AGFI value was .982. In addition, the ratio of Chi-square to degrees of freedom was well below two and the p value was far from .05. Table 4.15 presents the model fit statistics for these three structural equation models.

Table 4.15 Structural Equation Model Fit Statistics

Model	Chi-square	df	p	GFI
A	69.04	5	.0001	.88

Table 4.15 - continued

B	14.33	4	.006	.97
C	1.78	3	.62	.99

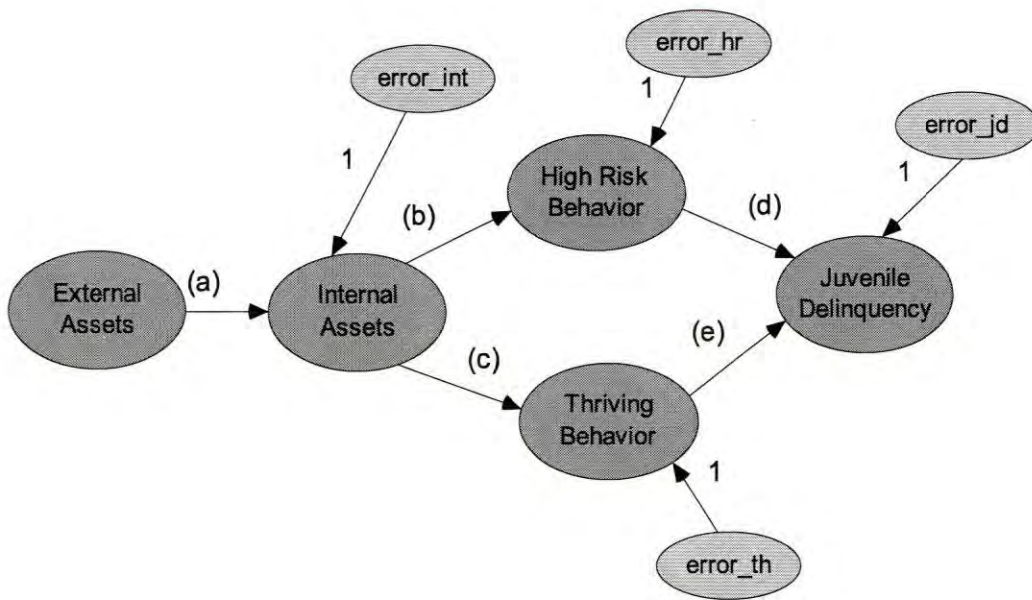


Figure 4.6 Initial Structural Equation Model (Model A)

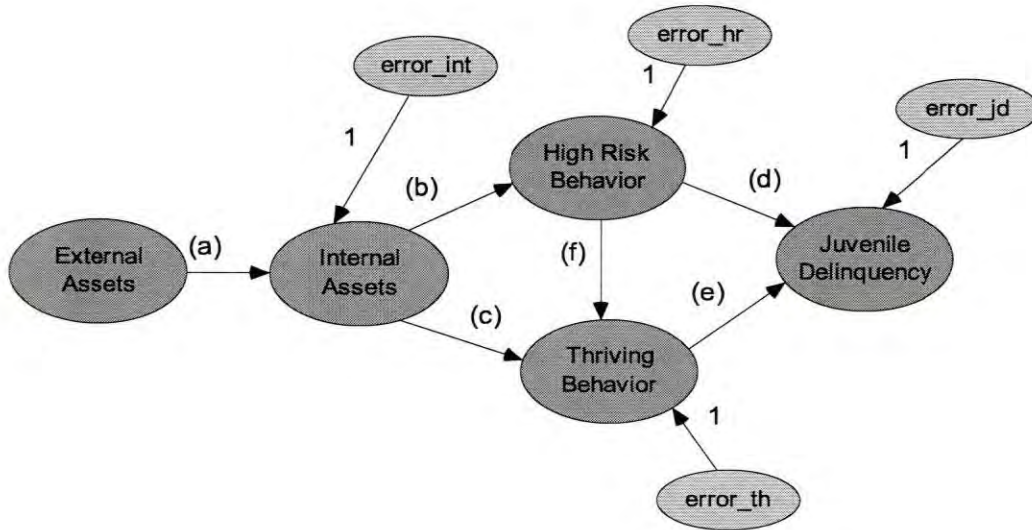


Figure 4.7 Modified Structural Equation Model (Model B)

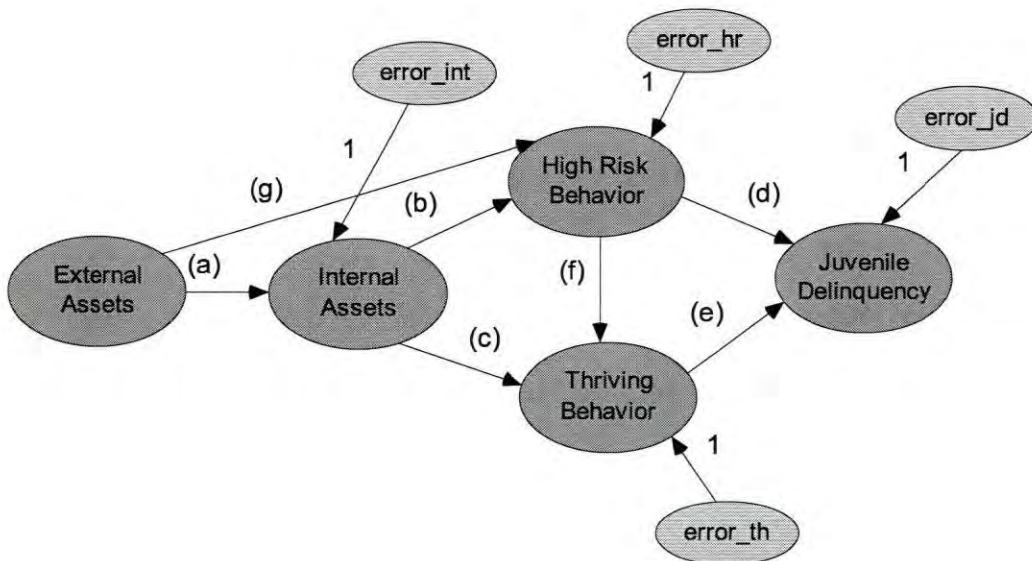


Figure 4.8 Final Structural Equation Model (Model C)

A set of research questions related to testing the statistical significance of the structure coefficients in the final hypothesized structural equation model (Model C) are discussed next. Each path or structure coefficient is labeled with a lower case letter. The structure coefficients and associated test statistic from Model C are listed in Table 4.16.

Table 4.16 Structure Coefficients and Associated Test Statistic in Model C

Path Label	Structure Coefficient	Standard Error	t	p
a	.339	.029	11.569	.0001
b	-.162	.033	-4.912	.0001
c	.645	.049	13.077	.0001
d	.685	.096	7.116	.0001
e	-.108	.039	-2.771	.006
f	-.890	.112	-7.935	.0001
g	-.063	.018	-3.559	.0001

Note: All structure coefficients are statistically significant at the .05 level of significance.

The first hypothesis for the path labeled (a) tested whether higher levels of *External Assets* predicted higher levels of *Internal Assets*. Therefore, a positive statistically significant structure coefficient is desired (T-value = structure coefficient estimate / standard error). This is stated in the null and alternative hypothesis form as:

$$H_0: \gamma_{12} = 0$$

$$H_A: \gamma_{12} > 0$$

Results indicated a structure coefficient of .339, a standard error of .029, and a T-value equal to 11.569 that was statistically significant at the  $p < .05$  level of significance. The structure coefficient was positive and statistically significant. Consequently, higher levels of *External Assets* are associated with higher levels of *Internal Assets* as hypothesized.

The second hypothesis for the path labeled (b) tested whether lower levels of *Internal Assets* predicted higher levels of *High Risk Behaviors*. Therefore, a negative statistically significant structure coefficient is desired (T-value = structure coefficient estimate / standard error). This is stated in the null and alternative hypothesis form as:

$$H_0: \gamma_{23} = 0$$

$$H_A: \gamma_{23} < 0$$

Results indicated a structure coefficient of -.162, a standard error of .033, and a T-value equal to -4.912 that was statistically significant at the  $p < .05$  level of significance. The structure coefficient was negative and statistically significant. Consequently, lower levels of *Internal Assets* are associated with higher levels of *High Risk Behaviors* as hypothesized.

The third hypothesis for the path labeled (c) tested whether higher levels of *Internal Assets* predicted higher levels of *Thriving Behavior*. Therefore, a positive statistically significant structure coefficient is desired (T-value = structure coefficient estimate / standard error). This is stated in the null and alternative hypothesis form as:

$$H_0: \gamma_{24} = 0$$

$$H_A: \gamma_{24} > 0$$

Results indicated a structure coefficient of .645, a standard error of .049, and a T-value equal to 13.077 that was statistically significant at the  $p < .05$  level of significance. The structure coefficient was positive and statistically significant. Consequently, higher levels of *Internal Assets* are associated with higher levels of *Thriving Behavior*, as hypothesized.

The fourth hypothesis for the path labeled (d) tested whether higher levels of *High Risk Behavior* predicted higher levels of *Juvenile Delinquency*. Therefore, a positive statistically significant structure coefficient is desired (T-value = structure coefficient estimate / standard error). This is stated in the null and alternative hypothesis form as:

$$H_0: \gamma_{35} = 0$$

$$H_A: \gamma_{35} > 0$$

Results indicated a structure coefficient of .685, a standard error of .096, and a T-value equal to 7.116 that was statistically significant at the  $p < .05$  level of significance. The structure coefficient was positive and statistically significant.



Consequently, higher levels of *High Risk Behavior* are associated with higher levels of *Juvenile Delinquency* as hypothesized.

The fifth hypothesis for the path labeled (e) tested whether lower levels of *Thriving Behavior* predicted higher levels of *Juvenile Delinquency*. Therefore, a negative statistically significant structure coefficient is desired (T-value = structure coefficient estimate / standard error). This is stated in the null and alternative hypothesis form as:

$$H_0: \gamma_{45} = 0$$

$$H_A: \gamma_{45} > 0$$

Results indicated a structure coefficient of -.108, a standard error of .039, and a T-value equal to -2.771 that was statistically significant at the  $p < .05$  level of significance. The structure coefficient was negative and statistically significant. Consequently, lower levels of *Thriving Behavior* are associated with higher levels of *Juvenile Delinquency*, as hypothesized.

The sixth hypothesis for the path labeled (f) tested whether higher levels of *High Risk Behavior* predicted lower levels of *Thriving Behavior*, the path added in Model B (Figure 4.7). A negative statistically significant structure coefficient is desired (T-value = structure coefficient estimate / standard error). This is stated in the null and alternative hypothesis form as:

$$H_0: \gamma_{34} = 0$$

$$H_A: \gamma_{34} > 0$$

Results indicated a structure coefficient of  $-.890$ , a standard error of  $.1125$ , and a T-value equal to  $-7.935$  that was statistically significant at the  $p < .05$  level of significance. The structure coefficient was negative and statistically significant. Consequently, higher levels of *High Risk Behavior* are associated with lower levels of *Thriving Behavior*, as hypothesized.

The seventh hypothesis for the path labeled (g) tested whether lower levels of *External Assets* predicted higher levels of *High Risk Behavior*, the path added in Model C (Figure 4.8). A negative statistically significant structure coefficient is desired (T-value = structure coefficient estimate / standard error). This is stated in the null and alternative hypothesis form as:

$$H_0: \gamma_{13} = 0$$

$$H_A: \gamma_{13} > 0$$

Results indicated a structure coefficient of  $-.063$ , a standard error of  $.018$ , and a T-value equal to  $-3.559$  that was statistically significant at the  $p < .05$  level of significance. The structure coefficient was negative and statistically significant. Consequently, lower levels of *External Assets* are associated with higher levels of *High Risk Behavior*, as hypothesized.

#### 4.7 Summary

The latent variable confirmatory factor analyses resulted in measurement models that had acceptable model fit (Table 4.16). The final structural equation model in Figure 4.8 established hypothesized relations among the latent variables. The structural equation model had acceptable model fit (Chi-square = 1.78,  $df = 3$ ,  $p = .62$ ;

GFI = .99). A test of the individual structure coefficients in the hypothesized theoretical model (Table 14) were all statistically significant and in the hypothesized direction (positive or negative).

The structural equation model therefore can be explained as follows: Higher levels of *External Assets* are associated with higher levels of *Internal Assets*, and lower levels of *External Assets* are associated with higher levels of *High Risk Behavior*, lower levels of *Internal Assets* are associated with higher levels of *High Risk Behaviors* and higher levels of *Internal Assets* are associated with higher levels of *Thriving Behavior*, higher levels of *High Risk Behavior* are associated with lower levels of *Thriving Behavior*, higher levels of *High Risk Behavior* are associated with higher levels of *Juvenile Delinquency*, and lower levels of *Thriving Behavior* are associated with higher levels of *Juvenile Delinquency*.

Table 4.17 reports the R-squared values for each predicted latent variable in the model. *High Risk Behavior* and *Thriving Behavior* predicted 44% of the variance in *Juvenile Delinquency*. However, the overall structural equation model with the direct and indirect effects of the other latent variables predicted 88% of the variance in *Juvenile Delinquency*. The overall R-squared model value was computed as  $1 - (1 - \text{Internal Assets}) * (1 - \text{High Risk Behavior}) * (1 - \text{Thriving Behavior})$ , which equals  $1 - (1 - .402) * (1 - .333) * (1 - .710)$  or  $1 - (.598)(.667)(.29) = 1 - .12 = .88$  or 88%.

Table 4.17 R-squared Values in Model C

Latent Variable Paths in Model C	Multiple	
	Correlation	R-Squared
External Assets		
predicting Internal Assets	.634	.402
External Assets and Internal Assets		
predicting High Risk Behavior	.577	.333
Internal Assets and High Risk Behavior		
predicting Thriving Behavior	.843	.710
High Risk Behavior and Thriving Behavior		
predicting Juvenile Delinquency	.665	.442

External Assets predicted Internal Assets, which in turn predicted High Risk Behaviors and Thriving Behaviors. This finding was congruent with the findings of Benson and Lerner (2003) and Lerner and Steinberg (2004), as they affirmed that the attainment of External and Internal assets significantly impacts the development of adolescents and their propensity to high risk behaviors or thriving behaviors. The studies of Leventhal and Brooks-Gunn (2004) refer to high-risk behavior as destructive and illegal activities, which often lead to greater involvement in delinquent behaviors. Siegel, et

al. (2003) and Benson and Lerner (2003) explain that the degree and intensity to which adolescents exhibits high-risk behaviors determine how much at-risk they really are.

The present study produced a positive statistically significant structure coefficient of .685, a standard error of .096, and a T-value equal to 7.116 indicating a high probability of delinquency. Despite of the high imprisonment rate among the participants (58.5%), the direct and indirect effects of high risk behavior predicted 46% of the variance in juvenile delinquency (R-squared = 46%). Nevertheless, the moderate effect of *High Risk Behavior* on *Juvenile Delinquency* evidenced by such a low R-squared is in congruence with the findings of Moore and Redd (2002), as they concluded that high-risk behaviors not always lead to delinquency. It is noteworthy, however, that path labeled d in the structural model had a very strong positive statistically significant structure coefficient (.685) indicating that higher levels of *High Risk Behavior* are associated with higher levels of *Juvenile Delinquency* as hypothesized.

On the other hand, the association of low levels of *Thriving Behavior* with higher levels of *Juvenile Delinquency* is further explained by Benson and Lerner (2003) and Roehlkepartain, Benson and Sesma (2003). These authors affirm that when young people experience difficulties in navigating “the physical and emotional watershed of adolescence” (Benson & Lerner, 2003; p.173), academic achievement is likely to decline. Furthermore, low levels of maintenance of good health, school success and value diversity exponentially increases the potential for youth engagement in delinquent activities. A lack of appreciation of the rich mosaic of differences in the

young person's community preclude group dynamics and helps create a mind set where teens do not feel empowered to perform to their full potential.

Alternatively, competitive edge can be gained from ethnic variety present in the young person's community compelling them to excel and thrive. It is noteworthy that the sample of the present study comes from a homogeneous school environment, which is comprised of 98% Hispanics. As the Developmental Systems Theory posits, systems that invite and embrace differences contribute to healthy behaviors by breaking down of barriers of the past while regarding diversity as a competitive differentiator, in both personal health and academic achievement. This assertion is evidenced in the model by the high validity coefficient and corresponding communality estimate observed between *Maintain Good Health* and *Value Diversity* in addition to a correlation coefficient of .665 between *High Risk Behavior* and *Thriving Behavior* predicting *Juvenile Delinquency*.

It is noteworthy, however, that from a development perspective (Lerner (2002), the youth's development and engagement in delinquency transcends the boundaries of conventional beliefs that single factors lead to a particular outcome. In fact, Sesma, & Roehlkepartain (2003), argue that the integration of biopsychosocial factors and a dynamic interaction within and between levels of organization of assets is what determines individuals' development and functioning within the environment.

For future research, the addition of other indicators to measure *High Risk Behavior* and *Thriving Behavior* and *Juvenile Delinquency* may contribute to a more holistic measure, which will probably alter the effect of the mediating variables as they

covary with the outcome variable. Moreover, previous research studies have emphasized the importance of broadening the definition of delinquency (Atwater, 1996, Perez-McCluskey, 2002). By broadening the definition of the latent outcome variable, a greater range of indicator variables would be incorporated.

## CHAPTER 5

### CONCLUSION

#### 5.1 Findings

This chapter focuses on the discussion of the findings and conclusions, which surfaced from the data analysis. Subsequently, implications for social work and policy are addressed while recommendations for future research are made. In sum, the present study found that developmental assets have a great influence on young people's lives, which confirms the findings of the Search Institute. One of the unique findings of the present study was the identification of how much impact internal and external assets have on high risk behavior and thriving behaviors. Another surprising finding was the realization of the impact high risk behaviors and thriving behaviors can have on juvenile delinquency. The structural equation results showed a strong structure coefficient between high risk behavior and delinquency. Nevertheless, the path (e) between thriving behavior and delinquency produced a weak structure coefficient of -.108, although, it was statistically significant the .05 level of significance.

The positive correlation found in the present study between high levels of developmental assets and thriving behaviors confirm the findings of previous studies of Benson and Lerner (2003) postulating that the more assets young people have, the more likely they will grow up to be productive, caring, and competent members of



society. Greater levels of developmental assets increase the chances for adolescents to contribute to their community and exhibit other thriving behaviors, such as succeeding in school, maintaining good health, and valuing diversity.

Research studies conducted by the Search Institute consistently demonstrated that young people with more developmental assets are involved in fewer risk-taking behaviors. Indeed, results of the present study showed that external and internal assets are reliable predictors of thriving behaviors because path (a) and path (c) of Model C were statistically significant at the  $p < .05$  level of significance. In fact, the path between *Internal Assets and Thriving Behavior (path (c))*, showed to have the highest structure coefficient (.645) and the highest T-value, where the T-value is defined as the ratio between the parameter estimate and its standard error (Byrne, 2001). According to Schumacher and Lomax (2004), the T-value determines how many standard errors the coefficient is away from zero. A rule of thumb is that when the T-value is greater than 2 or less than -2 it is acceptable. Thus, high T-value is indication of high reliability of the predictive power of the coefficient.

On the other hand, the structure coefficient between *Thriving Behavior* and Juvenile Delinquency (path (e)) was -.108. Although it is statistically significant at the  $p < .05$  level of significance, the low structure coefficient implies the need to include other constructs and indicators in future research that will improve the model and increase the explanation of the variance between these two variables. It is worth to note, however, that the path (e) between *Thriving Behavior* and Juvenile Delinquency has a T-value of -2.771, which makes it acceptable. In other words, the fact that path

(e) was statistically significant and the T-value was lower than -2 it helps to create confidence in the coefficient as a predictor, but there is still room for improvement in the path.

Other researchers found that lower levels of thriving behaviors are not strong predictors of delinquency. For instance, Farrington (2002) suggests that thriving and delinquency outcomes hinge on the multiplicative effect of several factors combined in the youth environment, ranging from developmental assets to cultural dynamics. Although lower levels of thriving can be seen as a risk factor it may simply increase the probability of offending, and does not make delinquency a certainty. If other protective factors are present to counteract the effects of lower levels of risk, the relationship to delinquency dies away.

Alternatively, the present study confirmed that lower levels of developmental assets lead to high risk behaviors, such as having problems in school, depression/attempted suicide and getting involved with substance use/abuse. *Internal Assets* and *External Assets* predicted 33% of the variance in *High Risk* leaving 67% of the variance unexplained or left to other variables not included in the model. Although the path was statistically significant it invites future researchers to explore the inclusion of other variables in the model. Research studies conducted by the Search Institute showed that low levels of assets lead to high risk behaviors. However, among the studies conducted by the Search Institute exploring the relationship between developmental assets and high risk behaviors not one sample comprised of Hispanics emerged in the research literature. The samples employed by the Search Institute were

of mixed ethnicities. Thus, a cross validation of the present model with a sample of other ethnicity may help to clarify the need to include (or not to include) other variables in the present model.

In alignment with the hypothesis of the theoretical model High levels of *High Risk Behaviors* have a significant direct and indirect effect on *Juvenile Delinquency* evidenced by a correlation coefficient of .685 and a T-value of 7.116, which points to a strong confidence in the predictive power of the coefficient. In fact, with 69% of the variance explained, *High Risk Behaviors* is a strong predictor of *Juvenile Delinquency*. However, 31% of the unexplained variance between *High Risk Behaviors* and *Juvenile Delinquency* is left to variables not included in the present model.

The findings of the present study are congruent with Leventhal and Brooks-Gunn (2004) regarding the propensity of high risk behaviors youth engaging in juvenile delinquency. Nevertheless, Siegel, et al. (2003) explains that high risk behaviors may or may not predict delinquency. The multiplicative effect of a combination of several risk factors is what determines the degree of propensity to delinquency. In fact, Farrington (2002) explains that in spite of the presence of high levels of high risk factors other key thriving factors may counteract their predictive effect to delinquent behavior.

The results of the present study showed that when adolescents are involved in higher levels of high risk behaviors the prevalence of thriving behaviors decreases as confirmed by the high structure coefficient (-.89) and a T-value of -7.935 in path (f). The preventive effects of thriving factors such as success in school, maintenance of

good health and valuing diversity become significantly reduced, which increase the probability for the youth to engage in delinquent behaviors. Juvenile delinquency preventive programs must be designed to facilitate the increase of thriving factors such as these included in the present study (Maintain Good health, success in school and valuing diversity). These indicators were acceptable in defining the latent variable *Thriving Behavior* with 72% of the variance explained leaving 28% of the variance to be explained by the inclusion of other factors. According to Benson and Lerner (2003), youth who experience high levels of developmental assets have a high probability of becoming thriving individuals in society. The findings of research studies conducted by the Search institute and the findings of the present study showed significant negative correlation between *Thriving Behaviors* and *Juvenile Delinquency*.

#### 5.2 Implication for Theoretical Development

Developmental Systems Theory was also useful for explaining the main predicting factors of juvenile delinquency from a synthesis of developmental contextualism. The high concentration of a single minority ethnicity can lead to a lack of integration between levels of organization and socio-cultural role in the youth's system and the main stream society, which impact the person's development and functioning (Benson & Lerner, 2003). In addition, unknown cultural factors specific to this population (De La Rosa, 2002) may have contributed to the high levels of delinquency. The extents to which these cultural factors and risk factors are inter-related are sparse in the current research literature. According to De La Rosa (2002), different Hispanic groups may manifest different levels of acculturation and even

different cultural values, which may lead to differential impacts on the relationship between high risk, thriving behaviors and delinquency.

According to Benson and Lerner (2003), the lack of interconnectedness of the youth with external assets or opportunities in a broader environmental context leads to low levels of *Thriving Behavior*. As expected, low levels of external and internal assets emerged among those involved in high risk behaviors resulting in a high delinquency rate. The findings of the present study showed that 65% of the participants stole something from a store, 71.5 got in trouble with the police, 68.5 did hit or bit up someone, 64.5 damaged property just for fun and 58.5 experienced arrests. In general, External and Internal Asset variables directly and indirectly operate on delinquent behaviors, which emerge from the eclectic union of reductionism and holism in a similar manner to that specified by the theory.

In general, the present study finds that theoretical factors from the Developmental Systems Theory are significantly related to both high risk behaviors and thriving behaviors impacting delinquency. As the Developmental Systems Theory posits, the present study indicates that high levels of developmental assets may deter adolescents' delinquent behaviors. The study also indicates that adolescent's high levels of assets deter delinquency by strengthening an adolescent's commitment to learning and attachment to conventional society. Furthermore, as the Developmental Systems Theory emphasizes, the study confirmed the importance of systemic support on delinquent behaviors. The findings related to Support were aligned with the findings

of the Search Institute showing that in order for young people to thrive, they need the family, neighbors, organizations and institutions to provide positive, supportive environments. Consequently, Support affects delinquent behaviors such that those with higher levels of support were less likely to be involved in delinquent behaviors.

Essential theoretical implications from the present study emerged. The main implication is that Developmental Systems Theory can provide a substantial basis for delinquency models, yet it is not sufficient to capture the complexity of delinquent behaviors without understanding the impact that positive or not so positive role models have on adolescent development, which serves as a compelling force towards thriving or delinquent behaviors. Thus, the present study appears to support theory expansion, or the effort to combine different theoretical perspectives into an explanation of adolescent thriving and/or delinquent behaviors.

Future studies with broader definition of delinquency are needed in order to determine whether different forms of delinquency are the product of similar outcomes. While future studies may want to widen the definition of delinquency, it may be important to examine separately each indicator of delinquent behaviors, and thus, develop a more detailed perspective on the developmental assets/delinquency relationship.

Overall, findings of the present study suggest that the theoretical framework used is robust and suitable for an explanation of adolescent's delinquent behaviors. Nevertheless, future theoretical testing is required for the substantiation and refinement of Developmental Systems Theory. Regarding theoretical development, future studies

may need to take into account different adolescents' values and beliefs within the context of their living environment, which may influence their perspective on the extent of wrongfulness of delinquent acts. Attention to cultural factors in different ethnic communities is often emphasized as gender socialization, acculturation, and intergenerational conflict are key to youth outcomes (Deyhle, 1995; Parker, Deyhle, & Villenas, 1999).

Lastly, the present theoretical framework needs to be applied to the explanation of delinquent behaviors among various groups with respect to different ages and ethnicities. This can increase the external validity in the study as one group's opinion may differ from another group impacted by different demographic characteristics, values and beliefs. Hence, diversification of the sample can boost the generalizability of the study.

### 5.3 Limitations of the Study

The main limitations of the present study were linked to measurement and interpretations. In terms of measurements, a broader variety of constructs could have been used to measure the latent variables, specially the high risk behavior and thriving behavior variables. Moreover, the observed variables of *Juvenile Delinquency* could be improved by including constructs that could be measured by several items. Although the measure applied to Juvenile Delinquency has been used widely in previous research (Villarruel & Walker, 2002; Moore & Redd, 2002) other measures need to be included in future studies because a significant relationship between high risk behavior and

delinquency may be a simple imputation of inconsistent values, as Moore and Redd (2002) suggests.

Another limitation of this study comes from the fact that a secondary data set was used, which was collected with a different purpose or agenda. Although extensive work has been done in order to address these limitations, such as carefully selecting appropriate measurement tools and rigorously assessing for validity and reliability, the current data may not target the same objectives of the present study.

Another limitation is the use of self-report measures as it may be impacting on the reliability of the data. Pedhazur and Pedhazur (1991) explain that due to social desirability, participants often underreport delinquent behaviors. On the other hand, Schumacker and Lomax (1996), suggest that adolescents provide accurate self-reports. Although there is no validation of the accuracy of the responses in the present study, self-reports may be assumed to be reliable as the data were collected anonymously and confidentially.

Concern for specification error constitutes another limitation, as it is possible for the present study to reach better results if additional variables are included or excluded as predictors in the present model. Since juvenile delinquency is broad enough to include several pathways and factors it is plausible to admit that future research needs to include additional indicator variables.

A final limitation is related to the sample. Due to the limited sampling population at the school, the subjects were selected with a non-probability, convenience sampling technique. Therefore, it may not be assumed that the sample



fully represents the larger population, and any statement generalizing the results beyond the actual sample tested must be stated with caution. The failure to ensure that all members of the referenced population have an equal chance to be selected by pre-selecting the subjects of Hispanic ethnicity 14-16 years of age may result in a sampling bias. Such limitation may cause statistical measures to appear much stronger than they really are. Although selection bias in sampling is probably the most concerned limitation of this study, all empirical studies are limited by the nature of the sample studied. Replication of these results with other samples is needed. A cross validation of the present study will increase precision and utility of model C and its conclusions.

One of the main strengths of the present study is the fact that the sample is comprised exclusively of Hispanics; a limitation however, is the lack of representation of White and African American adolescents since these two groups make up the majority of the population. Thus, replication of these results with other samples, without these attrition problems, is needed. It should be acknowledged therefore, that the generalizability of the finding is restricted to similar ethnic situations.

Each of the limitations discussed above, can be viewed as a methodological gap challenging future studies to bridge it as opportunities to strengthen both research rigor and generalizability of the findings. Nevertheless, the anticipated benefits of this study outweigh the identified limitations given that it intends to fill a clear gap in the existing literature on contributing factors for thriving/high risk behaviors and arrest of juveniles in Texas. To the author's knowledge, no existing study to date has explored the individual and collective effects of various dimensions of developmental assets on the

delinquent behavior of any group in Texas. Taking into consideration the proposed limitations, this study aims to contribute to the Hispanic juvenile delinquency literature, which to date remains underdeveloped.

#### 5.4 Implications of the Study

Identification of the main predictors of delinquency and protective factors such as Boundaries and Expectations, Commitment to Learning and Success in School can greatly increase the ability to prevent and treat delinquent behaviors. The results of the present study indicate that a fuller understanding of the main developmental assets factors may be necessary to address the issue of delinquency. In the present study, adolescents' high levels of Depression and *Attempt Suicide* and *Substance Use/Abuse* played a significant part in their engagement in delinquent behaviors. In addition to providing suggestive evidence that adolescent's depression and attempt suicide and substance use and abuse may have a significant independent effect on delinquency, the present study indicates that lower levels of these assets have a sizeable impact on the thriving behavior of adolescents. Based on these findings, the present study represents a contribution to the existing body of knowledge as it makes practical implications for the field of social work and policy.

#### 5.5 Implication for Future Research

The findings of the present study have several implications for future research concerning the relationship between developmental assets and delinquent behaviors. First, although the present study utilizes advanced measures of assets by adopting four measures (i.e. External Assets, Internal Assets, High Risk Behaviors, and Thriving

Behaviors), it is important to remember the significance of a comprehensive and consistent measure of developmental assets and delinquency in order to capture the whole picture of delinquent behavior.

Furthermore, researchers need to develop extended and consistent measures for thriving behaviors, high risk behaviors and delinquency in order to avoid mixed findings due to inconsistent definitions of these variables. Besides the behavioral and attitudinal measures used, other dimensions of high risk behaviors and thriving behaviors need to be incorporated in future research while researching the developmental assets-delinquency relationship.

Although all hypothesized paths were statistically significant, some of the R-square or proportion of the explained variations between some of the latent variables were low. For example, the low structure coefficient between *External Assets* and *High Risk Behavior* (-.063) and *Internal Assets* and *High Risk Behavior* (-.162) and *Thriving Behavior* and *Juvenile Delinquency* (-1.08) invite the inclusion of other variables that would help to further explain variance among these latent variables.

Additional variables related to external and internal assets could include, drug use in the home and the community, long-term unemployment in their areas and high levels of community or family violence. In addition of considering a range of family, peer, school, and other community related factors that could directly or indirectly affect delinquency, future research may also want to explore the inclusion of variables related to culture and/or religion. The inclusion of additional variables that may promote thriving behaviors may include the availability and accessibility of mentoring

programs, organized family activities, community volunteer opportunities, and academic tutoring.

Furthermore, a follow-up study could examine the relationship between developmental assets and delinquency using a longitudinal design. Longitudinal data may provide researchers access to a wider sequence of events while exploring whether the relationship between developmental assets, high risk behaviors and delinquency found in the present study varies across the stages of adolescence. Future researchers may want to use structural equation modeling (SEM) to explore direct and indirect relationships between observed and unobserved variables while measuring theoretical factors and reducing methodological effects. Moreover, the SEM approach allows examination of structural relationships among theoretical factors by analyzing the structural model and the measurement model separately.

Although the present study has answered some important questions, other questions triggered by the present findings may lead to answers that may help to identify better measures and approaches to resolve the delinquency problem. While the present findings need to be replicated and verified, this study's combination of methods and data provide considerable insight into how adolescent developmental assets impact juvenile delinquency.

#### 5.6 Implications for Social Work Practice and Policy

The findings of the present study reveal important conjectures for the field of social work, policy formulation and program implementation that could be far-reaching. The large percentage of females arrested as revealed in the findings of the

present study suggest that “young women have been largely overlooked in the development of juvenile policy and programs and few resources have been directed at them” (Bloom, Owen, Deschenes & Rosenbaum, 2002, p.37). The rapidly changing demographic landscape of America is challenging the field of social work and policy to research further protective factors modeling gender-appropriate interventions.

While some consensus exists regarding the promotion of developmental assets as one of the most effective protective factors to reduce the incidence of high risk behaviors and delinquency; main predicting developmental assets have not yet been identified. The findings of the present study showed that environmental and personal factors such as those included in external and internal assets latent variables have significant impact on the thriving behavior of adolescents. Thus, it is plausible to view the same factors as deterrents of delinquency since the findings showed a statistically significant relationship between low levels of assets and high risk behaviors.

Preventive policies, therefore, need to recognize the multiple pathways and implement comprehensive intervention programs addressing a broader array of delinquency factors. In addition, findings on the effect of *External Assets* and *Internal Assets* variables on *Thriving Behaviors* and *High Risk Behaviors* provide suggestive evidence that an integrated approach may be necessary for the formulation and implementation of more effective policies and programs targeting the reduction of delinquent behaviors while increasing socially desirable outcomes. For optimal effectiveness in preventing and treating delinquent behaviors, intervention programs

need to consist of multiple components to increase multiple thriving behaviors and decrease delinquency.

Lastly, using structural equation models, the present study reveals significant direct and/or indirect effects of developmental assets on delinquency. Although further research is required to verify the deterrent effects of thriving behaviors on delinquency, the effects of developmental assets on delinquency is clearly evident. The real challenge for social work, however, is to figure out how to support delinquent adolescents in terms of asset development without violating professional ethics by infringing on the values and beliefs of cross cultural groups. Often, the groups that appear to need asset building the most are ethnic groups, which are indicated by their overrepresentation in the justice system. Members of these groups, however, may experience manifestation of deviance as purposeful violations of standards or beliefs in deviant value systems often embraced by immigrants and/or adolescents (Villarruel & Walker, 2002).

However, it is important to educate families, schools, congregations, neighborhoods and institutions about the important roles they play in shaping young people's lives. Therefore, social workers have a great opportunity to provide asset building tools for clients to make positive choices, strengthening relationships and thrive. Based on the findings of this research study, social workers can develop and implement programs to enhance and expand positive youth development.

APPENDIX A

YOUTH QUESTIONNAIRE

**DEVELOPMENTAL ASSETS PROFILE**

Name \_\_\_\_\_ ID: \_\_\_\_\_ Today's \_\_\_\_\_ date

Mo: \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

Sex:  **Male**     **Female**                      **Age:** \_\_\_\_\_ **Grade:** \_\_\_\_\_ **Birthdate:**

Mo: \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

Race/Ethnicity (Check all that apply):  **American Indian/Alaskan Native**     **Asian**  
 **plain Black or African American**     **Hispanic or Latino/Latina**     **Native Hawaiian or other Pacific Islander**     **White**     **Other (Please specify):**

INSTRUCTIONS: Below is a list of positive things that you may have in your self, family, friends, neighborhood, school and community. For each item that describes you now or within the past 3 months, check if the item is true:

<b>Not At All</b>	<b>Somewhat</b>	<b>Very</b>	<b>Extremely</b>
<b>Or</b>	<b>or</b>	<b>or</b>	<b>Or</b>
<b>Rarely</b>	<b>Sometimes</b>	<b>Often</b>	<b>Always</b>

If you do not want to answer any item, leave it blank. But please try to answer all items as best you can.

Not at all	Somewhat	Very	Extremely	
or	or	or	or	
Rarely	Sometimes	Often	Always	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>I...</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. Stand up for what I believe in.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Feel in control of my life and future
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Feel good about myself
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Avoid things that dangerous or unhealthy
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Enjoy reading or being read to
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Build friendship with other people
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. Care about school
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Do my homework
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9. Stay away from tobacco, alcohol, and other drugs



- |                          |                          |                          |                          |   |
|--------------------------|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. Enjoy learning                                |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11. Express my feelings in proper ways            |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12. Feel good about my future                     |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13. Seek advice from my parents                   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14. Deal with frustrations in Positive ways       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15. Overcome challenges in positive ways          |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16. Think it is important to help other people    |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 17. Feel safe and secure at home                  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 18. Plan ahead and make good choices              |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 19. Resist bad influences                         |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20. Resolve conflicts without anyone getting hurt |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 21. Feel valued and appreciated by others         |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 22. Take responsibility for what I do             |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 23. Tell the truth even when it is no easy        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 24. Accept people who different from me           |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 25. Feel safe at school                           |

Not at all	Somewhat	Very	Extremely
or	or	or	or
Rarely	Sometimes	Often	Always

**I AM....**

- |                          |                          |                          |                          |  |
|--------------------------|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 26. Actively engage in learning new things   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 27. Developing a sense of purpose in my life |

- |                          |                          |                          |                          |  |
|--------------------------|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 28. Encouraged to try things that may be good for me           |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 29. Included in family tasks and decisions                     |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 30. Helping to make my community a better place                |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 31. Involved in a religious group or activity                  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 32. Developing good health habits                              |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 33. Encouraged to help others                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 34. Involved in a sport, club, other group                     |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 35. Trying to resolve social problems                          |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 36. Given useful roles and responsibilities                    |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 37. Developing respect for other people                        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 38. Eager to do well in school and other activities            |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 39. Sensitive to the needs and feelings of others              |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 40. Involved in creative things such as music, theater or art. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 41. Serving others in my community                             |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 42. Spending quality time at home with my parents              |

Not at all	Somewhat	Very	Extremely
or	or	or	or
Rarely	Sometimes	Often	Always

- |                          |                          |                          |                          |  |
|--------------------------|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <b>I HAVE</b>                          |
|                          |                          |                          |                          | 43. Friend who set good example for me |

- |                          |                          |                          |                          |  |
|--------------------------|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 44. A school that gives students clear rules               |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 45. Adults who are good role models for me                 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 46. A safe neighborhood                                    |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 47. Parent(s) who try to help me succeed                   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 48. Good neighbors who care about me                       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 49. A school that cares about kids and encourages them     |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 50. Teachers who urge me to develop and achieve            |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 51. Support from adults other than my parents              |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 52. A family that provides me with clear rules             |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 53. Parents who urge me to do well in school               |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 54. A family that gives me love and support                |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 55. Neighbors who help watch out for me                    |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 56. Parent(s) who are good at talking with me about things |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 57. A school that enforces rules fairly                    |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 58. A family that knows where I am and what I am doing     |

**Please answer the following questions honestly. Remember you are not required to put your name in these forms, so no one will ever be able to tell how you answered.**

**59. How many people live in your home?**

- Less than 2 people
- 2-3 people
- 3-4 people
- More than 4 people

**60. Which of these best describe your family's household income per year?**

- Less than \$20,000.00
- \$20,000.00 to \$40,000.00
- \$40,000.00 to \$60,000.00
- \$60,000.00 to \$80,000.00
- \$80,000.00 to \$100,000.00
- \$More than \$100,000.00

**61. Have you ever been arrested, indicted, or summoned into court as a defendant in a criminal proceeding, or convicted, fined or imprisoned for the violation of any law (excluding minor traffic violations)?**

- Yes
- No

**62. How many times, if any, have you been arrested?**

- 0
- 1-2 times
- 3-6 times
- 7 or more times

**62. 100 –How often did you feel sad or depressed last month?**

- All of the time
- Most of the time
- Some of the time
- Once in a while
- Not at all

**64. Sometimes I feel my life has no purpose?**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

65. **On the whole I like myself**

Strongly Agree     Agree     Not Sure     Disagree     Strongly Disagree

66. **At times, I think I am no good at all**

Strongly Agree     Agree     Not Sure     Disagree     Strongly Disagree

67. **All in all, I am glad I am me**

Strongly Agree     Agree     Not Sure     Disagree     Strongly Disagree

68. **I feel I do not have much to be proud of**

Strongly Agree     Agree     Not Sure     Disagree     Strongly Disagree

69. **During the last 12 months how many times have you stolen something from a store?**

Never     Once     Twice     3-4 Times     5 or More Times

70. **During the last 12 months how many times have you gotten in trouble with the police?**

Never     Once     Twice     3-4 Times     5 or More Times

71. **During the last 12 months how many times did you hit or beat up someone?**

Never     Once     Twice     3-4 Times     5 or More Times

72. **During the last 12 months how many times have you damaged property just for fun (such as breaking windows, scratching a car, putting paint on walls etc.)?**

Never     Once     Twice     3-4 Times     5 or More Times

73. **Come to class without bringing paper or something to write with?**

Usually     Sometimes     Never

74. **Come to class without your homework finished?**

Usually     Sometimes     Never

**75. Come to class without your books?**

- Usually      Sometimes      Never

**76. During the last four weeks, how many days of school have you missed because you skipped or “ditched”?**

- None                                          4-5 days  
 1 day     6-10 days  
 2 days      11 or more days

**77. Taking good care of my body (such as eating foods that are good for me, exercising regularly, and eating three good meals a day)**

- Not At All Like Me     A Little Like Me     Somewhat Like Me     Quite Like Me  
 Very Much Like Me

**78. How many times, if any, have you had alcohol to drink...?**

	Number of times							
	0	1	2	3-6	6-9	9-20	20-30	30+
In your lifetime.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the last 12 months	..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the Last 30 days	..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**79. How many times, if any, have you smoked cigarettes...?**

	Number of times							
	0	1	2	3-6	6-9	9-20	20-30	30+
In your lifetime.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the last 12 months	..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the Last 30 days	..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**80. How many times, if any, have you smoked marijuana or hash...?**

	Number of times							
	0	1	2	3-6	6-9	9-20	20-30	30+
In your lifetime.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the last 12 months	..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the Last 30 days	..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**81. How many times, if any, have you used cocaine...?**

	Number of times							
	0	1	2	3-6	6-9	9-20	20-30	30+
In your lifetime.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the last 12 months	..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the Last 30 days	..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**82. When you have sex, if you do, how often do you or your partner use a birth control method such as control pills, condom, foam, diaphragm or IUD?**

- |   |                                 |
|---|---------------------------------|
| <input type="checkbox"/> \plain Never     | <input type="checkbox"/> Often  |
| <input type="checkbox"/> \plain Seldom    | <input type="checkbox"/> Always |
| <input type="checkbox"/> \plain Sometimes |                                 |

**83. On an average school day, about how much time do you spend doing homework outside of school?**

- |   |  |
|---|--|
| <input type="checkbox"/> None                             | <input type="checkbox"/> 1 hour          |
| <input type="checkbox"/> Half hour or less                | <input type="checkbox"/> 2 hours         |
| <input type="checkbox"/> Between half an hour and an hour | <input type="checkbox"/> 3 hours or more |

**84. What grades do you earn in school?**

- Mostly As  Mostly Cs  
 About half As and half Bs  About half Cs and half  
Ds  
 Mostly Bs  Mostly below Ds  
 About half Bs and half Cs

**85. At school I try as hard as I can to do my best work**

- Strongly Agree  Agree  Not Sure  Disagree  Strongly  
Disagree

**86. Getting to know people who are of different race than I am?**

- Not Important  Somewhat Important  Important   
Very Important

**87. Respecting the values and belief of people who are of different race than I am**

- Not At All Like Me  A Little Like Me  Somewhat Like Me  Quite Like Me  
 Very Much Like Me

**88. Knowing a lot about people of different race than I am...**

- Not At All Like Me  A Little Like Me  Somewhat Like Me  Quite Like Me  
 Very Much Like Me

**89. Enjoy being with people who are of different race than I am**

- Not At All Like Me  A Little Like Me  Somewhat Like Me  Quite Like Me  
 Very Much Like Me

**THANK YOU FOR COMPLETING THIS FORM.**



APPENDIX B

INTERNAL CONSISTENCIES OF THE ORIGINAL DAP

INTERNAL CONSISTENCIES OF THE ORIGINAL DAP

	Overall	Gender		Grades			
		Males	Females	6-8	9-12	White	
n=	1,295	614	681	606	689	1,006	295
Asset Category							
I. Support	.85	.86	.85	.84	.85	.86	.83
II. Empowerment	.77	.79	.78	.77	.77	.77	.76
III. B & E	.87	.88	.85	.85	.85	.87	.84
IV. CUT	.59	.60	.55	.58	.57	.60	.52
V. CTL	.85	.86	.83	.86	.83	.86	.82
VI. Positive Values	.87	.87	.85	.88	.86	.87	.84
VII. SC	.82	.82	.81	.83	.82	.82	.80
VIII. Positive ID	.85	.85	.84	.84	.84	.85	.82
External	.93	.94	.93	.93	.93	.93	.92
Internal	.95	.95	.94	.93	.94	.95	.94
Total	.97	.97	.96	.97	.97	.97	.96
Context Area							
A. Personal	.87	.87	.85	.88	.86	.87	.84
B. Social	.90	.90	.88	.90	.89	.90	.87
C. Family	.91	.89	.91	.90	.92	.92	.90
D. School	.89	.89	.88	.90	.87	.89	.88
E. Community	.85	.86	.82	.86	.83	.85	.83

Two-week Test-retest reliabilities of the DAP Asset Category and Context Area

Scales. Entries are product-moment correlations:

	Overall	Gender		Grades	
		Males	Females	6-8	9-12
N =	225	112	113	101	124
Asset Category					
I. Support	.84	.84	.83	.83	.84
II. Empowerment	.74	.70	.76	.75	.72
III. B & E	.74	.69	.79	.70	.74
IV. CUT	.74	.67	.79	.69	.75
V. CTL	.84	.84	.83	.83	.84
VI. Positive Values	.80	.77	.80	.77	.80
VII. SC	.81	.80	.83	.80	.82
VIII. Positive ID	.78	.73	.82	.77	.77
External	.84	.83	.85	.82	.84
Internal	.86	.85	.86	.85	.86
Total	.87	.86	.87	.86	.86
Context Area					
A. Personal	.84	.83	.85	.82	.85
B. Social	.85	.83	.86	.84	.85
C. Family	.85	.81	.89	.82	.86
D. School	.87	.86	.88	.87	.85
E. Community	.78	.78	.76	.72	.80

APPENDIX C

VARIABLES AND CORRESPONDING ITEMS

VARIABLES AND CORRESPONDING ITEMS

<b>EXTERNAL ASSETS</b>	
<b>Support</b>	13. Seek advice from my parents 47 Parent(s) who try to help me succeed 48 Good neighbors who care about me 49 A school that cares about kids and encourages them 51 Support from adults other than my parents 54 A family that gives me love and support 56 Parent(s) who are good at talking with me about things
<b>Empowerment</b>	17 Feel safe and secure at home 21 Feel valued and appreciated by others 25 Feel safe at school 29 Included in family tasks and decisions 36 Given useful roles and responsibilities 46 A safe neighborhood
<b>Boundaries &amp; Expectations</b>	43 Friend who set good example for me 44 A school that gives students clear rules 45 Adults who are good role models for me 50 Teachers who urge me to develop and achieve 52 A family that provides me with clear rules 53 Parents who urge me to do well in school  55 Neighbors who help watch out for me 57 A school that enforces rules fairly 58 A family that knows where I am and what I am doing
<b>Constructive Use of Time</b>	31 Involved in a religious group or activity 34 Involved in a sport, club, other group 40 Involved in creative things such as music, theater or art. 42 Spending quality time at home with my parents
<b>INTERNAL ASSETS</b>	
<b>Commitment to Learning</b>	5 Enjoy reading or being read to 7 Care about school 8 Do my homework 10 Enjoy learning 26 Actively engage in learning new things

<b>Positive Value</b>	<p>1 Stand up for what I believe in.  9 Stay away from tobacco, alcohol, and other drugs  16 Think it is important to help other people  22 Take responsibility for what I do  23 Tell the truth even when it is no easy  30 Helping to make my community a better place  33 Encouraged to help others  35 Trying to resolve social problems  37 Developing respect for other people  41 Serving others in my community</p>
<b>Social Competency</b>	<p>6 Build friendship with other people  11 Express my feelings in proper ways  18 Plan ahead and make good choices  19 Resist bad influences  20 Resolve conflicts without anyone getting hurt  24 Accept people who different from me  39 Sensitive to the needs and feelings of others</p>
<b>Positive Identity</b>	<p>2 Feel in control of my life and future  3 Feel good about myself  12 Feel good about my future 14  15 Overcome challenges in positive ways  27 Developing a sense of purpose in my life</p>
<b>HIGH RISK BEHAVIOR</b>	
<b>Depression &amp; Attempt Suicide</b>	<p>62- How often did you feel sad or depressed last month?  64. Sometimes I feel my life has no purpose?  65. On the whole I like myself  66. At times, I think I am no good at all  67. All in all, I am glad I am me  68. I feel I do not have much to be proud of</p>
<b>Substance Use/Abuse</b>	<p>78. How many times, if any, have you had alcohol to drink...?  79. How many times, if any, have you smoked cigarettes...?  80. How many times, if any, have you smoked marijuana or hash...?  81. How many times, if any, have you used cocaine..</p>

<b>School Problem</b>	<p>73. Come to class without bringing paper or something to write with?</p> <p>74. Come to class without your homework finished?</p> <p>75. Come to class without your books?</p> <p>76. During the last four weeks, how many days of school have you missed because you skipped or "ditched"?</p>
<b>THRIVING BEHAVIOR</b>	
<b>Maintain Good Health</b>	<p>4 Avoid things that dangerous or unhealthy (from: <i>SocialCompetency</i>)</p> <p>28 Encouraged to try things that may be good for me (from: <i>Commitment to Learning</i>)</p> <p>32 Developing good health habits (from: <i>Positive Values</i>)</p> <p>77 Taking good care of my body (such as eating foods that are good for me, exercising regularly, and eating three good meals a day)</p>
<b>Success in School</b>	<p>38 Eager to do well in school and other activities (from: <i>Commitment to Learning</i>)</p> <p>83. On an average school day, about how much time do you spend doing homework outside of school</p> <p>84. What grades do you earn in school</p> <p>85. At school I try as hard as I can to do my best work</p>
<b>Value Diversity</b>	<p>86. Getting to know people who are of different race than I am</p> <p>87. Respecting the values and belief of people who are of different race than I am</p> <p>88. Knowing a lot about people of different race than I am</p> <p>89. Enjoy being with people who are of different race than I am</p>
<b>DELINQUENCY</b>	
<b>Criminal Behavior1</b>	<p>69. During the last 12 months how many times have You stolen something from a store?</p>
<b>Criminal Behavior2</b>	<p>70. During the last 12 months how many times have you gotten in trouble with the police?</p>
<b>Criminal Behavior3</b>	<p>71. During the last 12 months how many times did you hit or beat up someone?</p>

<b>Criminal Behavior4</b>	71. During the last 12 months how many times have you damaged property just for fun (such as breaking windows, scratching a car, putting paint on walls etc.)?
<b>Frequency of Arrest</b>	62. How many times, if any, have you been arrested?



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## BIOGRAPHICAL INFORMATION

Jackson de Carvalho received his Bachelors Degree in Psychology at the State University of New York, a Masters in Social Work at Andrews University and his Doctorate of Philosophy in Social Work from the University of Texas at Arlington and Autonoma University of Nuevo Leon. His professional areas of interest include Organizational Development, Policy Analysis, Research and Evaluation. His professional goals include teaching and management consulting with a special focuses on the areas of Policy, Fund Development, Grant Proposal Writing, Strategic Planning, Program Development, Evaluation, Contract Development & Negotiation, and Global Business Practices.