Developmental Assets Model of High Risk Behaviors, Thriving Behaviors and Juvenile Delinquency

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Abstract

Developmental assets are the building blocks of development that help young people grow-up to be healthy, caring, and responsible persons. It was hypothesized that levels of developmental assets are associated with levels of juvenile delinquency. Relations between variables related to juvenile delinquency were explored using structural equation modeling techniques. The results showed significant direct and/or indirect effects of developmental assets on juvenile delinquency. The relationship among the developmental factors had an effect on thriving behavior and high risk behaviors which are underlying mechanisms of juvenile delinquency. The identification of these predictors of juvenile delinquency can greatly increase the ability to better understand and control delinquent behaviors.

Keywords: Developmental assets, developmental factors, juvenile delinquency, and structural equation modeling.

Introduction

According to Siegel & Welsh (2008) and the Juvenile Justice Bulletin (2009), most juvenile crimes are increasingly committed at younger ages, and frequently marked by brutality and gratuitous violence. The Federal Bureau of Investigation (2010) reported that from 2005 to 2010 Texas increased the number of incarcerated juveniles under the age of 17 by 48%. Juveniles are persons age 10-16 only, as defined in Section 51.02, 2A of the Texas Family Code, although the Uniform Crime Reporting (UCR) defines a juvenile as an individual 10-17 years of age.

The Fiscal Year Statistical Report (2010) shows that over 80% of the juveniles incarcerated in the Texas Youth Commission (TYC) are members of ethnically diverse groups. Unfortunately, Hispanics comprise the largest group of juveniles detained in Texas as the TYC reported that in 2011, 48 % of the incarcerated youth are Hispanics. Hispanics, however, represent only 36.0% (Snyder, 2008; U.S. Census Bureau, 2011) of the state's population. According to the U.S. Census Bureau (2011), the term Hispanic is used to describe persons from a Spanish speaking country or individuals with a common Spanish descent. Juvenile delinquency is defined by Macionis (2010) and the UCR (2011), as a violation of any law punishable by incarceration by a minor.

The high prevalence of juvenile delinquency in Texas increased the incidence of young Texans being arrested and it has contributed to the additional state spending on juveniles serving time (Fiscal Year Statistical Report, 2010). At $170 a day, the state cost of caring for each juvenile detained at the TYC is nearly three times the average of the $60 a day cost for adult prisoners (U.S. Census Bureau, 2011).

It is noteworthy that it costs $7,136 per pupil for a year of public education, while the cost of incarcerating a child in the Texas Youth Commission is $61,000 (Fiscal Year Statistical Report, 2010; Grissom, 2010). In light of these figures, this study proposes to examine factors that contribute to thriving behaviors, high risk and juvenile delinquency arrest in Texas within the framework of developmental assets.

According to Search Institute (2008), 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. 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 (Scales, & Benson, 2006). These external experiences support and empower young people, set boundaries and expectations, and define constructive use of young people's time.

Research conducted by Scales and Benson (2006) found the framework of developmental assets to be a valuable tool for discerning both obvious and more subtle differences within and among groups of young people. Furthermore, the research of Rose (2006) using an asset-based approach focusing on strengths as opposed to weaknesses, concluded that the framework of developmental assets is a basis for interventions in the context of youth outcomes. These insights can lead to new understandings of how to identify developmental assets with the strongest indicators of high-risk and/or thriving behaviors and their impact on juvenile delinquency. The identification of these assets can provide benchmark data to gauge community-based policy and program initiatives aimed at maximizing positive outcomes.

The study tested the suitability of the Search Institute's model for criminological studies targeting the identification of factors to be used in the prevention of juvenile delinquency. This was accomplished by testing the following research question, What are the main predictors for juvenile delinquency among Hispanic youth in Texas in the areas of external assets, internal assets, high-risk behaviors, and thriving behaviors. The statistical hypotheses for the study were:

Hypothesis 1: Higher levels of external assets are associated with higher levels of internal assets.
Hypothesis 2: Lower levels of internal assets are associated with higher levels of high risk behaviors
Hypothesis 3: Higher levels of internal assets are associated with higher levels of thriving behavior
Hypothesis 4: Higher levels of high risk behaviors are associated with higher levels of juvenile delinquency.
Hypothesis 5: Lower levels of thriving behaviors are associated with higher levels of juvenile delinquency.
Hypothesis 6: Higher levels of high risk behavior are associated with lower levels of thriving behavior.
Hypothesis 7: Lower levels of external assets are associated with higher levels of high risk behavior.

Methods

Participants

The study used a data set drawn from surveys randomly administered by the Principal of Sunset High School in Dallas, Texas. The data collection took place in February 2007, and contained no identifiable personal information from any of the participants. The sample for this research study included 200 14-16 year old male and female Hispanics. The sample size was determined by power analysis using Lenth's (2006) computer software employing a medium effect size of 0.3, alpha set at 0.05, and power of .80. 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 had a sample size of 200, it met the sample size and power recommendations.

Instrumentation

The Developmental Assets Profile (DAP) survey instrument was used in the data collection for the study. According to Sesma (2004), the DAP was developed to measure developmental assets within the context of four External Asset Categories (Support, Empowerment, Boundaries and Expectations, Constructive Use of Time) and four Internal Asset Categories (Commitment to Learning, Positive Values, Social Competencies, Positive Identity). Since 40 independent variables are unwieldy for analytic purposes, the 8 asset categories are much more suitable as units of analyses. Reliability of scores for this instrument was established using Cronbach's *coefficient alpha*. The internal consistency coefficient was appropriate and averaged .906 for the eight asset category scales.

Design and Analysis

Measurement models defined the latent variables (constructs) using sets of observed variables. The measurement models were tested using confirmatory factor analysis. Structural equation modeling (SEM) was used to test the hypothesized developmental assets model. The hypothesized structural equation model tested the significance of structure coefficients and relations amongst the latent variables. An SPSS data set was imported into AMOS software to conduct the analyzes.

Five latent variables were defined using nineteen observed variables. The 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 behavior3), *crimin4* (criminal behavior4), and *freque* (frequency of arrest). Thus, nineteen observed variables were used to create five latent variables, which were used to test a structural equation model that hypothesized specific relations among the latent variables.

Results

Measurement Models

The measurement models were tested 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.

External Assets

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.* 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. The CFA model results are shown in Table 1.1.

Table 1.1. External Assets

Variable	External Assets	
	Lambda (λ)	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

The four indicator variables fit the hypothesized CFA model (chi-square = .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 amongst the observed variables in the sample matrix was reproduced by the hypothesized confirmatory factor model. The observed variable, Bound (boundaries and expectations), had the highest factor loading (validity coefficient) and corresponding communality estimate.

Internal Assets

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*. Including correlation of error covariance (r = -.503) between Posit (having positive values error_p) and Commit (commitment to learning error_c) improved model fit. The CFA model results are listed in Table 1.2.

Table 1.2. Internal Assets

Variable	Internal Assets	
	Lambda (λ)	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

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 amongst the observed variables in the sample matrix was reproduced by the hypothesized confirmatory factor model. The observed variable, *Commit (*committment to learning), had the highest factor loading (validity coefficient) and corresponding communality estimate.

High Risk Behavior

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*. Using recommendations by Schumacker and Lomax (2004), the original variable *Substance Use/Abuse* was rescaled to *Substance Use/Abuse*10 (*Substance Use/Abuse* divided by 10) to bring its mean and variance into alignment with the other two observed variables because the disparately large variance of *Substance Use/Abuse* 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. The CFA model results are in Table 1.3.

Table 1.3. High Risk Behavior

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

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

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 amongst the observed variables in the sample matrix was reproduced by the hypothesized confirmatory factor model. The observed variable, *Depression and Attempt Suicide*, had the highest factor loading (validity coefficient) and corresponding communality estimate.

Thriving Behavior

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 *Thriving Behavior*. Including correlation of error covariance (r = -.91) between VDivrst (value diversity error_v) and MantGH (maintain good health error_m) improved model fit. The CFA model results are in Table 1.4.

Table 1.4.Thriving Behavior

Variable	Thriving Behavior	
	Lamda (λ)	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

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 amongst 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.

Juvenile Delinquency

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*. 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. The CFA model results are in Table 1.5.

The CFA model results indicated that 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 amongst 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.

Table 1.5. Juvenile Delinquency

Variable	Juvenile Delinquency	
	Lamda (λ)	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, that is, non-significant chi-square fit statistics. The Juvenile Delinquency confirmatory factor model had a 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 1.6.

Table 1.6. 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%

Structural Equation Model

A structural equation model was hypothesized to explain the relations amongst the latent variables defined by the confirmatory factor measurement models. The initial model (Figure 2.1. Appendix A) 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 was 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 2.2. Appendix A). The modified model, Model B, however, did not have acceptable model fit statistics as the AGFI value was below 0.90.

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 2.3. Appendix A). 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. Table 2.1. presents the model fit statistics for the following three structural equation models. 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.

Table 2.1. Structural Equation Model Fit Statistics

Model	Chi-square	df	p	GFI
A	69.04	5	.0001	.88
B	14.33	4	.006	.97
C	1.78	3	.62	.99

Structure Coefficients

Structure coefficients in the hypothesized structural equation model can be tested for statistical significance. Statistical significance is determined computing a T-value, which is the structure coefficient estimate divided by the standard error of the estimate at the .05 level of significance. Each structure coefficient is labeled with a lower case letter.

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:
Ho: $\gamma_{12} = 0$
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 which 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. This is stated in the null and alternative hypothesis form as:
Ho: $\gamma_{23} = 0$
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. This is stated in the null and alternative hypothesis form as:

Ho: $\gamma_{24} = 0$
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. This is stated in the null and alternative hypothesis form as:
Ho: $\gamma_{35} = 0$
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. This is stated in the null and alternative hypothesis form as:
Ho: $\gamma_{45} = 0$
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 2.2.). A negative statistically significant structure coefficient is desired. This is stated in the null and alternative hypothesis form as:
Ho: $\gamma_{34} = 0$
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 2.3.). A negative statistically significant structure coefficient is desired. This is stated in the null and alternative hypothesis form as:
Ho: $\gamma_{13} = 0$
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.

Summary

The measurement models which defined the latent variables in the study had acceptable model fit. The final structural equation model in Figure 2.3., established hypothesized relations amongst the latent variables. The final 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 were all statistically significant and in the hypothesized direction (positive or negative). The hypothesized relations in the structural equation model 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 2.2. 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 – Internal Assets) * (1 – High Risk Behavior) * (1 – Thriving Behavior), which equals 1 – (1 - .402) * (1 - .333) * (1 - .710) or 1 – (.598) (.667) (.29)] = 1 - .12 = .88 or 88%.

Table 2.2. R-squared values in Model C

Model C Structural Paths	R	R^2
External Assets -> Internal Assets	.634	.402
External Assets + Internal Assets -> High Risk Behavior	.577	.333
Internal Assets + High Risk Behavior -> Thriving Behavior	.843	.710
High Risk Behavior + Thriving Behavior -> 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 Rose (2006), Smith and Barker (2009) and Steinberg and Lerner (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 Smith and Barker (2009) refer to high-risk behavior as destructive and illegal activities, which often lead to greater involvement in delinquent behaviors. Siegel and Welsh (2008) and Powell (2008) explain that the degree and intensity to which adolescents exhibits high-risk behaviors determine how much at-risk they really are.

The results computed 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 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 Chapman and Werner-Wilson (2008) as they concluded that high-risk behaviors do 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 confirmed by Boswell (2008), Rose (2006) and Smith and Barker (2009) as they found that when young people experience difficulties in navigating the biopsychosocial watershed of adolescence, academic achievement is likely to decline. Furthermore, the research studies of Smith and Barker (2009) found when a young person experiences low levels of maintenance of good health, school success and low levels of value diversity, the potential for engagement in delinquent activities increases exponentially. A lack of appreciation of the rich mosaic of differences in the young person's community precludes group dynamics and helps create a mindset 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 in 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 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 also noteworthy, that from a development perspective (Scales & Benson, 2006), the youth's development and engagement in delinquency transcends the boundaries of conventional beliefs that single factors lead to a particular outcome. In fact, Smith and Barker (2009), argue that the integration of biopsychosocial factors and a dynamic interaction 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 (Siegel & Welsh, 2008, Macionis, 2010). By broadening the definition of the latent outcome variable, a greater range of indicator variables would be incorporated. This structural equation model should also be tested with other ethnic populations.

Implications for Practice

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 understand and treat delinquent behaviors. The results of the study indicated that a fuller understanding of developmental asset factors offer a significant contribution to research on juvenile 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, attempted suicide, and substance use may have a significant independent effect on delinquency, the present study indicated 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 and has practical implications for the field of social work and policy.

While some consensus exists regarding developmental assets as one of the most effective factors in understanding the incidence of high risk behaviors and delinquency; other developmental assets remain to be identified. The findings of the 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 delinquent behaviors, intervention programs need to consist of multiple components to increase multiple thriving behaviors and decrease delinquency.

The statistically significant structural equation model (Model C) in the study indicated 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 study, practitioners should develop and implement programs to enhance and expand positive youth development.

Appendix A

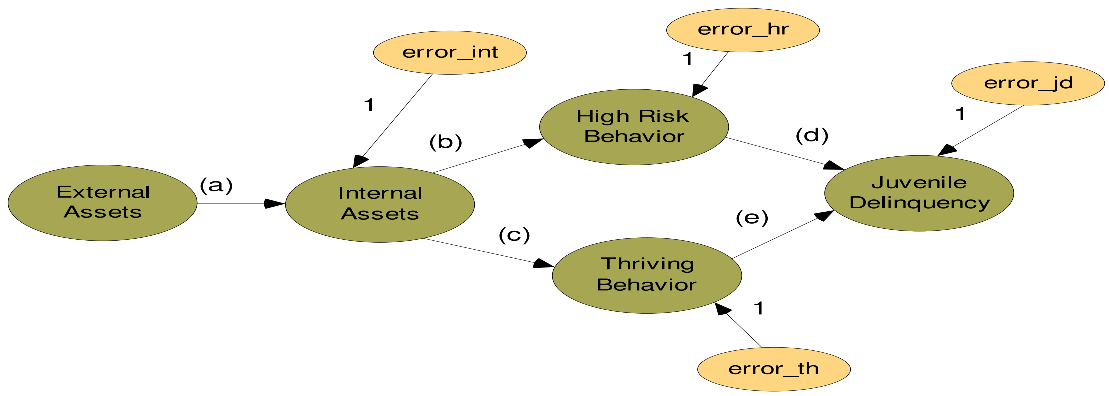

Figure 2.1. Initial Structural Equation Model (Model A)

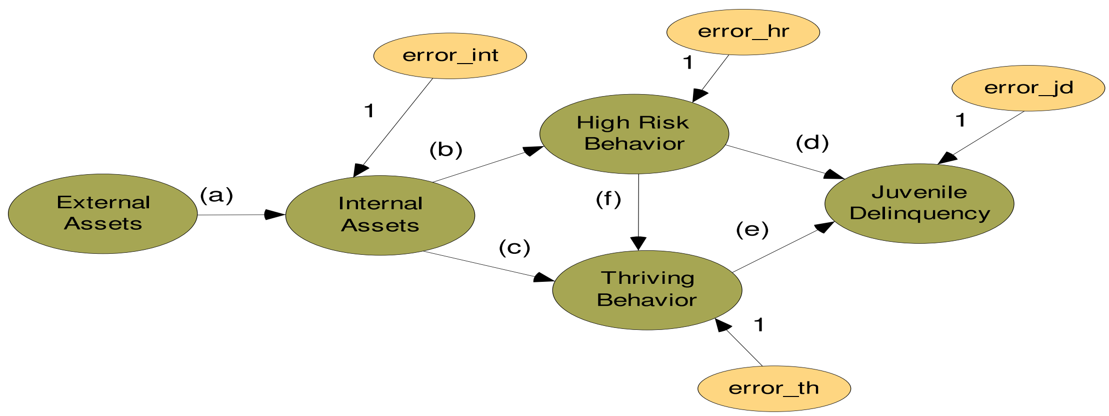

Figure 2.2. Modified Structural Equation Model (Model B)

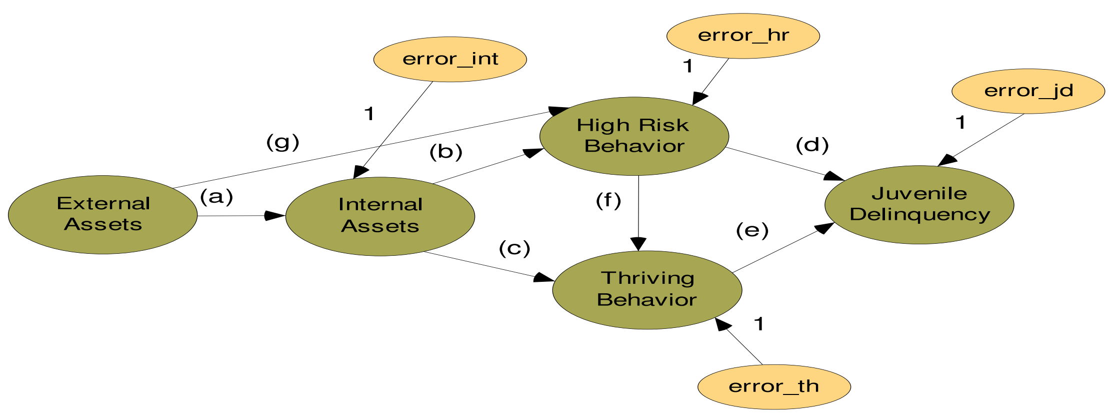

Figure 2.3. Final Structural Equation Model (Model C)

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