

The Evolution of General Strain Theory:
A Comprehensive Review and Test of Robert Agnew's 2002 Extension

by
Krystal Davidowitz

A Thesis Submitted to the Faculty of
College for Design and Social Inquiry
In Partial Fulfillment of the Requirements for the Degree of
Masters of Science

Florida Atlantic University

Boca Raton, FL

May 2017

Copyright by Krystal Davidowitz 2017

The Evolution of General Strain Theory:

A Comprehensive Review and Test of Robert Agnew's 2002 Extension

by

Krystal Davidowitz

This thesis was prepared under the direction of the candidate's thesis advisor, Dr. Bruce J. Arneklev, School of Criminology & Criminal Justice, and has been approved by the members of her supervisory committee. It was submitted to the faculty of Florida Atlantic University and was accepted in partial fulfillments of the requirement for the degree of Master of Science.

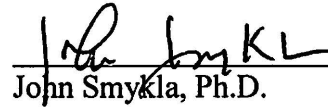
SUPERVISORY COMMITTEE:



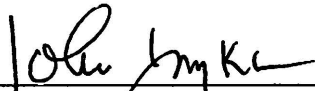
Bruce J. Arneklev, Ph.D.
Thesis Advisor



Lisa Dario, Ph.D.



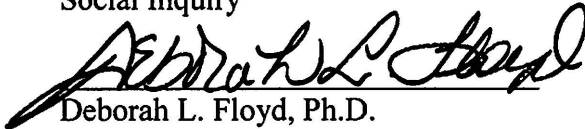
John Smykla, Ph.D.



John Smykla, Ph.D.
Director, Criminology & Criminal Justice



Wesley Hawkins, Ph.D.
Interim Dean, College of Design and
Social Inquiry



Deborah L. Floyd, Ph.D.
Dean, Graduate College

May 1, 2017

Date

Acknowledgements

I would like to express my upmost and sincere gratitude to my thesis advisor, Dr. Bruce Arneklev, for his undying positivity, guidance and support during the writing of this manuscript. I am so grateful to have had a mentor who could inspire me the way he did. I am also incredibly thankful to my grandparents; without them, graduate school would've been nothing but a dream. Lastly to my parents, brother, and boyfriend whose never ending support pushed, guided and carried me.

Abstract

Author: Krystal Davidowitz
Title: The Evolution of General Strain Theory: A Comprehensive Review and Test of Robert Agnew's 2002 Extension
Institution: Florida Atlantic University
Thesis Advisor: Dr. Bruce Arneklev
Degree: Master of Science
Year: 2017

This thesis provides a comprehensive review of the evolution of Robert Agnew's General Strain Theory of Delinquency, and tests his 2002 extension using two subsamples from the 2013 National Survey on Drug Use and Health: Juveniles between 12 and 17, and "emerging" adults that are 18 years old. Including an "emerging" adult subsample makes this analysis one of the first full tests of adults. Additionally, this analysis is the first partial test of Agnew's 2013 extension of General Strain Theory. Overall, the results of the analysis lend support to Agnew's 2002 extension. Measures of strain are revealed to significantly effect measures of negative emotionality and low self-constraint, and measures of negative emotionality and low self-constraint significantly affect delinquency/deviance and illicit substance use. A major limitation to the thesis is that there is no negative emotionality measure of anger, which is Agnew's (1985; 1992) key measures of negative emotionality.

Dedication

This manuscript is dedicated to all fallen law enforcement officers and their families. I know that there is no amount of consolation for the ultimate sacrifice, but thank you for all of your hard work, protection, and love, for the preservation of this country, and our freedoms of life, liberty, and the pursuit of happiness.

The Evolution of General Strain Theory:

A Comprehensive Review and Test of Robert Agnew's 2002 Extension

List of Tables.....ix

List of Figures.....xi

Chapter 1 – Introduction.....1

Chapter 2 – Literature Review.....7

 Classical Strain Theories.....7

 A Revised Strain Theory.....10

 A General Strain Theory of Crime and Delinquency.....14

 2001 Extension on General Strain Theory.....20

 2002 Extension of General Strain Theory.....23

 2013 Extension of General Strain Theory.....26

 Current Study.....28

Chapter 3 – Methods.....31

 Sample.....31

 Measures.....33

 Hypotheses.....43

 Analytic Procedure.....56

Chapter 4 – Analysis.....57

 Juvenile Subsample.....59

“Emerging” Adult Subsample.....	66
Chapter 5 – Discussion.....	72
Tables.....	80
Figures.....	94
Appendix.....	101
References.....	104

Tables

Table I. Youth Sample Descriptive Statistics.....80

Table II. “Emerging” Adult Sample Descriptive Statistics.....81

Table III. Youth Sample Correlation Table.....82

Table IV. Youth Sample OLS Regression for the Effect of Strain on Negative School
Emotionality, Depression, and Self-Constraints (Controlling for Gender, Age,
and Race).....83

Table V. Youth Sample OLS Regression for the Effect of Negative School Emotionality,
Depression, and Risky Behavior on General Delinquency (Controlling for
Social Control, Differential Association, Beliefs toward Delinquency,
Religiosity, Gender, Age and Race).....84

Table VI. Youth Sample OLS Regression for the Effect of Strain, Negative Emotionality,
Depression, and Self-Constraint on General Delinquency (Controlling for Social
Control, Differential Association, Beliefs toward Delinquency, Religiosity,
Gender, Age and Race).....85

Table VII. Youth Sample OLS Regression for the Effect of Negative School
Emotionality, Depression, and Self-Constraint on Illicit Substance Use
(Controlling for Social Control, Differential Association, Beliefs toward
Delinquency, Religiosity, Gender, Age and Race).....86

Table VIII. Youth Sample OLS Regression for the Effect of Strain, Negative School

School Emotionality, Depression, and Self-Constraint on Illicit Substance Use (Controlling for Social Control, Differential Association, Beliefs toward Delinquency, Religiosity, Gender, Age and Race).....	87
Table IX. “Emerging” Adult Sample Correlation Table.....	88
Table X. “Emerging” Adult Sample OLS Regression for the Effect of Strain on Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and Self Constraints (Controlling for High School Graduate, Gender, and Race).....	89
Table XI. “Emerging” Adult Sample OLS Regression for the Effect of Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and Self-Constraint on General Deviance Index (Controlling for Religious Involvement, Beliefs toward Deviance, Religiosity, High School Graduate, Gender and Race).....	90
Table XII. “Emerging Adult Sample of OLS Regression for the Effect of Strain, Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and Self Constraint on Illicit Substance Index (Controlling for Religious Involvement, Beliefs toward Deviance, Religiosity, High School Graduate, Gender and Race).....	91
Table XIII. “Emerging” Adult Sample OLS Regression for the Effect of Strain, Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and Self Constraint on General Deviance Index (Controlling for Religious Involvement, Beliefs toward Deviance, Religiosity, High School Graduate, Gender and Race).....	92
Table XIV. “Emerging” Adult Sample OLS Regression for the Effect of Strain, Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and	

Self-Constraint on Illicit Substance Index (Controlling for Religious
Involvement, Beliefs toward Deviance, Religiosity, High School Graduate,
Gender and Race.....93

Figures

Figure 1. Robert K. Merton's (1938/1942/1968) Strain Theory.....	94
Figure 2. Robert Agnew's (1985) Revised Strain Theory.....	95
Figure 3. Robert Agnew's (1992) General Strain Theory [Theory Clarification].....	96
Figure 4. Robert Agnew's (2002) Extension of General Strain Theory [Theory Clarification with Test].....	97
Figure 5. Robert Agnew's (2013) Extension of General Strain Theory [Theory Clarification].....	98
Figure 6A. Robert Agnew's (2002/2013) General Strain Theory with youth between the ages of 12 and 17.....	99
Figure 6B. Robert Agnew's (2002/2013) General Strain theory with 18 year old adults.....	100

Chapter I

Introduction

Agnew's (1992, 2001, 2013) General Strain Theory (GST) was initially developed as a response to criticisms of Merton's (1938) classic Strain Theory (Agnew, Brezina, Wright, & Cullen, 2002). Since its development, GST has gone through two major revisions. Because of each of these theoretical developments, GST has become one of the leading theories of crime today (Broidy, 2001; Froggio & Agnew, 2007; Hoffman & Miller, 1998). More generally, GST suggests that adolescents who experience strain fall into a negative affective state which can result with delinquency as a form of corrective action (Agnew, 1992). An example is as such: A child runs away from home because s/he is angry about the parental abuse they are subjected to. In this situation, parental abuse is strain and running away is a delinquent form of corrective action. This thesis attempts to test Agnew et al.'s (2002) GST.

Merton's (1938) classic strain theory suggests that crime is the result of strain. The theory suggests that those who are subjected to strain will act out in unconventional ways in order to find resolution. According to Merton (1938), strain is defined as the inconsistency between aspiration, expectation, and the actual achievement of goals. In other words, strain occurs when an individual aspires to reach a conventionally goal, but is negatively affected by an outcome that is not what they expected. For example, an individual goes to college in order to obtain a high paying job but is unable to find one

after graduation. In this situation, the strain according to the classic strain theory tradition is the inability to achieve positively valued goals due to the unavailability of legitimate opportunity (Agnew, 1985, 1992; Cullen, 1988; Hollist, Hughes, & Schaible, 2009; Merton, 1938). The positively valued goal that has received the most attention from classical strain theorists was the achievement of monetary success (Agnew, 1985, 1992; Kornhauser, 1978; Merton, 1938). According to classic strain theory, individuals who have problems achieving monetary success through the acquisition of a job (or a high paying job) will become frustrated and pursue monetary success through the use of illegitimate opportunities such as fraud and theft. Strain theory became widely accepted in the criminological world until some major criticisms emerged (Broidy, 2001; Cullen, 1988; Hirshi, 1972; Kornhauser, 1978).

One major criticism of classic strain theory was that it only explained crime in the lower social class (Broidy, 2001; Cullen, 1988; Kornhauser, 1978). The theory does not provide an explanation for crime in the middle and upper social classes. Crime does occur in the middle and upper class, yet these individuals have achieved some form of economic achievement. Using Merton's (1938) definition of strain, people who are in the middle and upper class have legitimate opportunities to succeed so they should not commit crime. A second major criticism of classical strain theory was that it could not explain juvenile delinquency. Most individuals participate in delinquency at a young age, and since the achievement of monetary success is typically not considered an immediate goal of adolescents, the explanation of crime that classic strain theory provided could not be applied to youth (Hirschi, 1969; Hirschi, 1972; Kornhauser, 1978).

Agnew (1985) attempted to modify Merton's (1938) strain theory so that it could overcome these criticisms. In order to develop an explanation of delinquency as well as an explanation of deviance in all social classes, Agnew argued that much of the deviance that adolescents become involved in was a result from strain caused by a disconnection between the aspiration of immediate goals more relevant to younger individual's lives (e.g., popularity, good grades and healthy parental relationships) and the ability to achieve these goals. The inability to achieve these desired goals of youth cause strain; and it is a type of strain that is different from that which adults experience, such as the inability to achieve economic success. Additionally, Agnew's (1985) first revision of strain theory also suggested that adolescents do not only engage in delinquency to achieve goals, but to avoid punishment as well. This means that delinquency is also likely when an adolescent is unable to legally remove themselves from an unpleasant situation (Agnew, 1985). For example, a student who does not have a good relationship with his/her teacher might choose to skip class in order to avoid the negative experience.

In addition to the modifications of strain theory to solve its criticisms, Agnew (1985) also provided extensions on his own to provide the theory with more explanatory power (especially in regard to explaining youth delinquency). Agnew (1985, p. 151) suggested that the types of strain that youth experience often causes them to become angry, and that anger was also a cause of delinquency. For example, an adolescent who suffers abuse at home will become angry and be more likely to fight at school.

Agnew developed his own General Strain Theory of Crime (GST) in 1992. In the development of his GST, Agnew (1992) suggested that strain leads youth to fall into an

emotional “negative affective state” (Agnew, 1992, p. 49). This emotional negative affective state, then, can also lead to involvement in delinquency.

The proposition of negative affective states leading to deviant behavior as a means to correct strain was first introduced by Agnew (1992, p. 49). Negative affective states are emotions such as feelings of anger, frustration, disappointment and depression, caused by strain. Strain causes youth to feel these emotions which in turn can influence them to turn towards delinquency as a form of corrective action, such as drug use and violence. Take for example, the youth that skipped class, his/her negative relationship with the school teacher caused a negative emotion which resulted in the adolescent choosing to skip class. Skipping class (truancy) is illegal, but it is also helps to remove the strain.

Agnew has built and extended his 1992 version of GST three additional times. In his first extension, Agnew (2001) specified the types of strain that are most likely to lead to crime and delinquency. In 2002, Agnew et al. identified personality traits (negative emotionality and low self-constraint) as major conditioning factors that influence reactions to strain. The third and final extension occurred in 2013. In his final extension, Agnew suggests which mitigating factors, when combined, will most likely lead to the use of criminal coping.

This thesis tests various parts of Agnew et al.’s GST but focuses mostly on the 2002 extension of the theory. In Chapter II, a review of the literature will be provided. The literature review will discuss in even more detail the chronological development of Robert Agnew’s General Strain Theory. Each of these extensions will be followed by a

review of empirical tests of that era of theoretical development. At the conclusion of the literature review, the thesis' theoretical propositions will be presented.

Chapter III will describe the sample of individuals that will be used to empirically evaluate the thesis' theoretical propositions. The sample initially included both youth and adults who were surveyed for the National Drug Use and Health Survey in 2013. This sample was divided into two subsamples. The first subsample is a youth sample of individuals between the ages of 12 and 17. The second subsample is based on the 18 year old "emerging" adults who filled out the National Drug Use and Health Survey. The thesis, therefore, can test to see if GST operates the same for a sample of youth and a sample of 18 year old "emerging" adults, both who are experiencing different dynamics across the life-course. Variables used to measure each research concept will also be explained in detail throughout the third chapter. At the end of Chapter III, the thesis' hypotheses will be listed.

Chapter IV provides an explanation of the analytical procedures taken for testing each research hypothesis. This portion of the thesis will include descriptive statistics, bivariate correlations, and multi-variate analyses (including both multiple logistic regression and OLS regression analyses). The latter analytic procedures will be used to specifically test the research hypotheses.

Chapter V will conclude an in-depth discussion of the results and/or the major research findings. The discussion will also include a focus on the limitations of the analysis conducted and suggestions for future research. The thesis attempts to answer six research questions based largely on Agnew et al.'s 2002 extension of GST: (1) Does strain lead to high negative emotionality? (2) Does strain lead to low self-constraint? (3)

Does high negative emotionality lead to higher involvement in delinquency/deviant behavior and illicit drug use? (4) Does low self-constraint lead to higher involvement in delinquency/deviant behavior and illicit drug use? (5) Does strain primarily influence delinquency/deviant behavior and illicit drug use through negative emotionality and low self-constraint (as suggested by GST)? (6) Does strain also have a direct effect on delinquency/deviant behavior and illicit drug use, beyond the impact of negative emotionality and low self-constraint? GST suggests that strain should have its strongest impact through the intervening concepts of negative emotionality and low self-constraint and only be weakly related directly to deviance.

This thesis provides one of the fullest tests of the 2002 extension of GST done to date in order to answer these research questions. In addition, it includes a full test on two differently aged subsamples of individuals to evaluate if the dynamics of the theory work the same for individuals at different time points in their lives. Age specific strains, negative emotionality, low self-constraint, and delinquency or crime measures are used for each group in this more elaborate test. Furthermore, the thesis provides a more specific and rigorous test than has been done in the past. This test empirically determines whether such age specific strains work through age specific negative emotionality and self-constraints on delinquency (for the 12 to 17 juveniles) and crime (for the 18 year old “emerging” adults) as suggested by GST. Additionally, the test examines whether age specific strains maintain a direct effect on deviance beyond the influence of negative emotionality and low self-constraint, which has not been examined in extant literature (for the exception see Moon & Johnson, 2012).

Chapter II

A Chronological Discussion and Literature Review of the Development of General Strain Theory

Robert K. Merton's Classic (1938) Strain Theory

Merton's (1938) classic Strain Theory had a major impact on criminological theory. Beginning in the late 1930s and extending through the 1960s, theorists devoted their time to testing Merton's (1938) classic Strain Theory, and a number of variants of it. Strain Theory suggests that when an individual is unable to achieve their aspired goals through legitimate and conventional channels, they experience anomie, which is an internal feeling of normlessness. When an individual experiences anomie, they behave in ways that they would not typically behave, which can result with deviant behavior (Merton, 1938).

[See Figure 1]

Merton's (1938) classic Strain Theory provides the starting point for a chronological discussion of Agnew's General Strain Theory (GST), since the later arose out of Merton's work. Merton's (1938) classic Strain Theory has three concepts that propose how social structure influences behavior. He suggests that strain occurs when there is a combination of culturally defined and highly pursued goals, a conventional and socially accepted method of achieving those goals, and the inequality of legitimate opportunity available for achieving the goals (Merton, 1938). For example, an individual has the ultimate goal of obtaining enough money to pay for bills and buy desired things.

To do this, the individual does what most people typically do: submit applications and resumes to multiple potential employers in order to find a job. Though the conventional attempt was initially made, the individual still does not find a job. According to Merton (1938), this is an example of strain. Therefore, the goal in Merton's (1938) theoretical framework is the desire to attain economic success (Agnew, 1985, 1992; Hirschi, 1972; Mernard, 1995; Moon, Blurton, & McCluskey, 2008). Wealth and its accumulation have always been desired as a socially accepted symbol of success in the U.S. economy, however, it is also one of the most difficult goals to achieve, especially if individuals have little to no experience and opportunity for advancement. According to Merton (1938), this lack of conventional opportunity to achieve monetary success is what leads people to commit crime.

The first proposition in Merton's (1938) classic Strain Theory suggests that strain leads individuals to feel anomie, a feeling of normlessness [as shown in Figure 1]. Merton (1938) argues that this feeling of normlessness can pressure people into behaving in ways they would not typically. The second proposition in Merton's (1938) theory suggests that individuals who experience feelings of anomie will use innovation in order to achieve their desired goals. When the desired goal holds a greater importance than the method of obtaining it, people who have experienced strain and have feelings of anomie will act out in "innovative" and unconventional ways in order to achieve their goal (Merton, 1938). These "innovative" and unconventional ways may or may not be legitimate or legal, but the ultimate goal is achieved and strain is relieved. Thus, individuals who cannot find a job will sell drugs or engage in prostitution in order to

make money, and others may steal in order to obtain something that they want but cannot afford to buy.

Evaluations of Merton's (1938) classic Strain Theory

Merton's (1938) classic Strain Theory was an early and dominant explanation for involvement in crime. Even now, recent studies have shown that economic strain has a significant effect on the likelihood of individuals participating in deviant behavior (Hughes, Schaible, & Gibbs, 2015; Mason & Smithey, 2012). In addition, it has been suggested that American society is anomic, in that it asserts much pressure on people to obtain the ultimate goal of the "American Dream" (Schaible & Gibbs, 2015). It has also been found that anomie can lead to unconventional negative behavior (Heckert & Heckert, 2004).

Although support does exist in favor of Merton's (1938) Strain Theory, a few noteworthy criticisms of the theory have been established (see Hirschi, 1969; Kornhauser, 1978). Two central criticisms of the theory focus on what the theory cannot explain: (1) why do middle and upper class individuals commit crime? and (2) why do adolescents commit the vast amount of delinquency that they are involved in? First, Strain theory is specifically designed to explain why poor adults commit crime; e.g. they do not have jobs that will help them along to attain "the American Dream" (Aseltine, Gore, & Gordon, 2000; Bernard, 1984; Broidy, 2001; Merton, 1938). Individuals with lower socioeconomic status tend to lack conventional means to achieve economic success (Bernard, 1984; Agnew, 1985), since economic opportunities are not equally distributed across society (Wilson, 1987). Therefore, classic Strain Theory cannot explain the

criminal behavior that is being committed in the middle and upper classes of society, because they do have jobs.

Second, Strain Theory does not explain why youth engage in juvenile delinquency (Agnew, 1985, 1992; Agnew & White, 1992; Aseltine et al., 2000; Broidy, 2001; Greenberg, 1977; Hirschi, 1969). Merton's (1938) Strain Theory was an attempt to explain adult crime in the lower social class. In 1955, however, Albert Cohen asserted that adolescents in the lower social class share similar goals and aspirations as those in the middle class (Ohlin, 1956). Also, in 1969, Travis Hirschi found that when it came to juveniles there was no positive significant relationship between social class and delinquency. Merton's (1938) major source of strain is economic success, yet this type of strain has not been suggested to be an immediate goal of most adolescents (Agnew, 1985; Agnew, 2012; Greenberg, 1977). Adolescents do not worry about finding jobs, they want to have friends, nice clothes, and a nice car, to be popular, and do well in school (Agnew, 1992). These two major criticisms have weakened strain theory's explanation for crime among all classes and ages.

Though Merton's (1938) strain theory was weakened by the previously mentioned criticisms, it should be noted that Merton's (1938) strain theory has still maintained prevalence. According to the results from their meta-analysis done in 2005, Pratt and Cullen yielded strong empirical support towards Merton's (1938) strain theory. Across the studies that were analyzed, inverse relationships between measures of social support and altruism, and crime were consistently observed (Pratt & Cullen, 2005, p. 428-429).

Robert Agnew's (1985) Revised Strain Theory

In 1985, Robert Agnew wrote *A Revised Strain Theory of Delinquency* in an attempt to overcome the major criticisms of Merton's (1938) classic Strain Theory (Broidy, 2001). In his revision, Agnew (1985) proposes that strain causes an individual to have feelings of anger, which can result in delinquency. Additionally, juvenile delinquency does not result from strain as the inability to achieve economic success (which adults do experience) but from strain as a disjunction between goals that are more relevant to youth experiences; such as popularity, good grades and healthy parental relationships, and the inability of achieving such goals (Agnew, 1985). Agnew's (1985) revised Strain Theory, therefore, can explain the vast amount of delinquency that occurs in U.S. society. It also explains why middle and upper class youth might commit delinquency as well because they also experience similar strains.

[See Figure 2]

In addition to simply dealing with the criticisms of classic Strain Theory, Agnew's (1985) revision also suggests that a different source of strain should be examined in Strain Theory. Merton (1938) solely focused on strain as the inability to achieve desired goals. Agnew (1985) suggests that aversive situations should be researched as a source strain as well making the theory applicable to crime across the life course.

While Agnew (1985, p. 152) recognizes Strain Theory's current success with application towards the lower class and crime, he also acknowledges statistics that highlight that delinquency is common in the middle class. Since those in the middle class have achieved some form of economic success, there must be another source of frustration that could push them to participate in deviant behavior. Agnew (1985)

suggests that in addition to goal seeking behaviors, adolescents also participate in pain-escaping behaviors. He argues that another source of strain to adolescents is environmental aversion (Agnew, 1985). Youth are often placed in “aversive situations” in which they are not legally able to escape, such as bad homes and undesirable school environments (Agnew, 1985, p. 155). Instead of the theory circling around a single type of strain, it focuses on two: (1) the blockage of goal seeking behavior, and (2) the blockage of pain-avoidance behavior (Agnew, 1985, p. 154).

As shown in Figure 2, the first proposition in Agnew’s (1985) revision is that strain leads adolescents to feel negative emotions (i.e. anger). The second proposition is that the anger felt from strain often leads to deviant behavior (Agnew, 1985). Adolescents who experience strain may become angry. These feelings of anger can create an emotional based response, which can result with illegal attempts at escape (running away), fighting and/or substance use (Agnew, 1985, p. 156).

Evaluations of Agnew’s (1985) Revised Strain Theory

Agnew (1985) conducted an initial test of his own revised Strain Theory. Using a series of regression and path analyses, Agnew found strong support for environmental aversion as a source of strain, as introduced in his revised theoretical model. This model suggests that strain leads youth to experience feelings of anger, and that the anger felt could create an emotional based response, resulting with delinquency. His results revealed that environmental aversions such as harsh parental discipline, dislike of teachers and/or dissatisfaction with school had a positive effect on anger (Agnew, 1985). Additionally, anger had a significant positive impact on delinquent acts such as theft, robbery, arson, and fighting (Agnew, 1985). His results suggest that adolescents who are

in aversive environments from which they cannot legally escape are significantly more likely to be involved in delinquency, in line with theoretical predictions (Agnew, 1985). The results also support the idea that a consequence of being stuck in an aversive environment is anger (Agnew, 1985).

With these initial results, Agnew's first test was able to provide support in favor of his revised Strain Theory of delinquency, overcoming the criticisms of Merton's (1938) classic Strain Theory. The results from this first test suggested that this revision of Strain Theory could be applied to juveniles in all socio-economic classes. Strain as environmental aversion such as child abuse and negative school experiences are not only experienced by youth in the lower class.

In 1989, Agnew conducted another test of his revised Strain Theory. Like in his first test, the results supported the need for his revision. Agnew's (1989) second test revealed that strain as environmental aversion increases the likelihood of delinquent behavior. Adolescents who reported dissatisfaction at home and at school were found to be more likely to participate in delinquent behavior (Agnew, 1989). The study demonstrated that delinquent behavior provides relief from strain. Alternatively, the results also revealed that delinquent behavior could increase environmental adversity (Agnew, 1989). For example, a student might be able to successfully skip class in order to avoid a bad teacher, but because the student chose to skip class, the student teacher relationship only worsens.

Although Agnew's (1985; 1989) test results provided support for his revised Strain Theory, he still provided suggestions for future research. For example, he suggested that future research should focus on different types of environmental aversion

and other types of noxious stimuli that might lead to anger (Agnew, 1985; Agnew, 1989). In addition, Agnew (1985) suggested that the amount of time adolescents are subjected to environmental aversion should be studied as well. He believed that youth who have been consistently experiencing environmental aversion for longer lengths of time would be more likely to have an angry emotional response (Agnew, 1985). Finally, independent factors that directly affect delinquency should be controlled for when testing the theory. Measures of social control and differential association should be controlled when testing the effects of environmental aversion on anger and the effects of anger on delinquency (Agnew, 1985, p. 157, 1989).

[See Figure 2]

Robert Agnew's (1992) General Strain Theory of Crime and Delinquency

Based on the previous studies discussed above, Agnew not only revised Merton's (1938) Strain Theory in 1985, but also went on to develop and present a General Strain Theory (GST) of his own in 1992. Robert Agnew's (1992) *Foundation for a General Strain Theory of Crime and Delinquency* was an attempt to provide an original theory to explain juvenile delinquency. Agnew (1992) suggests that strain causes a negative affective state (e.g. feelings of anger). The negative affective state, then, can result with delinquency as a method of "corrective action" (Agnew, 1992, p. 60; Agnew & White, 1992). Delinquency can be seen as a "corrective action" because it can help alleviate a negative affective state when legitimate forms of corrective action are unavailable. GST focuses attention on adolescents and their immediate social environment (i.e. home and school) as a source of strain (Agnew, 1992). He argues that strain causes adolescents to feel negative emotions. These negative emotions can lead to delinquent behavior

(Agnew, 1992; Agnew & White, 1992). Anger in particular is especially conducive to crime and violence.

[See Figure 3]

Agnew's (1992) GST provides a far more developed focus on strain. In his original revision to Strain Theory, Agnew (1985) suggests that other types of environmental aversion and noxious stimuli should be examined as strain. Following his own advice, Agnew's (1992, p. 50) new GST introduces three major types of strain: (1) "strain as the actual or anticipated failure to achieve positively valued goals", such as receiving poor grades or failing to achieve economic success, (2) "strain as the actual or anticipated removal of positively valued stimuli", such as the death of a good friend, the end of a romantic relationship, or moving to a new school district, and (3) "strain as the actual or anticipated presentation of negatively valued stimuli", such as child abuse and neglect, negative relationships with parents and friends, or negative school experiences. Individuals exposed to any of these categories of strain at a high frequency and intense volume are likely to fall into a negative affective state. Examples of negative affective state include feelings of anger, depression, disappointment, and/or frustration. This negative affective state can result with pressure for corrective action (Agnew, 1992; Agnew & White, 1992). When individuals seek relief from strain, or the negative emotions that result from strain, they are participating in corrective action. Delinquency, as a result, is a way to achieve corrective action when conventional means to escape experienced strain is unavailable or overly demanding (Agnew, 1992; Agnew & White, 1992). For example, adolescents may turn to drug use because they are feeling pain from child abuse and are unable to find another way of relief. Alternatively, adolescents who

are feeling angry from child abuse may let out their pent up aggression physically by fighting at school because they are unable to find release elsewhere.

Although Agnew (1992) suggests that delinquency is a response to strain as a form of corrective action, he also acknowledges that there are many other ways to cope with strain. Some examples of corrective action that are non-delinquent are meditation and exercise (Agnew, 1992). In his new GST, Agnew (1992) explained why only some strained individuals turn to delinquency and others might not. Constraints and factors such as social support, coping skills, and delinquent peer association are theorized to have an effect on an individual's disposition toward legitimate and illegitimate methods of corrective action (Agnew, 1992) [For full list, see Figure 3].

Evaluations of Agnew's (1992) General Strain Theory

Agnew and White (1992) provided the first test of Agnew's new (1992, p. 485) GST. In their analysis of data taken from the first wave of the Rutgers Health and Human Development Project (HHDP) they found that various types of strain, such as negative life events, life hassles, parental fighting, and neighborhood problems, had a substantial effect on delinquency as theoretically predicted. More importantly, results from this test were able to expand the reach of GST as not only an explanation of juvenile delinquency, but as an explanation to juvenile drug use as well. The same variants of strain that were revealed to have a substantial effect on delinquency also had a positive relationship with adolescent drug use (Agnew & White, 1992). This initial test provided support for Agnew's (1992) GST. Overall, the test proved to be promising for future research.

There were limitations to this initial test. No measures of anger or any other negative affective states were included in the test, although they were integral in Agnew's

(1992) theoretical proposition. In addition, although the results in general were supportive, a few of the strains examined were not significantly related to delinquency: occupational strain, clothing strain, and unpopularity with the opposite sex (Agnew & White, 1992). This suggests that strain measures related to the failure to achieve positively valued goals do not predict delinquency as well as Merton (1938) believed. Many of the strains examined had a negative relationship with delinquency. Strain as parental attachment, school attachment, grades, and time spent on homework did not predict juvenile delinquency or drug use at all. The results also revealed that strain has a greater effect on delinquency than on drug use (Agnew & White, 1992). Although GST can be a possible explanation of juvenile drug use, the results demonstrated that the theory is better at explaining juvenile delinquency apart from the use of drugs.

Following Agnew and White (1992), other researchers began testing Agnew's (1992) new GST with incredible variation. Many types of strain and their relationships with negative emotions and delinquent behavior have been examined in an attempt to successfully apply GST to juvenile delinquency. Strain has been found to have positive effects on negative emotions, specifically anger, as the theory suggests (Broidy, 2001; Hay, 2003; Jang & Johnson, 2003). Tests of Agnew's (1992) GST have also found that anger has the greatest positive effect on deviant coping behaviors (Aseltine et al., 2000; Broidy, 2001; Jang & Johnson, 2003; Moon et al., 2008; Moon, Morash, McCluskey & Hwang, 2009; Rebellon, Manasse, Van Gundy & Cohn, 2012).

Most studies have focused on evaluating which strains are most likely to predict delinquency. Particularly, various results have revealed that family strains, such as harsh parental punishment, neglect and abuse, and school strains, such as negative student

teacher relationships have the greatest positive effects on negative emotions and delinquent behavior (Aseltine et al., 2000; Hay, 2003). These findings support Agnew's (1992) belief that strain measures dealing with family and school are the most important in GST. Additionally, financial strain, and criminal victimization, have been found to have positive effects on negative emotions and delinquent behavior as well (Hollist, Hughes, & Schaible, 2009; Moon et al., 2008; Moon et al., 2009).

In addition to research that has evaluated the various propositions in GST, other analysts began to evaluate how the theory related to various correlates of crime. Many studies since GST's origination have provided a lot of support towards the theory's application in other areas of research in criminology. Recent research suggests that gender has a role in the application of GST (Agnew & Brezina, 1997; Broidy & Agnew, 1997; Grothoff, Kempf-Leonard, & Mullins, 2014; Hay, 2003). Research results imply that gender does not have a direct effect on delinquency and drug use, but does have a significant relationship as to how adolescents react to strain (Grothoff, et al., 2014; Hay, 2003). In addition, results have demonstrated that gender has a significant relationship with the type of strain experienced by adolescents (Hay, 2003). Males are subject to different strains than females – males are more associated with strains that appear to be more conducive to crime (Broidy & Agnew, 1997, p. 277). Males tend to experience harsher punishments from their parents, and are more likely to experience feelings of anger in response to strain (Broidy & Agnew, 1996; Hay, 2003). Anger is the negative affective state that is most strongly related to delinquency and results have shown that boys are more likely than girls to participate in delinquent behaviors (Brezina, 1998; Hay,

2003). Dario and O'Neal (in press) in *Women and Criminal Justice* found no difference in depression as a negative affective state resulting from strain.

Research on GST has even begun to test the theory with the use of samples of individuals from other countries. For example, international studies examining samples of Korean youth have provided support in favor of GST (Moon et al., 2008; Moon et al., 2009). The results demonstrated that all experienced strains examined were significantly related to feelings of anger, and anger was significantly related with delinquent behavior among Korean youth (Moon et al., 2008). These strains included financial problems, family conflict, parental punishment, teacher conflict and victimization (Moon et al., 2008; Moon et al., 2009).

Studies have also started to test GST on adult samples (Hinduja, 2007; Jang & Rhodes, 2012; Moon & Johnson, 2012; Dario & O'Neal (in press), 2017). A test done on “emerging adults” provided support for GST with individuals in their late teens through early twenties (Jang & Rhode, 2012, p. 179). As GST was developed as an explanation for juvenile delinquency, applying GST to the explanation of adult deviance greatly expanded the utility of the theory. Strain as adolescent maltreatment and criminal victimization had a significantly positive relationship with anger, and in turn, anger had a significant effect on crime and drug use (Jang & Rhodes, 2012). Other studies attempted to apply GST to adults only. However, most studies that were conducted on adult samples have only been partial tests of GST. The results suggest that strain has a positive relationship with negative feelings among adults (Atkins et al., 2010; Hinduja, 2007).

The attention that GST has received since its 1992 origination is considerable. However, one area of future research that many researchers have expressed an incredible

need for is to analyze different types of strains, different types of negative emotions, and the relationship between them more comprehensively (Aseltine et al., 2000; Hay, 2003; Hollist et al., 2009; Moon et al., 2008; Moon et al., 2009). There are hundreds of different negative situations that could be classified as strain in the original theory. Although Agnew (1992) introduced three major types of strain, no real definition of strain was ever given. This weakens the theory's application due to this theoretical vagueness.

Agnew's (2001) First Extension of General Strain Theory

Although much of the research has supported the theoretical arguments found in GST, in 2001 Agnew offered an extension to the theory in order to provide further theoretical clarification. Most of his extension was an attempt to provide a more complete definition of strain, which, of course, is a key concept in the theory. GST (1992) suggests that strain is an individual's negative social experience that can either prevent the achievement of positively valued goals, remove a positively valued stimuli or present negative stimuli. Strain causes negative affective states, which are negative feelings such as anger and frustration (Agnew, 1992, p. 59-60). These negative affective states, particularly anger, can result in delinquency as a method of corrective action (Agnew, 1992).

In Agnew's (2001, p. 320) first extension, strain is defined as the "relationships in which others are not treating the individual as he or she would like to be treated." Strain is referred to in three ways: (1) the actual infliction of strain, which is the strain experienced, (2) the evaluation of strain, which is an individual's cognitive response to the experienced strain, and (3) the emotional reaction to strain, which are the negative feelings acquired in response to the experienced strain (Agnew, 2001, p. 320). In

addition, two types of strain are introduced: objective and subjective. An objective strain is one that is generally disliked as a whole by any given population (Agnew, 2001; Agnew, 2013; Froggio & Agnew, 2007; Moon et al., 2008). For example, a group of people may all believe that child abuse is a bad thing. A subjective strain is an individuals' own feeling towards strain that they have or are currently experiencing themselves (Agnew, 2001; Agnew, 2013; Froggio & Agnew, 2007; Moon et al., 2008).

Not all people are the same in their subjective evaluation of an objective strain (Agnew, 2001). For example, the previously mentioned group of people may have all agreed that child abuse is a terrible thing and that they would all be angry if they had to experience it. If two of those people within the group actually do experience child abuse, one might get angry while the other might become depressed. This explains subjective strain. It is important to note also that an individual can change their subjective evaluation of strain over time, which can increase or decrease their emotional response as well (Agnew, 2001). Anger might turn to acceptance if strain remains constant; or as time passes negative feelings associated with the memory of strain may dissipate. Because individuals are all different, and have different thoughts and feelings toward strain, research on the concept of subjective evaluation could provide an explanation as to why only some individuals feel angry when they experience strain while others feel depressed or frustrated (Agnew, 2001).

Agnew's (1992) GST suggests that strain leads an individual to fall into a negative affective state, which can result in the participation in delinquent methods of corrective action. However, there are hundreds of different types of aversive situations that can be classified as strain (Agnew, 2001). Agnew (2001, p. 321) submits that strains

which are subjectively seen as unjust and high in magnitude, are associated with low social control, and create some form of pressure or incentive to participate in delinquent methods of corrective action, will most likely result in crime (Froggio, 2007; Grothoff et al., 2014; Hollist et al., 2009; Jang & Rhodes, 2012; Moon et al., 2008). He suggests that more research should be devoted to subjective evaluations of experienced strain (Agnew, 2001). In addition, future research should focus on testing the types of strain that Agnew (2001) suggested were most likely to lead to juvenile delinquency.

Evaluations of Agnew's (2001) First Extension of General Strain Theory

Research testing Agnew's (2001) first extension of GST suggests that some forms of strain have stronger effects on delinquency/crime than others. For example, studies examining the 2001 extension, conducted by Agnew (2001), Hay (2003), Slocum (2010) and many others, have revealed that parental rejection, harsh parental discipline, parental divorce, child abuse, both physical and emotional, child neglect, peer conflict, criminal victimization, and negative school experiences were strains that seemed to have the strongest relationship with deviant behavior (Froggio & Agnew, 2007; Hollist et al., 2009; Jang & Rhodes, 2012; Moon et al., 2008; Moon et al., 2009). Conversely, other strains, such as neighborhood conflict, illness, death of a friend or family member, unpopularity with the opposite sex, peer conflict, occupational strain and clothing strain were found to not be as strongly associated with delinquency (Agnew, 2001; Agnew & White, 1992; Aseltine et al., 2000).

In an international study of Korean adolescents, chronic parental punishment and being victimized by bullies were two strains that were found to have a strong relationship with all types of delinquency, suggesting that different cultures have different views of

positive and negative social relationships than that in the United States (Moon et al., 2008).

Agnew et al.'s (2002) Second Extension of General Strain Theory

A year after the 2001 extension of GST, Agnew, Brezina, Wright, and Cullen published *Strain, Personality Traits, and Delinquency: Extending General Strain Theory* (2002) and provided an additional extension. In this extension, the authors attempted to answer a major question about GST: why do only some individuals who are strained resort to delinquency as a means to correct their negative affective state and others do not? (Agnew, Brezina, Wright, & Cullen, 2002). Although significant relationships have been reported, it is clear that not all individuals who experience strain resort to delinquency. Because of this, in Agnew et al.'s (2002) extension, it is argued that there must be mitigating factors that occur between strain and delinquency. Mitigating factors may condition the effect of strain, influence the experience of strain, and the ability to engage in noncriminal methods of corrective action (Agnew et al., 2002). According to Agnew et al.'s (2002) second extension of GST, the strongest conditioning variables of strain were the personality traits of the individual (Agnew et al., 2002). "Traits" refer to the relatively stable ways of perceiving, thinking about, and behaving toward the environment and oneself (Agnew et al., 2002, p. 45). These traits could not only have a major impact on the emotional reaction to strain, but also on an individual's ability to respond to strain (Agnew et al., 2002). Negative emotionality and self-constraint became the primary personality traits considered in this extension of GST. Those who have negative emotionality are generally pessimistic toward life and life experiences. Individuals who have high negative emotionality are more likely to perceive events as

strain, and will be more likely to release an intense emotional reaction to that experience. Self-constraint is a trait that can be viewed similarly to self-control. Those who have self-constraint are able to stay within the lines of conformity. Individuals who have low self-constraint are impulsive and not as concerned with the consequences of delinquency as others are (Agnew et al., 2002; Aseltine et al., 2000; Slocum, 2010). These particular traits can be influenced by environmental factors and can be caused by mistreatment (Agnew et al., 2002).

[See Figure 4]

Evaluations of Agnew et al.'s (2002) Second Extension of General Strain Theory

The first evaluation of Agnew et al.'s (2002) second extension of GST was undertaken by the authors of the extension themselves. This test used data from the second wave of the National Survey of Children, which was the same data that was used to evaluate the first extension. The results from a multiple regression analysis demonstrated that all measures of strain examined were significantly related to high negative emotionality and low self-constraint (Agnew et al., 2002). The strains that had the strongest relationship with delinquency were family strain, parents' lack of control over emotions, school hatred and neighborhood strain (Agnew et al., 2002). Overall the results provided support for this new extension of GST. Individuals who report high negative emotionality and low in self-constraint were more likely than others to respond to strain with delinquency (Agnew et al., 2002).

Agnew et al.'s (2002) extension has gained some support in later years of research. Slocum (2010), for example, found that negative emotionality and self-constraint had a direct relationship with adolescent substance use (Slocum, 2010). In that

same study, an additional test was conducted with adults, which found that strain had a stronger effect on depression if the individual was high in negative emotionality and low in self-constraint (Slocum, 2010).

Johnson and Kercher (2007) chose to consider ADHD (attention deficit/hyperactivity disorder) as a concept of low self-constraint in their research. They suggested that, the characteristics of individuals who have low self-constraint mentioned in Agnew et al.'s (2002) extension, are characteristics that are similar to those who have been diagnosed with ADHD (Johnson & Kercher, 2007). One of these characteristics is the lack of impulse control (Johnson & Kercher, 2007). In this study, Agnew et al.'s (2002) theoretical platform is adjusted, replacing low-self constraint with ADHD. The authors' argument was that if people with low self-constraint have been found to be more likely to respond to strain with deviance, people who have ADHD should be likely to respond to strain with deviance as well, since these individuals share similar personality characteristics with those who have low self-constraint. The results revealed that ADHD was positively related to criminal activity (Johnson & Kercher, 2007). More importantly, the results confirmed that ADHD was able to condition the effects of strain on crime. This suggests that individuals with high ADHD are more likely to react to strain with criminal behavior than those with low ADHD (Johnson & Kercher, 2007).

Most of the other tests of Agnew's GST have focused on the 1992 version (Agnew & White, 1992; Aseltine et al., 2000; Broidy, 2001; Hay, 2003; Hollist et al., 2009; Jang & Johnson, 2003; Moon et al., 2008; Moon et al., 2009). Although some evaluations do exist (Agnew & White, 1992; Johnson & Kercher, 2007; Slocum, 2010), fewer tests have evaluated the 2002 extension of GST. In addition, the tests that have

been conducted on the 2002 version of the theory have not been complete tests of this version of the theory. This thesis attempts to fill this gap in the literature by providing additional tests of Agnew's (2002) second extension of GST, which will also be one of the more complete tests of the theory done thus far. Before moving on to a more specific discussion of this study, the third extension of GST below is discussed briefly below.

Agnew's (2013) Third Extension of General Strain Theory

The third and most recent extension of GST was introduced by Agnew in 2013. This latest extension of GST discusses when criminal coping is most likely to occur when individuals are most likely to experience strain. Agnew (2013) elaborates by suggesting that individuals must experience a criminogenic strain, be in a circumstance which is conducive to criminal coping, and possess a set of characteristics that create a strong tendency toward criminal coping (Agnew, 2013). Even though Agnew et al.'s (2002) extension of GST suggests that negative emotionality and self-constraint are conditioning factors as to why only some individuals criminally cope with strain, explaining the variation of strain reaction still continues to remain a major criticism of GST. Individuals who experience strain can choose from hundreds of different types of coping methods that are both criminal and noncriminal. However, the decision to use criminal versus noncriminal methods of coping are all affected by a range of variables such as the reduction of social control, fostering the social learning of crime, and personality traits (Agnew, 2013; Hollist et al., 2009).

[Figure 5]

Agnew (2013) suggests that once an individual is exposed to an objectively evaluated strain, their subjective evaluation will cause an emotional reaction, which leads

to criminal coping. However, the objective strain that is experienced must be evaluated to be unjust and high in magnitude (Agnew, 2001). If the subjective evaluation is as such, the individual will be more likely to become angry and/or feel other negative emotions as a response to their subjective evaluation of the experienced strain. These types of emotions can reduce the buffering effects of social control, foster the social learning of deviant behavior, and/or interact with personality traits that are conducive to crime. The two personality traits central to GST are negative emotionality and self-constraint (Agnew, 2013).

But why do most people that experience strain use legal coping methods to deal with it? Why do most people use noncriminal coping methods such as negotiation, meditation and/or exercise? According to Agnew's (2013) final extension, in order for criminal coping to be most likely, there must be an influence of age, socio-economic status, coping skills, resources, the association with delinquent peers, and self-control [For full list, see Figure 3].

Evaluations of Agnew's (2013) Third Extension of General Strain Theory

Agnew's (2013) third extension of GST has only recently been published. Because of this, there have been no tests conducted to evaluate it. Although this thesis focuses on Agnew et al.'s 2002 extension of GST, measures that apply to some of the conditioning variables suggested by Agnew in 2013 are also included. Measures of social control, differential association, beliefs toward criminal behavior, and religiosity will be included as control measures as suggest by Agnew in 2013. As such, not only will this thesis include a full test of Agnew et al.'s 2002 extension of GST, but it will also include

a partial test of Agnew's 2013 extension as well. Therefore, in part, the thesis will also provide the first evaluation of the third extension of GST.

Current Study

Since the development of General Strain Theory (GST) in 1992, many empirical studies have been conducted to evaluate the theory's ability to explain both crime and delinquency (Agnew, 1992; Agnew et al., 2002; Agnew & White, 1992; Agnew & Brezina, 1997; Aseltine et al., 2000; Broidy, 2001; Grothoff et al., 2014; Hay, 2003; Hoffman & Miller, 1998; Hollist et al., 2009; Moon et al., 2008; Moon et al., 2009). Test results based on the relationships between strain and negative affective states and relationships between negative affective states and delinquent methods of corrective action have provided support to GST as an explanation for involvement in crime and delinquency (Agnew & Brezina, 1997; Aseltine et al., 2000; Brezina, 1998; Cullen, Unnever, Hartman, Turner, & Agnew, 2008; Eitle & Turner, 2003; Grothoff et al., 2014; Hay, 2003; Moon et al., 2008; Moon et al., 2009; Piquero & Sealock, 2010). Also see Pratt and Cullen (2005) meta-analysis.

Although the studies testing GST have generally been supportive, much can still be done in order to conduct better, more complete evaluations of the theory. Better measures for strain should be used to test their ability to predict involvement in crime and delinquency (Agnew, 2006). While some studies focus on measuring objective evaluations of strain, it has been suggested that subjective evaluation of strain should be more heavily focused on in future research (Agnew, 2001; Agnew, 2006; Froggio, 2007).

Because GST was originally developed as an explanation of juvenile delinquency, the theory has primarily been tested on adolescents. Even though it is a rare occurrence,

partial tests of GST have been tested on adults as well (Akins, Smith, & Mosher, 2010; Hinduja, 2007; Moon & Jonson, 2012; Dario & O’Neal (in press), 2017). Many tests have been done to test the 1992 version of GST (Agnew & White, 1992; Aseltine et al., 2000; Broidy, 2001; Grothoff et al., 2014; Hay, 2003; Hoffman & Miller, 1998; Moon et al., 2008), but there have been very few tests done on Agnew et al.’s 2002 extension of GST [see Figure 4]. This version of the theory suggests that high negative emotionality and low self-constraint are important conditioning variables in the theory that can mediate or facilitate involvement in illegal behavior (Hollist et al., 2009; Moon et al., 2009; Slocum, 2010).

This thesis attempts to fill this void in the literature. First, the thesis will evaluate the following research propositions based largely on Agnew et al.’s 2002 extension of GST, which is one of the least tested versions of the theory. Some of these theoretical propositions have never been empirically evaluated before.

Second, each of these propositions will be evaluated using data from two subsamples of individuals from the National Drug Use and Health Survey, 2013. One subsample is comprised of youth between the ages of 12 and 17. The second subsample is made up of “emerging” adults who are 18 years old. The use of two subsamples will allow for a test of the relative efficacy of GST to explain both delinquency in the sample of youth as well as crime in a subsample of young adults. To the researcher’s knowledge, only one other test has evaluated the efficacy of GST to explain illegal and deviant behavior in two different differently aged samples (Moon & Johnson, 2012). Third, each of the propositions will also be evaluated with use of new and numerous measures of strain, negative emotionality, self-constraint, and illegal behavior.

Research Proposition #1: Strain will lead to higher negative emotionality.

Research Proposition #2: Strain will lead to lower self-constraint.

Research Propositional #3: Negative emotionality will lead to higher involvement in delinquency/deviant behavior and illicit substance use.

Research Propositional #4: Low self-constraint will lead to higher involvement in delinquency/deviant behavior and illicit substance use.

Research Propositional #5: The effect of strain on delinquency/deviant behavior should work through negative emotionality and low self-constraint and not have a major impact directly on delinquency/deviant behavior.

Research Proposition #6: The effect of strain on illicit drug use should work through negative emotionality and low self-constraint and not have a major impact directly on the illicit drug use.

[See Figures 6A and 6B]

Chapter III

Methods

Sample

The purpose of this thesis is to expand on recent research testing Agnew, Wright, & Cullen's 2002 extension of GST. In addition, examining the relationships between additional new measures of strain, negative emotionality, low self-constraint, and illegal behavior can further validate the ability of GST in explaining illegal conduct. Agnew et al. (2002) suggest that negative emotionality and low self-constraint should condition the effect and influence of strain, and the decision to engage in illegitimate coping methods (Agnew et al., 2002; Jang & Rhodes, 2012; Agnew, 2013). In other words, those who have high levels of negative emotionality and low levels of self-constraint are more likely to respond to strain with deviance.

Agnew (1992) originally developed GST as a revision to Merton's (1938) classic Strain Theory. The goal was to overcome major criticisms of Strain Theory and provide an explanation of juvenile delinquency that is applicable to all social classes. As such, there have not been many studies done in attempt to apply the theory to adult deviance (Hinduja, 2007; Moon & Johnson, 2012). It would not be a proper test of GST if there was no youth sample. However, considering the amount of support that GST has gained over the years (Agnew & White, 1992; Aseltine, Gore, & Gordon, 2000; Broidy, 2001; Grothoff, Kempf-Leonard, & Mullins, 2014; Hay, 2003; Hollist, Hughes, & Schaible, 2009; Hoffman & Miller, 1998; Moon, Blurton, & McCluskey, 2008; Moon, Morash, McCluskey, & Hwang, 2009; Slocum, 2010) it may be informative to test the theory using two samples that can emphasize the utility of the theory.

In order to complete the above, this thesis will analyze data from the National Survey on Drug Use and Health (2013). The National Survey on Drug Use and Health is an annual survey that began in 1971. The survey is a self-report survey that has been used to measure the prevalence and correlates of drug use throughout the United States. It provides data on the use of illicit drugs, alcohol, and tobacco products among the U.S. population ages 12 and up. It also includes measures of involvement in delinquency and crime. The National Survey of Drug Use and Health has been found to be a valid form of reporting, according to the Reliability of Key Measures in the National Survey on Drug Use and Health conducted by the U.S. Department of Health and Human Services in February of 2010.

Two subsamples were taken from the original sample of respondents. Examined in this study are all respondents between the ages of 12 and 17, and all respondents that are 18 years old. General Strain Theory was originally created as a theory to explain juvenile delinquency (Agnew, 1992). Thus, keeping with the original theory's intent, adolescence will be examined first. In addition, few studies have been done in an attempt to apply GST to adult deviance (Atkins, et al., 2010; Hinduja, 2007; Moon & Johnson, 2012). The results of the few studies that have been done have only provided partial empirical support in the application of GST to adults. One test was able to provide support toward the application of GST to "emerging" adults, defined as individuals going through their late teens and early twenties (Jang & Rhodes, 2012, p. 179). Jang and Rhodes (2012) examined wave 3 from the National Longitudinal Study of Adolescent Health, which had a sample size of 15,701 respondents between the ages of 18 and 27. The results revealed that strain has a significant positive relationship with anger on

“emerging” adults (Jang & Rhodes, 2012). The results also suggested that anger is more likely to be associated with violent crime while depression and anxiety are more likely to be associated with drug use with “emerging” adults. The research done by Jang and Rhodes (2012) is important because they were among the first researchers to apply GST to an adult sample. The results from their test also provided support towards GST, suggesting that the theory could provide an explanation of crime for not just juveniles, but adults as well. This thesis will also test GST with a subsample of “emerging” adult respondents, but focuses on those who are just transitioning into adulthood, who are 18 years old in an attempt evaluate its ability to explain the deviant behavior of individuals just beginning to enter adulthood.

Measures

The National Drug Use and Health Survey of 2013 includes measures for a fuller and more complete test of Agnew et al.’s 2002 extension of GST than has been conducted in the past. Measures of strain, negative emotionality, self-constraint, delinquency/deviance, and drug use, in addition to control measures of social control, differential association, criminal beliefs and religiosity can all be found in the National Drug Use and Health survey data. [See Figure 4] According to Agnew et al.’s 2002 extension, strain effects delinquency through high levels of negative emotionality and low levels self-constraint (Jang & Rhodes, 2012). In addition, it has been suggested that strain leads to low levels of social control and increased associations with delinquent peers, both of which have been considered conditioning factors for involvement in delinquency (Agnew, 1985; Agnew, 1992, 2001, 2013; Agnew et al., 2002; Agnew &

White, 1992; Broidy, 2001; Hoffman & Miller, 1998; Jang & Rhodes, 2012; Moon, Blurton & McCluskey, 2008).

Juvenile Subsample

Respondents in the first subsample are between the ages of 12 and 17. The survey questions chosen include 11 items to measure strain, five combined items to measure negative emotionality, a single question to operationalize low self-constraint, a four-item delinquency index, and a four-item illicit substance use index.

[Figure 6A]

Strain Measures

The 11 items of strain measure eight dimensions of strain that have been found to have a significant relationship with juvenile delinquency: number of times moved, negative school experiences (with teachers), child neglect (a four item measure), parental strictness with chores, parental strictness with time spent with friends, parental strictness with television, fights with parents, and low grades (Agnew, 1992, 2001, 2013; Agnew & White, 1992; Hoffman & Miller, 1998; Aseltine, Jr., Gore & Gordon, 2000; Hay, 2003; Hollist, Hughes & Schaible, 2009; Slocum, 2010). Each dimension is measured with a single indicator except for child neglect. Child neglect is a four-item scale that asked respondents how often their parents helped them out with their homework, checked their homework, let them know when they had done a good job and how often their parents told them that they were proud (1 = Always, 2 = Sometimes, 3 = Seldom, 4 = Never). Cronbach's alpha for the scale was .771.

Two out of the three categories of strain that Agnew (1992) discussed are included in this test: The inability to achieve positively valued goals and the presentation

of noxious stimuli. Grade achievement can be seen as a strain which reflects the inability to achieve a positively valued goal. The rest of the strain dimensions are representatives of strains that are presentations of negative and noxious stimuli. The type of strain that this study was unable to find measures for was a strain that removes positively valued stimuli. All other items of strain (with the exception of the number of times moved, the number of fights with parents, and low grades), were measured by frequency over a twelve-month time period (Never = 0, Seldom = 1, Sometimes = 2, Always = 3). The number of times moved strain item was measured by frequency over a five-year period (None or One time = 1, Two or Three times = 2, Four times = 3, Five times = 4, Six or more times = 5). The number of fights with parents was also measured by frequency over a twelve-month period (Never = 0, One or Two times = 1, Three to Five times = 2, Six to Nine times = 3, Ten or more times = 4). Low grades were measured by grades achieved over the most recently passed semester (1 = An "A+", "A", "A-minus" average, 2 = A "B+", "B", "B-minus" average, 3 = A "C+", "C", "C-minus" average, 4 = A "D" or less than a "D" average).

Negative Emotionality Measures

Five items were used to measure two dimensions of negative emotionality: Negative school emotion, and depression. Negative school emotion had four items that were converted into a single Likert scale. The negative school emotion items are measured by the respondent's feelings toward going to school (You liked going to school a lot = 1, You kind of liked going to school = 2, You didn't like going to school = 3, You hated going to school = 4), the respondent's frequent feelings of school work importance (Always = 1, Sometimes = 2, Seldom = 3, Never = 4), the respondent's feelings of the

importance of information learned at school (Very important = 1, Somewhat important = 2, Somewhat important = 3, Never important = 4) and the respondent's interest of courses taken in the past twelve months (Very interesting = 1, Somewhat interesting = 2, Somewhat boring = 3, Very boring = 4). Cronbach's alpha for the scale was .778. The alpha cannot be increased with the elimination of any item.

Depression is the second dimension of negative emotionality. It was measured using a single question. The depression item was a dichotomous measure that asked respondents if the respondent had feelings of depression over time within the past twelve months (No = 0, Yes = 1). Most tests of GST use anger as the measure of the negative emotional response to strain (Agnew, 1992; Agnew & White, 1992; Aseltine, Jr., et al, 2000; Hay, 2003; Slocum, 2010). Unfortunately, a measure for anger was not included in the juvenile data. Other studies have tested different negative emotions that can be associated with strain, such as depression and anxiety. Many of the studies that have examined these dimensions of negative emotionality did not find significant relationships between them and delinquency (Agnew, 1992; Hollist, et al, 2009; Aseltine, Jr., et al, 2000; Broidy, 2001). However, Dario and O'Neal (in press) found a significant relationship between strain as sexual assault and depression under the GST framework. Though there was no measurement of anger available in the juvenile subsample, depression was, and since it is a measurement of negative emotionality that has not received as much attention as anger has, using a depression measurement provides a unique contribution to this evaluation of GST. The other measure of negative emotionality that was available is a new measure of negative emotionality, which is related to negative school feelings. Using negative school feelings as a measure of

negative emotionality is an attempt to better understand the relationship between negative emotionality as a conditional factor on delinquency.

Low Self-Constraint

One item is used to measure the conditioning factor of low self-constraint. This measure is also reflective of Gottfredson and Hirschi's (1990) Self Control theory, which suggests that individuals who are risk takers have low self-control, which is conducive to crime (Gottfredson and Hirschi, 1990, p. 89; Grasmick, Bursik, & Arneklev, 1993). Low self-constraint was measured by asking respondents how often they liked to test themselves by doing something a little risky (0 = Never, 1 = Seldom, 2 = Sometimes, 3 = Always).

Agnew et al. (2002) argued that high negative emotionality and low self-constraint are conditioning variables that have significant positive relationships with delinquency. These measures of negative emotionality and low self-constraint will be examined both together and separately to determine their significance in their relationship as conditioning variables between strain and delinquency/illicit substance use. Agnew's (1992) earlier test only reported results with the two measures used together. Agnew et al.'s 2002 GST suggest that in both subsamples, strain measures should work through negative emotionality and low self-control and not have its major impact directly on the deviance measures.

Delinquency Index

Delinquency is measured using an index made up of three items measuring three different types of delinquent behavior: (1) grand theft, (2) drug selling, and (3) fighting. Measured in frequency, respondents were asked how often they had participated in these

delinquent acts within the past 12 months (0 = 0 times, 1 = 1 or 2 times, 2 = 3 to 5 times, 3 = 6 to 9 times, 4 = 10 or more times). This thesis, therefore, attempts to test the efficacy of GST to explain youths' involvement in serious types of delinquent acts.

Illicit Drug Use Index

Drug use is operationalized using a count measure made up of four items measuring four different types of illicit drug use: (1) alcohol use, (2) marijuana use, (3) cocaine use, and (4) heroin use. All measures were dichotomous items, asking respondents whether or not they have ever tried one of the previously mentioned substances (No = 0, Yes = 1). The more often each respondent responded "Yes", the more involved they are in the use of illicit drugs, with a maximum score of 4.

Control Measures

Agnew (1985, 1992) argued that there were many different constraints and factors that could affect an individual's disposition towards delinquency. In his 1985 revision of Strain theory, he suggested that social control and delinquent peer association were major conditioning factors and that future research should control for these constructs.

Additionally, in his GST (1992), Agnew expressed the need to consider other factors such as favorable beliefs toward delinquency, when testing the theory. Most tests of GST do not control for these particular factors. Thus, they cannot be considered complete tests of GST. This thesis will use measures that control for social control, differential association, beliefs toward delinquency and introduces a new control measure that could also affect an individual's disposition toward delinquency: religiosity (Cochran et al., 1993). Religiosity is the weight an individual's religion has on their immediate environment. Religiosity has been introduced as a control measure because an individual

who is heavily influenced by their religion may be less likely to participate in delinquency/deviance and illicit substance use.

In addition, the analysis will include controls for Gender (Male = 1, Female = 0), Race (White = 1, Other = 0) and Age (a ratio measure). These are all known correlates for involvement in crime and delinquency.

[Table I about Here]

“Emerging” Adults Subsample

Respondents in the second subsample are 18 years old. Jang and Rhodes’ (2012) previous study focused on “emerging” adults between the ages of 18 and 27 years old. The 18 year old “emerging” adults are specifically focused on here because they have not yet fully transitioned into adulthood; they are really emerging. The survey questions chosen include three items to measure strain, six combined items to measure negative emotionality, a single question to operationalize low self-constraint, a four-item delinquency index, and a four-item illicit drug use index.

[Figure 6B]

Strain Measures

The three items of strain measure new dimensions of strain not yet incorporated in a test of GST on adults: Number of times moved, probation, and parole. Times moved is the only dimension of strain that is included in both the youth subsample and “emerging” adult subsample of respondents. In addition, it is the only dimension that has been tested in a previous test of GST (Agnew & White, 1992). If this measure is highly correlated with the other measures of strain in the youth subsample, it can also be seen as representing those measures in the 18 year olds subsample as well. Each dimension of

strain in the young adult sample is measured with a single indicator. One of the strain dimensions (times moved) is representative of strains that are categorized as presentations of negative and noxious stimuli. The strain measures of probation and parole are representatives of the strain category of the removal of positively valued stimuli. Though offenders are being granted freedom (as either a reward for time done or an alternative to incarceration), it is controlled freedom, which often times allows little opportunity for successful completion, thus removing positively valued stimuli. The number of times moved measure of strain was a frequency item that asked the respondents how many times they had moved over the past five years (None or One time = 1, Two or Three times = 2, Four times = 3, Five times = 4, Six or more times = 5). Probation and parole were dichotomous items, which asked the respondents whether or not they had been placed on probation or parole within the past twelve months (No = 0, Yes = 1).

Negative Emotionality Measures

Six items were used to measure four dimensions of negative emotionality: Anxiety, monthly depression, yearly depression, and suicidal thoughts. Anxiety had two items that were converted into one Likert scale. Anxiety items are measured by the respondent's frequency in feelings of nervousness within the past 30 days (None of the Time = 0, A little of the time = 1, Some of time = 3, Most of the time = 4, All of the time = 5), and the respondent's frequent feelings of restlessness/fidgetiness (None of the time = 0, A little of the time = 1, Some of the time = 2, Most of the time = 3, All of the time = 4). Cronbach's alpha for the scale was .681. The alpha cannot be increased with the elimination of any item.

The two monthly depression items are measured by the respondent's frequency in feelings of hopelessness within the past 30 days (None of the time = 0, A little of the time = 1, Some of the time = 2, Most of the time = 3, All of the time = 4), and the respondent's frequency in feelings of extreme sadness/depression within the past 30 days (None of the time = 0, A little of the time = 1, Some of the time = 2, Most of the time = 3, All of the time = 4). Cronbach's alpha for the scale was .820.

Yearly depression was measured using one item. The yearly depression item was a dichotomous measure that asked respondents if the respondent had feelings of sadness, emptiness, and/or depression lasting a long period of time within the past twelve months (No = 0, Yes = 1).

Suicidal thoughts was measured using one item. The suicidal thoughts item was a dichotomous measure that asked respondents whether or not they had seriously thought about killing themselves within the past twelve months (No = 0, Yes = 1). No one in the literature has used a suicidal thoughts measure as a type of negative emotionality.

Most tests of GST use anger as the measure of the negative emotional response to strain (Agnew, 1992; Agnew & White, 1992; Aseltine, Jr., et al, 2000; Hay, 2003; Slocum, 2010). As with the juvenile sample, there were no measures of anger available in the emerging adults data either. This thesis does, however, not only use a new measure of negative emotionality - suicidal thoughts - in an attempt to expand the reach and understanding of negative emotionality as a conditional factor on deviance and drug use, but also attempts to apply the theory to "emerging" adults by conducting one of the first and fullest tests of the theory.

Low Self-Constraint

One item is used to measure the conditioning factor of low self-constraint. This item is the same question used to reflect low self-constraint in the youth subsample. Therefore, it is again a measure that is reflective of Gottfredson and Hirschi's (1990) Self Control theory, which suggests that individuals that are risk takers have low self-control, which is stated to be a central cause of involvement in crime (Gottfredson & Hirschi, 1990, p. 89; Grasmick et al., 1993). Low self-constraint was measured by asking respondents how often they liked to test themselves by doing something a little risky (1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Always).

Pursuant to Agnew et al.'s (2002) argument that high negative emotionality and low self-constraint are conditioning variables that have significant positive relationships with delinquency among juveniles, in theory, the same should apply to adults as well. These measures of negative emotionality and low self-constraint will be examined together and separately to determine the significance of their relationship as conditioning variables between strain and delinquency/illicit substance use. In both subsamples, strain measures should work through negative emotionality and low self-constraint and not have a major impact directly on the deviance measures.

Deviance Index

Deviance is measured using an index made up of three items measuring three different types of delinquent behavior: (1) grand theft, (2) drug selling, and (3) fighting. Measured in frequency, respondents were asked how often they had participated in deviance within the past 12 months (0 = 0 times, 1 = 1 or 2 times, 2 = 3 to 5 times, 3 = 6 to 9 times, 4 = 10 or more times).

Illicit Drug Use Index

Drug use is measured using an index made up of four items measuring four different types of illicit drug use: (1) alcohol use, (2) marijuana use, (3) cocaine use, and (4) heroin use. Measures were all dichotomous, asking respondents whether or not they have ever tried one of the previously mentioned substances (No = 0, Yes = 1).

Control Measures

Agnew suggests that there are important control measures that should be included while testing GST. As previously mentioned, Agnew (1985, 1992) argues that factors which effect an individual's disposition towards delinquency are beliefs toward deviance, conventional support and delinquent peer association. Unfortunately, the items provided by the survey do not cover all of these particular factors. Beliefs favorable toward deviance is controlled in this test with the "emerging" adults subsample. New factors that have not yet been controlled in GST are being examined as control measures instead: Religious involvement and religiosity. In addition, as done in the youth subsample, Gender (Male = 1, Female = 0) and Race (White =1, Other = 0) are examined as control measures. This thesis also controls for High School Graduate (No = 1, Yes = 0) in the "emerging" adult subsample. Some of the 18 year olds who have not graduated high school may be experiencing strain, which may confound other relationships.

[Table II About Here]

Hypotheses

Hypotheses – Youth Subsample

This thesis tests a multitude of hypothesis deriving from Agnew et al.'s 2002 extension of GST. Evidence suggests that there are many different types and categories of strain that an individual can experience (Agnew, 1992; Agnew & White, 1992; Aseltine

et al, 2000; Broidy, 2001; Hay, 2003; Hollist et al, 2009; Froggio, 2007; Moon et al, 2008; Slocum, 2010; Grothoff, Kempf-Leonard, & Mullins, 2014). This thesis incorporates a number of measures that are similar to those used in the past but also includes new measures. Agnew et al. (2002) argued that high negative emotionality and low self-constraint are important conditioning factors between strain and delinquency. The thesis also examines these relationships in the youth sample with additional conditioning variables as controls, which have not received a great deal of empirical attention in the literature: social control, association with deviant peers, and beliefs favorable to crime.

Proposition #1 was that strain will lead to higher negative emotionality (path C1, C2 in Figure 6A). Proposition #1 is evaluated by testing sixteen research hypotheses.

Hypothesis 1: Adolescents who have moved more in the past year are more likely to have higher levels of negative school emotion than those who have moved less in the past year.

Hypothesis 2: Adolescents who have more negative school experiences with teachers are more likely to have higher levels of negative school emotion than those who have less negative school experiences with teachers.

Hypothesis 3: Adolescents who experience higher levels of child neglect are more likely to have higher levels of negative school emotion than those who experience lower levels of child neglect.

Hypothesis 4: Adolescents who experience higher levels of parental strictness with chores are more likely to have higher levels of negative school emotion than those who experience lower levels of parental strictness with chores.

Hypothesis 5: Adolescents who experience higher levels of parental strictness with time spent with friends are more likely to have higher levels of negative school emotion than those who experience lower levels of parental strictness with time spent with friends.

Hypothesis 6: Adolescents who experience higher levels of parental strictness with television are more likely to have higher levels of negative school emotion than those who experience lower levels of parental strictness with television.

Hypothesis 7: Adolescents who are involved in more physical conflicts with their parents are more likely to have higher levels of negative school emotion than those who are involved in fewer physical conflicts with their parents.

Hypothesis 8: Adolescents who have lower grades are more likely to have higher levels of negative school emotion than those who have higher school grades.

Hypothesis 9: Adolescents who have moved more in the past year are more likely to report being depressed than those who have moved less in the past year.

Hypothesis 10: Adolescents who have many negative school experiences with teachers are more likely to report being depressed than those who have fewer negative school experiences with teachers.

Hypothesis 11: Adolescents who experience higher levels of child neglect are more likely to report being depressed than those who experience lower levels of child neglect.

Hypothesis 12: Adolescents who experience higher levels of parental strictness with chores are more likely to report being depressed than those who experience lower levels of parental strictness with chores.

Hypothesis 13: Adolescents who experience higher levels of parental strictness with time spent with friends are more likely to report being depressed than those who experience lower levels of parental strictness with time spent with friends.

Hypothesis 14: Adolescents who experience higher levels of parental strictness with television are more likely to report being depressed than those who experience lower levels of parental strictness with television.

Hypothesis 15: Adolescents who are involved in more physical conflicts with their parents are more likely to report being depressed than those who are involved in fewer physical conflicts with their parents.

Hypothesis 16: Adolescents who have lower grades are more likely to report being depressed than those who have higher grades.

[These above hypotheses will be tested in Column I and Column II of Table IV presented below]

Proposition #2 was that strain will lead to lower self-constraint (path C1, C3 in Figure 6A). Proposition #2 is evaluated by testing eight research hypotheses.

Hypothesis 17: Adolescents who have moved more in the past year are more likely to have lower self-constraint than those who have moved less in the past year.

Hypothesis 18: Adolescents who have many negative school experiences with teachers are more likely to have lower self-constraint than those who have fewer negative school experiences with teachers.

Hypothesis 19: Adolescents who experience higher levels of child neglect are more likely to have lower self-constraint than those who experience lower levels of child neglect.

Hypothesis 20: Adolescents who experience higher levels of parental strictness with chores are more likely to have lower self-constraint than those who experience lower levels of parental strictness with chores.

Hypothesis 21: Adolescents who experience higher levels of parental strictness with time spent with friends are more likely to have lower self-constraint than those who experience lower levels of parental strictness with time spent with friends.

Hypothesis 22: Adolescents who experience higher levels of parental strictness with television are more likely to have lower self-constraint than those who experience lower levels of parental strictness with television.

Hypothesis 23: Adolescents who are involved in more physical conflicts with their parents are more likely to have lower self-constraint than those who are involved in fewer physical conflicts with their parents.

Hypothesis 24: Adolescents who have lower grades are more likely to have lower self-constraint than those who have higher grades.

[The above hypotheses will be tested in Column III of Table IV presented below]

Proposition #3 was that negative emotionality will lead to higher involvement in delinquency (path C2, C4 in Figure 6A). Proposition #3 will be evaluated by testing two research hypotheses.

Hypothesis 25: Adolescents who have higher levels of negative school emotion are more likely to participate in delinquent behavior than those who have lower levels of negative emotion.

Hypothesis 26: Adolescents who report being depressed are more likely to participate in delinquent behavior than those who do not report being depressed.

[The above hypotheses will be tested in Column I and Column II of Table V presented below]

Proposition #4 was that low self-constraint will lead to higher involvement in delinquency (path C3, C4 in Figure 6A). Proposition #4 will be evaluated by testing one research hypothesis.

Hypothesis 27: Adolescents who have lower levels of self-constraint are more likely to participate in delinquent behavior than those who have higher levels of self-constraint.

[These above hypotheses will be tested in Column III of Table V presented below]

Proposition #3 was that negative emotionality will lead to higher involvement in illicit drug use (path C2, C4 in Figure 6A). Proposition #5 will be evaluated by testing two research hypotheses.

Hypothesis 28: Adolescents who have higher levels of negative school emotion are more likely to participate in illicit drug use than those who have lower levels of negative school emotion.

Hypothesis 29: Adolescents who report being depressed are more likely to participate in illicit drug use than those who do not report being depressed.

[These above hypotheses will be tested in Column I and Column II of Table VI presented below]

Proposition #4 was that low self-constraint will lead to higher involvement in illicit substance use (path C3, C4 in Figure 6A). Proposition #5 will be evaluated by testing one research hypothesis

Hypothesis 30: Adolescents who have lower self-constraint are more likely to participate in illicit drug use than those who have higher levels self-constraint.

[This above hypothesis will be tested in Column III of Table VI presented below]

Proposition #5 was the effect of strain on delinquency in the youth sample should work through negative emotionality and low self-constraint and not have a major impact directly on delinquency (path C1, C4 in Figure 6A) (Agnew et al., 2002; Agnew, 2013). Proposition #5 will be evaluated by testing two research hypotheses.

Hypothesis 31: The effect of the strain measures on delinquency will be reduced when measures of negative emotionality and low self-constraint are entered into the equation.

Hypothesis 32: There will not be a significant increase in R^2 when measures of strain are added to the equation for the effect of negative emotionality and low self-constraint on delinquency.

[These above hypotheses will be tested in Table VII presented below]

Proposition #6 was that the effect of strain on illicit drug use should work through negative emotionality and low self-constraint and not have a major impact directly on the illicit drug use (path C1, C4 in Figure 6A) (Agnew et al., 2002; Agnew, 2013).

Proposition #6 will be evaluated by testing two research hypotheses.

Hypothesis 33: The effect of the strain measures on illicit drug use will be reduced when measures of negative emotionality and low self-constraint are entered into the equation.

Hypothesis 34: There will not be a significant increase in R^2 when measures of strain are added to the equation for the effect of negative emotionality and low self-constraint on illicit drug use.

[These above hypotheses will be tested in Table VIII presented below]

Hypotheses – “Emerging” Adult Sample

There are also a multitude of hypotheses tested with the “Emerging Adult” sample of respondents that arise from Agnew et al.’s 2002 extension of GST. Because research results demonstrate that there are many different types and categories of strain that juveniles can experience (Agnew, 1992; Agnew & White, 1992; Aseltine, Jr., et al, 2000; Broidy, 2001; Grothoff, Kempf-Leonard & Mullins, 2014; Hay, 2003; Hollist, et al, 2009; Froggio, 2007; Moon, et al, 2008; Slocum, 2010), it only makes sense to complete the same tests on “emerging” adults to see if the theory can be applied successfully to them. Respondents in the second subsample are “emerging” adults who are all 18 years of age. This thesis incorporates a number of measures that are similar to those used in the past on youth, such as the strain measure of number of times moved, but also includes new measures, such as the strain measures of probation and parole. Agnew et al. (2002) argued that high negative emotionality and low self-constraint are important conditioning factors of strain and deviance. The thesis also examines these relationships in the “emerging” adults sample with additional conditioning variables as controls, which have not received a great deal of empirical attention in the literature: religious involvement, beliefs favorable to crime, and religiosity.

Proposition #1 was that strain will lead to higher negative emotionality (path C1, C2 in Figure 6B). Proposition #1 is evaluated by testing twelve research hypotheses.

Hypothesis 1: “Emerging” adults who have moved more in the past year are more likely to have higher levels of anxiety than those who have moved less in the past year.

Hypothesis 2: “Emerging” adults who have been placed on probation within the past twelve months are more likely to have higher levels of anxiety than those who have not been placed on probation within the past twelve months.

Hypothesis 3: “Emerging” adults who have been placed on parole within the past twelve months are more likely to have higher levels of anxiety than those who have not been placed on parole within the past twelve months.

Hypothesis 4: “Emerging” adults who have moved more in the past year are more likely to report higher levels of monthly depression than those who have moved less in the past year.

Hypothesis 5: “Emerging” adults who have been placed on probation within the past twelve months are more likely to report higher levels of monthly depression than those who have not been placed on probation within the past twelve months.

Hypothesis 6: “Emerging” adults who have been placed on parole within the past twelve months are more likely to report higher levels of monthly depression than those who have not been placed on parole within the past twelve months.

Hypothesis 7: “Emerging” adults who have moved more in the past year are more likely to report yearly depression than those who have moved less in the past year.

Hypothesis 8: “Emerging” adults who have been placed on probation within the past twelve months are more likely to report yearly depression than those who have not been placed on probation within the past twelve months.

Hypothesis 9: “Emerging” adults who have been placed on parole within the past twelve months are more likely to report having yearly depression than those who have not been placed on parole within the past twelve months.

Hypothesis 10: “Emerging” adults who have moved more in the past year are more likely to report having suicidal thoughts than those who have moved less in the past year.

Hypothesis 11: “Emerging” adults who have been placed on probation within the past twelve months are more likely to report having suicidal thoughts than those who have not been placed on probation within the past twelve months.

Hypothesis 12: “Emerging” adults who have been placed on parole within the past twelve months are more likely to report having suicidal thoughts than those who have not been placed on parole within the past twelve months.

[These above hypotheses will be tested in Column I, Column II, Column III and Column IV of Table X presented below]

Proposition #2 was strain will lead to lower self-constraint (path C1, C3 in Figure 6B).

Proposition #2 is evaluated by testing three research hypotheses.

Hypothesis 13: “Emerging” adults who have moved more in the past year are more likely to have lower self-constraint than those who have moved less in the past year.

Hypothesis 14: “Emerging” adults who have been placed on probation in the past twelve months are more likely to have lower self-constraint than those who have not been placed on probation within the past twelve months.

Hypothesis 15: “Emerging” adults who have been placed on parole in the past twelve months are more likely to have lower self-constraint than those who have not been placed on parole within the past twelve months.

[These above hypotheses will be tested in Column V of Table X presented below]

Proposition #3 was that negative emotionality will lead to higher involvement in deviance (path C2, C4 in Figure 6B). Proposition #3 will be evaluated by testing four research hypotheses.

Hypothesis 16: “Emerging” adults who have higher levels of anxiety are more likely to participate in deviant behavior than those who do have lower levels of anxiety.

Hypothesis 17: “Emerging” adults who report having higher levels of monthly depression are more likely to participate in deviant behavior than those who report having lower levels of monthly depression.

Hypothesis 18: “Emerging” adults who report having yearly depression are more likely to participate in deviant behavior than those who do not report having yearly depression.

Hypothesis 19: “Emerging” adults who report having suicidal thoughts are more likely to participate in deviant behavior than those who do not report having suicidal thoughts.

[Column I, Column II, Column III and Column IV of Table XI about Here]

Proposition #4 is that low self-constraint will lead to higher involvement in deviance (path C3, C4 in Figure 6B). Proposition #4 will be evaluated by testing one research hypotheses.

Hypothesis 20: “Emerging” adults who have lower self-constraint are more likely to participate in deviant behavior than those who have higher self-constraint.

[These above hypotheses will be tested in Column V and Column 6 of Table XI presented below]

Proposition #3 is that negative emotionality will lead to higher involvement in illicit substance use (path C2, C4 in Figure 6B). Proposition 5 will be evaluated by testing four research hypotheses.

Hypothesis 21: “Emerging” adults who have higher levels of anxiety are more likely to participate in illicit substance use than those who do have lower levels of anxiety.

Hypothesis 22: “Emerging” adults who report having higher levels of monthly depression are more likely to participate in illicit substance use than those who report having lower levels of monthly depression.

Hypothesis 23: “Emerging” adults who report having yearly depression are more likely to participate in illicit substance use than those who do not report having yearly depression.

Hypothesis 24: “Emerging” adults who report having suicidal thoughts are more likely to participate in illicit substance use than those who do not report having suicidal thoughts.

[These above hypotheses will be tested in Column I, Column II, Column III and Column IV of Table XII presented below]

Proposition #4 is that low self-constraint will lead to higher involvement in illicit substance use (path C3, C4 in Figure 6B). Proposition #5 will be evaluated by testing one research Hypothesis.

Hypothesis 25: “Emerging” adults who have lower self-constraint are more likely to participate in illicit drug use than those who have higher self-constraint.

[This above hypothesis will be tested in Column V and Column VI of Table XII presented below]

Proposition #5 was the effect of strain on deviance in the “emerging” adult sample should work through negative emotionality and low self-constraint and not have a major impact directly on deviance (path C1, C4 in Figure 6B) (Agnew, 2002; Agnew, 2013).

Proposition #5 will be evaluated by testing two research hypotheses.

Hypothesis 26: The effect of the strain measures on deviance will be reduced when measures of negative emotionality and low self-constraint are entered into the equation.

Hypothesis 27: There will not be a significant increase in R^2 when measures of strain are added to the equation for the effect of negative emotionality and low self-constraint on deviance.

[These above hypotheses will be tested in Table XIII presented below]

Proposition #6 was that the effect of strain on illicit drug use should work through negative emotionality and low self-constraint and not have a major impact directly on illicit drug use (path C1, C4 in Figure 6B) (Agnew, 2002; Agnew, 2013). Proposition #6 will be evaluated by testing two research hypotheses.

Hypothesis 28: The effect of the strain measures on illicit drug use will be reduced when measures of negative emotionality and low self-constraint are entered into the equation.

Hypothesis 29: There will not be a significant increase in R^2 when measures of strain are added to the equation for the effect of negative emotionality and low self-constraint on illicit drug use.

[These above hypotheses will be tested in Table XIV presented below]

Analysis Procedures

Each of the aforementioned hypotheses that include a dichotomous level dependent variable will be tested with the use of logistic regression. All other hypotheses will be tested with OLS regression.

Chapter IV

Analysis

Analysis Procedure

The analysis of the two subsamples, juveniles and 18 year old “emerging” adults, proceed in the following steps. First, descriptive statistics are examined using the measures of central tendency: mean, minimum, maximum and standard deviation. The demographic variables are specifically examined to determine the percent of representation of gender and race in the analysis. Second, bivariate correlations are examined to determine whether measures of strain are significantly related to measures of negative emotionality and low self-constraint, and whether measures of negative emotionality and low self-constraint are strongly related to delinquency/deviant behavior and illicit substance use. Third and finally, multivariate statistics such as OLS regression and logistic regression analyses are used to determine if measures of strain significantly predict delinquency/deviant behavior and illicit use directly and indirectly through measures of negative emotionality and low self-constraint, controlling for social control, differential association, beliefs toward delinquency/deviance, and religiosity. According to Agnew et al.’s 2002 extension of GST, high negative emotionality and low self-constraint are the principal determinant factors that link strain to delinquency/deviance and illicit substance use. Additionally, the individual effects of strain, negative emotionality, and low self-constraint are examined to determine if any significantly predict delinquency/deviant behavior and illicit substance use. Finally, a test for significant change in R^2 will be conducted to establish if measures of strain increases the

amount of variance in delinquency/deviant behavior and illicit substance use beyond the effects of measures of negative emotionality and low self-constraint.

The descriptive statistics for the demographic variables are as follows: In the juvenile subsample, gender, age, and race are the demographic variables. The measures of central tendency describe gender as follows: the minimum is 0 and maximum is 1, with a mean of .5142 (the subsample was almost split completely evenly with 50% of the subsample being male and 50% of the subsample female) and standard deviation of .49981. In reviewing the measures of central tendency for age, the statistics show a minimum of age of 12 and a maximum age of 17, which suggests a mean of 14.5467 with a standard deviation of 1.68927. As mentioned earlier, race is dichotomized between white and other. The measures of central tendency for race display a minimum of 0 and a maximum of 1, suggesting a mean of .5593 (the subsample was split almost evenly with 50% of the subsample being white and 50% of the subsample being non-white) and a standard deviation of .49648.

In the “emerging” adult subsample, the demographic variables are gender and race. While reviewing the measures of central tendency for gender, the minimum is 0 while the maximum is 1, suggesting a mean of .4972 with a standard deviation of .50010. Like in the juvenile subsample, race is dichotomized as white and other. The measures of central tendency for race display a minimum of 0 and a maximum of 1, suggesting a mean of .5250 with a standard deviation of .49949. Like in the juvenile subsample the subsample was split almost evenly between the two demographic variables: About 50% of the subsample was male and female, and about 50% of the subsample was white and non-white.

For a full list of measures and descriptive statistics for both subsamples in this analysis, see tables one and two.

[Tables I and II]

Analysis Results

Juvenile Subsample

Table III displays the results of the bivariate correlations between measures of strain, negative emotionality, low self-constraint, delinquency and illicit substance use.

[Table III]

The times moved strain measure is only significantly related to the depression measure of negative emotionality ($r = .076, p = <.001$) and not to the negative school emotion measure of negative emotionality. Additionally, the parental strictness with chores strain measure is only significantly related to the negative school emotion measure of negative emotionality ($r = .126, p = <.001$) and not to the depression measure. The results reveal that the remaining strain measures, however, are all positively and significantly associated with all measures of negative emotionality as theoretically predicted: negative school experiences (negative school emotions, $r = .424, p = <.001$; depression, $r = .126, p = <.001$), child neglect (negative school emotions, $r = .311, p = <.001$; depression, $r = .224, p = <.001$), parental strictness with television (negative school emotions, $r = .211, p = <.001$; depression, $r = .104, p = <.001$), parental strictness with time spent with friends (negative school emotions, $r = .106, p = <.001$; depression, $r = .031, p = <.001$), fight with parents (negative school emotions, $r = .292, p = <.001$; depression, $r = .275, p = <.001$), and bad grades (negative school emotions, $r = .186, p =$

<.001; depression, $r = .066, p = <.001$). Most of the strain measures are positively and significantly associated with low self-constraint as theoretically predicted as well: negative school experiences (low self-constraint, $r = .130, p = <.001$), child neglect (low self-constraint, $r = .190, p = <.001$), parental strictness with television (low self-constraint, $r = .105, p = <.001$), parental strictness with time spent with friends (low self-constraint, $r = .046, p = <.001$), fights with parents (low self-constraint, $r = .269, p = <.001$) and bad grades (low self-constraint, $r = .054, p = <.001$). The times moved and parental strictness with chores strain measures are not significantly related to low self-constraint.

The bivariate correlation results also demonstrate that both measures of negative emotionality and the one measure of low self-constraint are significantly associated with the general delinquency index – negative school emotions ($r = .135, p = <.001$), depression ($r = .051, p = <.001$), and low self-constraint ($r = .169, p = <.001$) – and the illicit substance use index – negative school emotion ($r = .221, p = <.001$), depression ($r = .135, p = <.001$), and low self-constraint ($r = .290, p = <.001$).

Last, the results reveal that all measures of strain are significantly associated with the general delinquency index – times moved ($r = .075, p = <.001$), negative school experience ($r = .074, p = <.001$), child neglect ($r = .161, p = <.001$), parental strictness with chores ($r = .035, p = <.001$), parental strictness with television ($r = .072, p = <.001$), parental strictness with time spent with friends ($r = .063, p = <.001$), fights with parents ($r = .106, p = <.001$), and bad grades ($r = .117, p = <.001$) – and the illicit substance use index – times moved ($r = .066, p = <.001$), negative school experience ($r = .109, p = <.001$), child neglect ($r = .273, p = <.001$), parental strictness with chores ($r = .021, p =$

<.001), parental strictness with television ($r = .211, p = <.001$), parental strictness with time spent with friends ($r = .086, p = <.001$), fights with parents ($r = .195, p = <.001$), and bad grades ($r = .163, p = <.001$). The results of the bivariate correlation analysis imply that most of the strain measures, all of the negative emotionality measures, the low self-constraint measure, general delinquency index, and illicit substance use index are all significantly relating to one another, thus providing grounds for the analysis to continue.

As Agnew (1992, 2001, 2002, 2013) suggested, there may be a direct relationship between strain and delinquency and substance use; however, the effect of strain on both deviance measures should be mediated by negative emotionality and low self-constraint measures. In other words, though strain may directly lead to delinquency and substance, strain should primarily lead to delinquency and substance use through negative emotionality and low self-constraint. To test if that is the case, as well as to determine if any of the aforementioned relationships might be spurious, the thesis moves on to multivariate statistics.

Table IV presents the results of the OLS and logistic regressions analyses where strain measures are regressed on measures of negative emotionality and low self-constraint (controlling for gender, age and race). OLS regression is used on most tests conducted in this analysis because the measures are all continuous. However, one measure, specifically the depression measure of negative emotionality, is dichotomous, which requires logistic regression analysis.

[Table IV]

The test lends partial support for the empirical hypotheses reflective of research proposition one, which is that strain will lead to higher negative emotionality, and research proposition two, that strain will lead to lower self-constraint.

The following strain measures significantly predict both measures of negative emotionality: Negative school experience (negative school emotionality Beta = .311, $p < .001$, Depression Beta = .133, $p < .001$); child neglect (negative school emotionality Beta = .118, $p < .001$, depression Beta = .094, $p < .001$); parental strictness with television (negative school emotionality Beta = .081, $p < .001$; depression Beta = .090, $p < .001$); fights with parents (negative school emotionality Beta = .177, $p < .001$, depression Beta = .340, $p < .001$); bad grades (negative school emotionality Beta = .131, $p < .001$, depression Beta = .103, $p < .001$). As Agnew (1992, 2001) suggested, strain measures of child neglect and fights with parents are the greatest predictors of all measures of negative emotionality. Although Agnew (1992) has argued that these strains would most likely predict anger, the results demonstrate that the measures of strain also significantly predict other types of negative emotionality such as negative school emotion and depression. The strain measure, the amount of times moved within the past five years, does not have a significant relationship with the negative emotionality measure of negative school emotion, but is a significant predictor of negative emotionality measure of depression (Beta = .103, $p < .001$). The strain measure, parental strictness with chores, is a predictor of the negative emotionality measure of negative school emotion (Beta = .051, $p < .001$), but does not have a significant relationship at all with the negative emotionality measure of depression. The strain measure, parental strictness with the amount of time spent with friends, is the only measure of strain that does not have a

significant relationship with either measures of negative emotionality. These results imply that only some measures of strain significantly predict negative emotionality, while others either only predict one measure of negative emotionality or none at all.

When it comes to low self-constraint, the results reveal that the following strain measures significantly predict low self-constraint: negative school experience (Beta = .042, $p < .001$), child neglect (Beta = .100, $p < .001$), parental strictness with television (Beta = .036, $p < .001$), and fights with parents (Beta = .299, $p = .001$). These results suggest that high levels of negative school experiences, child neglect, parental strictness with television, and fights with parents predict low self-constraint. The strain measure of parental strictness with chores has a significant relationship with low self-constraint, but the relationship is negative (Beta = -.024, $p = .002$). This suggests that the parental strictness with chores measure leads to high self-constraint. The strain measures of parental strictness with the amount of time spent with friends and bad grades are found to not have a significant relationship with low self-constraint at all.

Tables V and VI report the results of the OLS regression analyses when the measures of negative emotionality and low self-constraint are regressed on the delinquent behavior index and the illicit substance use index, controlling for social control, differential association, beliefs toward delinquency, religiosity, gender, age, and race.

[Tables V and VI]

The results lend support to the hypotheses relating to research proposition three, which is that negative emotionality will lead to higher involvement in delinquent behavior and illicit substance use, and research proposition four, that lower self-

constraint will lead to higher involvement in delinquent behavior and illicit substance use. Both measures of negative emotionality (negative school emotion and depression) have been found to significantly predict general delinquency when tested in separate equations (Negative school emotionality, $Beta = .089, p = <.001$; depression, $Beta = .027, p = .001$). The results also illustrate that the one measure of low self-constraint also significantly predicts general delinquency ($Beta = .126, p = <.001$). When analyzed in separate equations, both measures of negative emotionality and the one measure of low self-constraint significantly predict illicit substance use as well (Negative school emotionality, $Beta = .041, p = <.001$; depression, $Beta = .039, p = <.001$; low self-constraint, $Beta = .145, p = <.001$). When analyzed in the same equation, low self-constraint by far has the strongest significant predictor of general delinquency ($Beta = .105, p = <.001$) and illicit substance use ($Beta = .137, p = <.001$). Agnew (2001) argues that both high negative emotionality and low self-constraint should significantly predict delinquency and illicit substance use. For the most part, the analysis reviewed here provides support to this claim. The results; however, also demonstrate that low self-constraint is the strongest predictor of both general delinquency and illicit substance use when tested both separate from negative emotionality and together with negative emotionality. Overall, the results of the analysis suggest that juveniles who have high negative emotionality and low self-constraint are more likely to participate in general delinquency and illicit substance use as theoretically expected.

In column I of Tables VII and VIII, the results of the OLS regression analysis when measures of strain are regressed on the general delinquency index and the illicit substance use index are reported. In columns II and III, the results of the change in R^2

analysis are listed, where measures of negative emotionality and low self-constraint are regressed on the general delinquency index and the illicit substance index are analyzed, and then again with the strain measures added into the equation. This is done in order to determine if there is a significant change in R^2 .

[Tables VII and VIII]

The tests described in Tables VII and VIII do not lend to support to the hypotheses relating to propositions five and six, the effect of strain on delinquency and illicit substance use should work through high negative emotionality and low self-constraint, and not have a major impact directly on delinquency and illicit substance use. Agnew et al. (2002) suggests that the strongest relationship that strain has on delinquency and illicit substance use should be through high negative emotionality and low self-constraint. The results demonstrate that the strongest relationship strain has on delinquency and illicit substance use is direct.

When viewing Table VII and comparing the results of column II and column III; the results imply that the relationship between high negative emotionality, low self-constraint, and general deviance is stronger when measures of strain are not included in the equation. Additionally, the magnitude of R^2 in column II (.067) does increase in column III (.082), with a .015 increased change in R^2 . The significance of the F change is beyond the .001 level. Similar results were found when examining Table VIII. The magnitude of the R^2 in column II (.403) increases in column III (.415), which results with a .011 increased change in R^2 . The significance of the F change is beyond the .001 level. These results suggest that strain has a greater direct impact on both general delinquency and illicit substance use than Agnew (1992) originally theorized (Agnew et al., 2002).

“Emerging Adults” Subsample

Table IX displays the results of the bivariate correlations between the measures of strain, negative emotionality, low self-constraint, deviant behavior and illicit substance, and the control variables.

[Table IX]

Unlike the juvenile subsample, only one strain measure is significantly associated with all the negative emotionality measures, as theoretically predicted: Times moved (anxiety, $r = .079$, $p < .001$; monthly depression, $r = .126$, $p < .001$; yearly depression, $r = .076$, $p < .001$; suicidal thoughts, $r = .068$, $p < .001$). The probation and parole strain measures are not significantly associated with any of the negative emotionality measures. It is promising to see that the only strain measure used in both subsamples (times moved) has consistent results: a positive and significant relationship with the negative emotionality measures. The bivariate correlations results also reveal that only the probation strain measure has a strong association with the low self-constraint measure ($r = .055$, $p = .008$). These results demonstrate that most of the strain measures do not have significant associations with the negative emotionality and low self-constraint measures contrary to what Agnew et al. (2002) theoretically predicted.

The results reveal that all measures of strain are significantly associated with the general deviance index; however, the times moved strain measure is the only strain measure to have a positive relationship (times moved, $r = .112$, $p < .001$; probation, $r = -.149$, $p < .001$; parole, $r = -.080$, $p < .001$) and the illicit substance use index (times moved; $r = .169$, $p < .001$; probation, $r = .159$, $p < .001$; parole, $r = .066$, $p < .001$).

These results are interesting considering that Agnew (1992, 2001, 2013) argues that though there could be a direct relationship between strain, deviance and substance use, it should not be strong (Agnew et al., 2002). Rather, the results imply that there could be a stronger direct relationship between strain, deviance and substance use than originally theorized.

Last, the results also illustrate that most of the negative emotionality measures and the single low self-constraint measure are significantly associated with the general deviance index (anxiety, $r = .117, p = <.001$; monthly depression, $r = .165, p = <.001$; suicidal thoughts, $r = .110, p = <.001$; low self-constraint, $r = .210, p = <.001$). The one negative emotionality measure that is not significantly associated with the general delinquency index is yearly depression. When examining the relationships between the negative emotionality measures, low self-constraint measure, and the illicit substance use index however, it was revealed that all of the measures are significantly associated with the illicit substance use index (anxiety, $r = .112, p = <.001$; monthly depression, $r = .144, p = <.001$; yearly depression, $r = .142, p = <.001$; suicidal thoughts, $r = .109, p = <.001$; low self-constraint $r = .280, p = <.001$). As theoretically predicted, negative emotionality and low self-constraint have significant associations with deviant behavior and illicit substance use.

Table X presents the results of the OLS and logistic regressions analyses when strain measures are regressed on measures of negative emotionality and low self-constraint, controlling for high school graduation, gender, and race. Like in the juvenile subsample, OLS regression is used on most tests conducted in this analysis because the measures are all continuous. However, two measure, specifically the yearly depression

and suicidal thoughts measures of negative emotionality, are dichotomous, which requires logistic regression analysis

[Table X]

This test lends partial support for the empirical hypotheses reflective of research proposition one, which states that strain will lead to higher negative emotionality, and research proposition two, that strain will lead to lower self-constraint. The strain measure of times moved significantly predicts all measures of negative emotionality (anxiety, Beta = .075, $p < .001$; monthly depression, Beta = .112, $p < .001$; yearly depression, Beta = .107, $p < .001$; suicidal thoughts, Beta = .123, $p = .004$). Agnew (1992) suggested, strain measured as high mobility (times moved), is a predictor of negative emotionality among juveniles (Agnew et al., 2002). The results of this analysis reveal that this theoretical relationship also applies to “emerging adults”. “Emerging adults” who have moved frequently over the past five years have high negative emotionality. The times moved strain measure does not have a significant relationship at all with the measure of low self-constraint. The strain measures of probation and parole were found to not have a significant relationship with any of the negative emotionality measures or the one low self-constraint measure. This means one of two things: 1) the relationship between strain and both negative emotionality and low self-constraint is not as applicable to “emerging” adults as it is to juveniles, or 2) different measures of strain need to be used for the “emerging” adult subsample to examine the relationship.

Tables XI and XII report the results of the OLS regression analyses when measures of negative emotionality and low self-constraint are regressed on the general deviance behavior index and the illicit substance use index, controlling for religious

involvement, beliefs toward deviance, religious beliefs, high school graduation, gender, and race.

[Tables XI and XII]

The results lend support to the empirical hypotheses reflective of research proposition three, which is that negative emotionality will lead to higher involvement in deviant behavior and illicit substance use, and research proposition four, that low self-constraint will lead to higher involvement in deviant behavior and illicit substance use.

Most of the measures of negative emotionality significantly predict general deviance when examined separately (anxiety, $Beta = .119, p = <.001$; monthly depression, $Beta = .180, p = <.001$; suicidal thoughts, $Beta = .118, p = <.001$). The one measure of negative emotionality that has been revealed to not have a large significant relationship with general deviance is yearly depression ($Beta = .046, p = .029$). The results of this analysis also demonstrate that the one measure of low self-constraint is a significant predictor of general deviance ($Beta = .183, p = <.001$). All measures of negative emotionality and low self-constraint have been found to significantly predict illicit substance use (anxiety, $Beta = .079, p = <.001$; monthly depression, $Beta = .104, p = <.001$; yearly depression, $Beta = .110, p = <.001$; suicidal thoughts, $Beta = .073, p = <.001$; low self-constraint, $Beta = .178, p = <.001$). When analyzed in the same equation, the measure of monthly depression and low self-constraint are found to be the greatest predictor of general deviance (monthly depression, $Beta = .158, p = <.001$; low self-constraint, $Beta = .164, p = <.001$). The measure of low self-constraint is the greatest predictor of illicit substance use ($Beta = .163, p = <.001$). As a whole, the greatest predictor of both general deviance and illicit substance use is low self-constraint. Agnew

et al. (2002) argues that both high negative emotionality and low self-constraint should significantly predict general deviance and illicit substance use. For the most part, the analysis provides support for this claim, but the results also reveal that the low self-constraint is by far the greatest predictor of both general deviance and illicit substance use. The results of the analysis suggest that “emerging” adults who have high negative emotionality and low self-constraint are more likely to participate in general deviance and illicit substance use.

Column I of Tables XIII and XIV, reports the results of the OLS regression analysis when measures of strain are regressed on the deviant behavior index and the illicit substance use index. In columns II and III, the results of the change in R^2 test are reported, where measures of negative emotionality and low self-constraint are regressed on the general deviance index and the illicit substance index, and then again with the strain measures added into the equation. This is done in order to determine if there is a significant change in R^2 . According to GST, there should not be a significant change in R^2 when the strain measures are added to the equation; if there is, it would mean that strain has a greater direct effect on deviance and illicit substance use than theoretically predicted.

[Tables XIII and XIV]

The results reported in Tables XIII and XIV do not lend support to the empirical hypotheses reflective of propositions five and six, which state that the effect of strain on deviance and illicit substance use should work through high negative emotionality and low self-constraint, and not have a major significant impact directly on deviance and illicit substance use. Agnew et al. (2002) has argued that the strongest relationship that

strain has on deviance and illicit substance use should work through high negative emotionality and low self-constraint.

Comparing the results of column II and column III of Table XIII suggests that the relationship between high negative emotionality and low self-constraint is stronger when measures of strain are not included in the equation. In addition, the magnitude of R^2 in column II (.080) does significantly increase in column III (.105), with a .025 increased change in when the strain measures are added to the equation. The significance of the F change is $<.001$. These results suggest that strain has a greater impact on deviance and illicit substance use than Agnew (2001) theorized. Similar results were found when examining Table XIV. The magnitude of R^2 in column II (.265) increases in column III (.289) with a .024 increase change in R^2 . The significance of the F change is $<.001$. These results suggest that strain has a greater direct impact on both general delinquency and illicit substance use than Agnew (1985, 1992, 2001) originally theorized (Agnew, et al, 2002).

Chapter V

Discussion

This thesis tested Agnew, Wright, & Cullen's 2002 extension of GST and provided the first partial test of Agnew's 2013 extension. Agnew et al. (2002) argues that strain indirectly affects delinquency/deviant behavior and illicit substance use through negative emotionality and low self-constraint. Although Agnew et al. (2002) maintain that strain may have a minor direct effect on delinquency/deviant behavior and illicit substance use, high levels of negative emotionality and low self-constraint are the mediating factors that are the most important for predicting delinquency/deviant behavior and illicit substance use. Overall, the thesis results provided some support for Agnew et al.'s 2002 extension of GST.

Between both subsamples, there were 39 hypotheses that related to propositions one (juvenile subsample: Hypotheses 1 – 16; “emerging” adult subsample: Hypotheses 1 – 12) and two (juvenile subsample: Hypotheses 17 – 24; “emerging” adult subsample: Hypotheses 13 – 15). In the juvenile subsample, the results confirmed that negative school experiences, child neglect, parental strictness with television, parental strictness with time spent with friends, fights with parents, and bad grades lead to high negative emotionality and low self-constraint. Agnew et al. (2002) suggest that these strains would likely lead to high negative emotionality and low self-constraint, but he also believed that child neglect and fighting with parents would be the strains that are the greatest predictor of high negative emotionality and low self-constraint. The results of the thesis provided support for this argument: Negative school experiences, child neglect and fights with

parents were found to be the greatest predictors of all measures of negative emotionality and the one measure of low self-constraint.

In the “emerging adult” subsample, the results demonstrated that times moved was the only strain that was significantly related to high negative emotionality and low self-constraint. In 1992, Agnew hypothesized that high mobility or residential instability would lead juveniles to fall into a negative affective state; however, the results of his initial test did not provide support for this hypothesis. Times moved is the only measure of strain that was examined in both subsamples. Although times moved led “emerging adults” to have high negative emotionality and low self-constraint, the results of the juvenile subsample only established that times moved was only significantly related to depression (just one of the measures of negative emotionality). These results have revealed that groups of individuals that are of differing ages might experience the effects of strain differently: According to the results, “emerging” adults are more likely to experience anxiety, depression, suicidal thoughts, and low self-constraint because of high mobility while juveniles are more likely to only experience depression. On the contrary, in Min Xie and David McDowall’s (in press) analysis of residential mobility and victimization, it is asserted that criminal victimization influences households’ moving decisions. Households choose to move multiple times to avoid criminal victimization, but the results in this analysis suggest that as a result of high mobility juveniles and “emerging” adults who are 18 years old are more likely to experience anxiety, depression, and suicidal thoughts. Future research should conduct a longitudinal analysis of GST to determine if those who choose to move residences to avoid criminal victimization end up experiencing negative emotionality instead of satisfaction.

Twelve hypotheses related to research proposition three (juvenile subsample: 25 – 26 and 28 - 29; “emerging” adult subsample: Hypotheses 16 – 19 and 21 – 24) were tested between the two subsamples. In the juvenile subsample, negative school emotions and depression were found to be significant predictors of both general delinquency and illicit substance use. The results of the “emerging” adult subsample showed that anxiety and depression significantly predicted general deviance and illicit substance use as well. Agnew (1989, 1992, 2001, 2013) has suggested that negative school emotions, anxiety, and depression would all lead to delinquency/deviance and illicit substance use; even though the greatest predictor of both outcomes use was thought to be anger (a measure of negative emotionality that was not available for inclusion in this study) (Agnew et al., 2002). Suicidal thoughts among “emerging” adults, a new measure of negative emotionality introduced in this thesis, was also found to significantly predict general deviance and illicit substance use. Although this new measure of negative emotionality was not the strongest predictor of general deviance and illicit substance use among “emerging” adults, it was a significant predictor and, therefore, the results demonstrated that Agnew should consider including this additional dimension of negative emotionality in his theory.

The four hypotheses relating to proposition four (juvenile subsample: Hypotheses 27 and 30; “emerging” adult subsample: Hypotheses 20 and 25) revealed that low self-constraint was the strongest predictor of both general delinquency/deviance and illicit substance use in both subsamples of individuals. In the 2002 extension of GST, Agnew et al. examine high negative emotionality and low self-constraint together when testing their effects on delinquency and illicit substance use. In the test, Agnew et al. (2002) only

examine the effects of negative emotionality and low self-constraint together but never tests their effects separately on delinquency and illicit substance use. This thesis tested them both together and separately to determine whether one factor had a stronger effect than the other on delinquency/deviance and illicit substance use. The results of these tests revealed that low self-constraint could have more of an effect on delinquency/deviance and illicit substance use than Agnew et al. (2002) originally theorized (Agnew, 2013).

Eight hypotheses empirically reflected propositions five (juvenile subsample: Hypotheses 31 – 32; “emerging” adult subsample: Hypotheses 26 – 27) and six (juvenile subsample: Hypotheses 33 – 34; “emerging” adult subsample: Hypotheses 28 – 29) between the two subsamples. Results of these tests were not in line with Agnew et al.’s (2002) theoretical expectations. It has been theorized that although strain could have slight direct effect on delinquency/deviance and illicit substance use, the major impact should be through negative emotionality and low self-constraint (Agnew et al., 2002; Agnew, 2013). That is, the effect of strain on delinquency/deviance and illicit substance use should be mediated through high negative emotionality and low self-constraint. The results however, demonstrated that the strain measures continued to have direct significant impact on delinquency/deviance and illicit substance use even after controlling for the effects of high negative emotionality and low self-constraint. In addition, the change in R^2 test revealed a significant increase in the amount of variance explained when the measures of strain were added to the equation (beyond the effects of negative emotionality and low self-constraint on delinquency/deviance and illicit drug use). This suggests that either strain has a greater impact on delinquency/deviance and illicit substance use than Agnew has theorized in his GST or that tests of the theory must

include anger to truly demonstrated the mitigating effects of negative emotionality (and low self-constraint) on delinquency/deviance.

Limitations

One limitation in the analysis of this thesis was the lack of a measure of anger as the main indicator of negative emotionality. Since his 1985 revision of Merton's (1938) classic Strain Theory, Agnew (1985, 1992, 2001) has highlighted the importance of anger beyond the effects of other emotions that might be found in the concept of negative emotionality (Agnew et al., 2002). Agnew (1985, 1992, 2001) has always been very keen to the proposition that strain leads to anger, and the proposition that high negative emotionality and low self-constraint leads to delinquency/deviance and illicit substance use. Agnew (1985, 1992) argues that anger is the emotion that most often leads to emotionally based responses as a reaction to strain, which often times can lead to deviant forms of coping mechanisms. Many tests of GST have provided support for Agnew's (1985, 1992) proposition that strain leads to negative emotionality, specifically anger (Broidy, 2001; Hay, 2003; Jang & Johnson, 2012), which in turn is the strongest predictor of deviance/criminal behavior (Agnew, 1985; Agnew, 1989; Agnew & White, 1992; Aseltine, Gore, & Gordon, 2000; Broidy, 2001; Jang & Johnson, 2003, Moon, Blurton, & McCluskey, 2008; Moon, Morash, McCluskey & Hwang, 2009; Rebellon, Manasse, Van Gundy & Cohn, 2012). Unfortunately, the data set available for the analysis conducted as part of this thesis did not have a measure of anger in either subsample. Because of the importance that Agnew has placed on anger as a measure of negative emotionality, future tests of must include anger as a mitigating variable in order for it to be a full and complete test of GST.

Another limitation of this analysis is that there were not many measures of negative emotionality that could be used in the analyses conducted on the juvenile subsample data. The data set only contained two measures of negative emotionality (negative school emotions and depression). In order for this examination to be a fuller test of GST, more measures of negative emotionality were needed, such as anger and anxiety. Related, only three measures of strain were available in the “emerging” adult subsample data. There have not been many complete tests of GST on adults, therefore there have not been many identified strain measures that can be applied to adults. Dario and O’Neal (in press) looked at sexual assault as a strain that could be applied to an adult subsample analysis of GST. At the onset, probation and parole appeared to be two possible candidates as two new measures of strain. However, empirically, the results did support classifying them as new measures of strain but more research is needed before concluding their utility.

Conclusion

Overall, the results of the analysis lend support towards Agnew et al.’s 2002 extension of GST. In both subsamples the results confirmed Agnew et al.’s (2002) proposition that strain leads to negative emotionality and low self-constraint and that negative emotionality and low self-constraint leads to delinquency/deviance and illicit substance use. Using two subsamples helped provide balance to the analysis of this thesis. The juvenile subsample had a wide range of strain measures but did not have many measures of negative emotionality; thus, the juvenile subsample better highlighted how strain affects negative emotionality. Unlike the juvenile subsample, the “emerging” adult subsample did not have many measures of strain, but had an array of negative

emotionality measures, which better highlighted how negative emotionality affects deviance and illicit substance use. Both subsamples had the same low self-constraint measure, and the same general delinquency/deviance and illicit substance use index.

Based on the results of the analyses, two major conclusions can be reached: (1) Strain may have a larger direct effect on delinquency/deviance and illicit substance use than Agnew (1985; 1992; 2001; 2013) originally theorized (Agnew et al., 2002); and (2) Low self-constraint seems to have a greater effect on delinquency/deviance and illicit substance use than both strain and negative emotionality. Considering finding number one, a question remains: does strain have a stronger direct effect on delinquency/deviance and illicit substance use, or did these results occur because there was not an accurately portrayed measurement of anger to mediate the effects of strain on delinquency/deviance and illicit substance use? As to finding number two, the remaining question is the same: does low self-constraint have the greatest effect on delinquency/deviance and illicit substance use, or do the results reveal as such because there was not an accurately portrayed measurement of anger in the examination.

There are many different areas that future research can focus on. To start off with, this test is a preliminary attempt to parse out specificity with age effects and GST. Jang and Rhodes (2012) identified 18-27 year old people as “emerging” adults. This test only examines “emerging” adults that are 18 years old because they have not yet fully transitioned into adulthood. Future research should conduct a comparative analysis on all “emerging” adults identified by Jang and Rhodes (2012) to identify the effects of GST. There is a nine year gap between 18 and 27, and there could be social and biological differences between someone who is 18 years old and someone who is 27 years old that

could mitigate the effects of GST. Future research of GST on adults (let alone “emerging” adults) should also attempt include more measures of strain, like Dario and O’Neal (in press) who introduced sexual assault as a measurement of strain when conducting their analysis of GST on adults. Additionally, in this analysis, race is examined simply as white and non-white. Future research should expand the analysis of GST and the effects of race. Gender differences should also be examined in future tests of GST. Agnew (1985, 1992, 2001) continuously argues that anger is the primary negative emotion that results in juvenile delinquency; however, tests of GST have found that emotional responses to strain are gendered (Agnew & Brezina, 1997; Broidy & Agnew, 1997; Grothoff, Kempf-Leonard, & Mullins, 2014; Hay, 2003, Dario & O’Neal, in press, “Do the mental health consequences of sexual victimization differ between males and females? A general strain theory approach). Future research testing GST on juveniles should include more measures of negative emotionality. Although Agnew (1985, 1992, 2001) argues that anger is the primary negative emotion that leads to delinquency, other emotions should be examined as well, such as anxiety, depression, and suicidal thoughts.

Table I: Youth Sample Descriptive Statistics

	N	Mean	Minimum	Maximum	Standard Deviation
Times Moved in Past 5 Years	17249	.96	0	6	1.408
Negative School Experience	16502	1.91	1	4	.829
Child Neglect	16395	6.6863	4	16	2.75155
Parent Strictness – Chores	17636	1.64	1	4	.775
Parent Strictness – TV	17565	2.88	1	4	1.076
Parent Strictness – Friends	16286	2.07	1	4	1.096
Fights with Parents	17462	2.86	1	5	1.395
Grades for Last Semester	16246	2.04	1	5	.989
Negative School Emotionality	16466	7.6895	4	16	2.46857
Depression	17516	.4502	0	1	.49753
Self-Constraint	17535	2.00	1	4	.892
Delinquency Index	17591	4.2349	3	15	.93530
Illicit Drug Use Index	17684	.5079	0	4	.77145
Social Control	17074	10.7903	1	18	4.32161
Differential Association	17392	3.1468	2	6	1.58489
Belief's in Delinquency	17470	3.1404	2	6	1.59001
Religiosity	16915	7.2450	3	12	2.51984
Gender	17736	.5142	0	1	.49981
Age	17736	14.5467	12	17	1.68927
Race	17736	.5593	0	1	.49648
Valid N (list wise)	14679				

Table II: “Emerging” Adult Sample Descriptive Statistics

	N	Mean	Minimum	Maximum	Standard Deviation
Probation	2334	.0368	0	1	.18843
Parole	2338	.0086	0	1	.09211
Time Moved in Past 5 Years	2313	1.06	0	6	1.464
Anxiety	2319	2.3096	0	8	1.81187
Monthly Depression	2326	1.4166	0	8	1.86966
Yearly Depression	2333	.3206	0	1	.46681
Suicidal Thoughts	2331	.1012	0	1	.30172
Self-Constraint	2336	1.0693	0	3	.87172
General Deviance Index	2323	3.2523	3	13	.93275
Illicit Substance Index	2340	1.1380	0	4	.92341
High School Graduate	2343	.5625	0	1	.49618
Religious Involvement	2307	1.8474	0	5	1.81067
Beliefs Towards Deviance	2305	2.2915	1	3	.87303
Religious Beliefs	2276	5.2087	2	8	1.93860
Gender	2343	.4972	0	1	.50010
Race	2343	.5250	0	1	.49949
Valid N (list wise)	2201				

Table III: Youth Sample Correlation Table of Strain, Negative School Emotionality, Depression, Self-Constraint, General Delinquency Index, Illicit Substance Index, and Demographic Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13
Strain Variables														
1	Times Moved	1.000												
2	Neg. School Exp.	-.004 (.643)	1.000											
3	Child Neglect	.076 (<.001)	.303 (<.001)	1.000										
4	Parental Strictness Chores	-.042 (<.001)	.083 (<.001)	.135 (<.001)	1.000									
5	Parental Strictness TV	.021 (.006)	.130 (<.001)	.284 (<.001)	.226 (<.001)	1.000								
6	Parental Strictness Friends	.023 (.003)	.063 (<.001)	.187 (<.001)	.191 (<.001)	.289 (<.001)	1.000							
7	Parental Fights	-.021 (.007)	.166 (<.001)	.298 (<.001)	.006 (.4280)	.104 (<.001)	.041 (<.001)	1.000						
8	Bad Grades	.140 (<.001)	.160 (<.001)	.137 (<.001)	.012 (.129)	.114 (<.001)	.037 (<.001)	-.003 (.708)	1.000					
Neg. Emo. Variables														
9	Negative School Emotionality	-.009 (.248)	.424 (<.001)	.311 (<.001)	.126 (<.001)	.211 (<.001)	.106 (<.001)	.292 (<.001)	.186 (<.001)	1.000				
10	Depression	.076 (<.001)	.126 (<.001)	.224 (<.001)	.004 (.622)	.104 (<.001)	.031 (<.001)	.275 (<.001)	.066 (<.001)	.189 (<.001)	1.000			
Self-Constraint Variable														
11	Low Self-Constraint	.000 (.971)	.130 (<.001)	.190 (<.001)	.001 (.910)	.105 (<.001)	.046 (<.001)	.269 (<.001)	.054 (<.001)	.259 (<.001)	.163 (<.001)	1.000		
Crime Variable														
12	General Delinquency	.075 (<.001)	.074 (<.001)	.161 (<.001)	.035 (<.001)	.072 (<.001)	.063 (<.001)	.106 (<.001)	.117 (<.001)	.135 (<.001)	.051 (<.001)	.169 (<.001)	1.000	
Drug Variable														
13	Illicit Substance Use	.066 (<.001)	.109 (<.001)	.273 (<.001)	.021 (.005)	.211 (<.001)	.086 (<.001)	.195 (<.001)	.163 (<.001)	.221 (<.001)	.135 (<.001)	.290 (<.001)	.292 (<.001)	1.000

Table IV: Youth Sample OLS Regression for the Effect of Strain on Negative School Emotionality, Depression, and Self-Constraint (Controlling for Gender, Age and Race)

	Dependent Variable					
	Negative School Emotionality		Depression*		Low Self-Constraint	
	Beta	p	B	p	Beta	p
<u>Strain</u>						
Times Moved	-.011	.122	.103	<.001	.011	.161
Negative School Experience	.311	<.001	.133	<.001	.042	<.001
Child Neglect	.118	<.001	.094	<.001	.100	<.001
Parental Strictness-Chores	.051	<.001	-.035	.146	-.024	.002
Parental Strictness-TV	.081	<.001	.090	<.001	.036	<.001
Parental Strictness-Friends	.010	.167	-.018	.276	-.003	.707
Fights with Parents	.177	<.001	.340	<.001	.299	<.001
Bad Grades	.131	<.001	.103	<.001	.109	.015
Gender	-.006	.392	-.657	<.001	.144	<.001
Age	.031	<.001	.027	.014	.062	<.001
Race	.119	<.001	-.108	.003	.065	<.001
Constant		<.001		<.001		<.001
R ²		.291		-----		.115
Adj. R ²		.290		-----		.115
N		15495		15444		15432

*Depression is a dichotomous variable (1=Yes, 0=No). Logistic regression results are reported in this column.

Table V: Youth Sample OLS Regression for the Effect of Negative School Emotionality, Depression, and Self-Constraint on General Delinquency Index (Controlling for Social Control, Differential Association, Beliefs toward Delinquency, Religiosity, Gender, Age and Race)

Dependent Variable

	General Delinquency Index		General Delinquency Index		General Delinquency Index		General Delinquency Index	
	Beta	p	Beta	p	Beta	p	Beta	p
Negative School Emotionality	.089	<.001	-----	-----	-----	-----	.068	<.001
Depression	-----	-----	.027	.001	-----	-----	.006	.466
Low Self-Constraint	-----	-----	-----	-----	.126	<.001	.105	<.001
Social Control	-.019	.032	-.012	.153	.003	.732	-.004	.621
Differential Association	.089	<.001	.097	<.001	.084	<.001	.078	<.001
Beliefs toward Delinquency	.072	<.001	.074	<.001	.058	<.001	.059	<.001
Religiosity	.028	.002	.036	<.001	.026	.002	.019	.035
Gender	.085	<.001	.084	<.001	.068	<.001	.075	<.001
Age	.007	.394	.014	.087	.012	.136	.005	.528
Race	-.030	<.001	-.019	.013	-.029	<.001	-.035	<.001
Constant	<.001		<.001		<.001		<.001	
R ²	.051		.042		.055		.060	
Adj. R ²	.050		.041		.055		.060	
N	15434		16325		16281		15305	

Table VI: Youth Sample OLS Regression for the Effect of Negative School Emotionality, Depression, and Self-Constraint on Illicit Substance Index (Controlling for Social Control, Differential Association, Beliefs toward Delinquency, Religiosity, Gender, Age and Race)

Dependent Variable

	Illicit Substance Index		Illicit Substance Index		Illicit Substance Index		Illicit Substance Index	
	Beta	p	Beta	p	Beta	p	Beta	p
Negative School Emotionality	.041	<.001	-----	-----	-----	-----	.012	.075
Depression	-----	-----	.039	<.001	-----	-----	.017	.011
Self-Constraint	-----	-----	-----	-----	.145	<.001	.137	<.001
Social Control	.038	<.001	.036	<.001	.054	<.001	.058	<.001
Differential Association	.229	<.001	.232	<.001	.216	<.001	.216	<.001
Beliefs toward Delinquency	.263	<.001	.258	<.001	.240	<.001	.246	<.001
Religiosity	.026	<.001	.031	<.001	.019	.008	.013	.064
Gender	-.026	<.001	-.021	.001	-.042	<.001	-.039	<.001
Age	.236	<.001	.243	<.001	.241	<.001	.234	<.001
Race	.004	.544	.012	.046	-.001	.935	-.001	.853
Constant		<.001		<.001		<.001		<.001
R ²		.384		.379		.395		.401
Adj. R ²		.384		.379		.395		.401
N		15441		16333		16296		15310

Table VII: Youth Sample OLS Regression for the Effect of Strain, Negative School Emotionality, Depression, and Self-Constraint on General Delinquency (Controlling for Social Control, Differential Association, Beliefs toward Delinquency, Religiosity, Gender, Age and Race)

Dependent Variable

	General Delinquency Index		General Delinquency Index		General Delinquency Index	
	Beta	p	Beta	p	Beta	p
<u>Strain</u>						
Times Moved	.060	<.001	-----	-----	.060	<.001
Negative School Experience	.000	.975	-----	-----	-.018	.050
Child Neglect	.087	<.001	-----	-----	.077	<.001
Parental Strictness-Chores	.017	.047	-----	-----	.012	.138
Parental Strictness-TV	-.014	.125	-----	-----	-.016	.067
Parental Strictness-Friends	.025	.004	-----	-----	.026	.002
Fights with Parents	.059	<.001	-----	-----	.039	<.001
Grades	.068	<.001	-----	-----	.060	<.001
Negative School Emotionality	-----	-----	.065	<.001	.040	<.001
Depression	-----	-----	.008	.312	-.014	.099
Self-Constraint	-----	-----	.098	<.001	.087	<.001
Social Control	-.018	.057	.010	.284	-.011	.255
Differential Association	.099	<.001	.099	<.001	.089	<.001
Beliefs toward Delinquency	.074	<.001	.073	<.001	.065	<.001
Religiosity	.012	.180	.009	.313	.006	.492
Gender	.062	<.001	.045	<.001	.049	<.001
Age	-.002	.783	.003	.698	-.002	.856
Race	-.021	.012	-.053	<.001	-.032	<.001
Constant		<.001		<.001		<.001
R ²		.074		.067		.082
Adj. R ²		.073		.066		.081
R ² Change		-----		-----		.015
Sig. F Change		-----		-----		<.001
N		14812		14704		14704

Table VIII: Youth Sample OLS Regression for the Effect of Strain, Negative School Emotionality, Depression, and Self-Constraint on Illicit Substance Index (Controlling for Social Control, Differential Association, Beliefs toward Delinquency, Religiosity, Gender, Age and Race)

	<u>Dependent Variable</u>					
	Illicit Substance Index		Illicit Substance Index		Illicit Substance Index	
	Beta	p	Beta	p	Beta	p
<u>Strain</u>						
Times Moved	.046	<.001	-----	-----	.043	<.001
Negative School Experience	-.027	<.001	-----	-----	.056	<.001
Child Neglect	.063	<.001	-----	-----	-.029	<.001
Parental Strictness-Chores	-.005	.424	-----	-----	-.004	.576
Parental Strictness-TV	.035	<.001	-----	-----	.032	<.001
Parental Strictness-Friends	-.015	.025	-----	-----	-.014	.038
Fights with Parents	.052	<.001	-----	-----	.030	<.001
Grades	.070	<.001	-----	-----	.068	<.001
Negative School Emotionality	-----	-----	.011	.131	-.008	.286
Depression	-----	-----	.016	.020	-.003	.612
Self-Constraint	-----	-----	.138	<.001	.128	<.001
Social Control	.020	.007	.059	<.001	.035	<.001
Differential Association	.217	<.001	.216	<.001	.207	<.001
Beliefs toward Delinquency	.254	<.001	.248	<.001	.240	<.001
Religiosity	.023	.002	.012	.095	.013	.080
Gender	-.017	.010	-.039	<.001	-.036	<.001
Age	.225	<.001	.232	<.001	.225	<.001
Race	.024	<.001	-.002	.744	.017	.010
Constant		<.001		<.001		<.001
R ²		.400		.403		.415
Adj. R ²		.400		.403		.414
R ² Change		-----		-----		.012
Sig. F Change		-----		-----		<.001
N		14813		14705		14705

Table IX: “Emerging” Adults Sample Correlation Table of Strain, Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, Self-Constraint, General Deviance Index, Illicit Substance Use, and Demographic Variables

		1	2	3	4	5	6	7	8	9
Strain Variable										
1	Times Moved	1.000								
2	Probation	-.072 (.001)	1.000							
3	Parole	-.035 (.096)	.303 (<.001)	1.000						
Neg. Emo Variables										
4	Anxiety	.079 (<.001)	-.007 (.726)	-.035 (<.001)	1.000					
5	Monthly Depression	.126 (<.001)	.130 (<.001)	.284 (<.001)	.635 (<.001)	1.000				
6	Yearly Depression	.076 (<.001)	.022 (.279)	.014 (.495)	.379 (<.001)	.470 (<.001)	1.000			
7	Suicidal Thoughts	.068 (.001)	-.025 (.236)	-.015 (.470)	.316 (<.001)	.458 (<.001)	.401 (<.001)	1.000		
Self-Constraint Variable										
8	Low Self-Constraint	.012 (.579)	-.055 (.008)	-.014 (.503)	.147 (<.001)	.112 (<.001)	.109 (<.001)	.079 (<.001)	1.000	
Crime Variable										
9	General Delinquency	.112 (<.001)	-.149 (<.001)	-.080 (<.001)	.117 (<.001)	.165 (<.001)	.042 (.043)	.110 (<.001)	.210 (<.001)	1.000
Drug Variable										
10	Illicit Substance Use	.169 (<.001)	-.159 (<.001)	-.066 (.001)	.112 (<.001)	.144 (<.001)	.142 (<.001)	.109 (<.001)	.280 (<.001)	.296 (<.001)

Table X: “Emerging” Adult Sample OLS Regression for the Effect of Strain on Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and Self-Constraint (Controlling for Gender and Race)

Dependent Variable

	Anxiety		Monthly Depression		Yearly Depression*		Suicidal Thoughts*		Low Self-Constraint	
	Beta	p	Beta	p	B	p	B	p	Beta	p
<u>Strain</u>										
Times Moved	.075	<.001	.112	<.001	.107	<.001	.123	.004	.027	.181
Probation	.005	.820	-.022	.309	-.189	.482	.376	.295	.037	.088
Parole	-.038	.079	.042	.051	-.234	.673	.243	.721	-.003	.878
High School Graduate	-.036	.081	-.084	<.001	-.092	.317	-.088	.531	.013	.520
Gender	-.134	<.001	-.146	<.001	-.579	<.001	-.760	<.001	.195	<.001
Race	.065	.002	-.013	.536	.268	.003	.068	.628	.116	<.001
Constant		<.001		<.001		<.001		<.001		<.001
R ²		.030		.044		-----		-----		.054
Adj. R ²		.027		.041		-----		-----		.052
N		2287		2294		2343		2343		2299

*Yearly Depression and Suicidal Thoughts are dichotomous variables (1=Yes, 0=no). Logistic regression results are reported in this column.

Table XI: “Emerging” Adult Sample OLS Regression for the Effect of Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and Self-Constraint on General Deviance Index (Controlling for Religious Involvement, Beliefs toward Deviance, Religious Beliefs, Gender and Race)

Dependent Variable

	General Deviance Index		General Deviance Index		General Deviance Index		General Deviance Index		General Deviance Index		General Deviance Index	
	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p
Anxiety	.119	<.001	-----	-----	-----	-----	-----	-----	-----	-----	.001	.958
Monthly Depression	-----	-----	.180	<.001	-----	-----	-----	-----	-----	-----	.158	<.001
Yearly Depression	-----	-----	-----	-----	.046	.029	-----	-----	-----	-----	-.072	.003
Suicidal Thoughts	-----	-----	-----	-----	-----	-----	.118	<.001	-----	-----	.064	.007
Self-Constraint	-----	-----	-----	-----	-----	-----	-----	-----	.183	<.001	.164	<.001
Religious Involvement	-.012	.626	-.002	.934	-.012	.623	-.010	.675	-.026	.278	-.014	.566
Beliefs toward Deviance	.090	<.001	.083	<.001	.095	<.001	.088	<.001	.060	.007	.052	.019
Religious Beliefs	-.039	.122	-.035	.158	-.041	.102	-.039	.120	-.029	.251	-.024	.328
High School Graduate	-.021	.325	-.009	.663	-.024	.253	-.021	.309	-.026	.211	-.011	.594
Gender	.084	<.001	.098	<.001	.074	.001	.080	<.001	.034	.106	.061	.005
Race	-.029	.170	-.017	.426	-.024	.266	-.018	.385	-.039	.067	-.026	.207
Constant		<.001		<.001		<.001		<.001		<.001		<.001
R ²		.036		.053		.025		.036		.052		.079
Adj. R ²		.033		.050		.022		.033		.049		.075
N		2227		2232		2231		2229		2231		2220

Table XII: “Emerging” Adult Sample OLS Regression for the Effect of Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and Self-Constraint on Illicit Substance Index (Controlling for Religious Involvement, Beliefs toward Deviance, Religious Beliefs, Gender, and Race)

	<u>Dependent Variable</u>											
	Illicit Substance Index		Illicit Substance Index		Illicit Substance Index		Illicit Substance Index		Illicit Substance Index		Illicit Substance Index	
	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p
Anxiety	.079	<.001	-----	-----	-----	-----	-----	-----	-----	-----	-.003	.912
Monthly Depression	-----	-----	.104	<.001	-----	-----	-----	-----	-----	-----	.049	.061
Yearly Depression	-----	-----	-----	-----	.110	<.001	-----	-----	-----	-----	.064	.003
Suicidal Thoughts	-----	-----	-----	-----	-----	-----	.073	<.001	-----	-----	.016	.449
Self-Constraint	-----	-----	-----	-----	-----	-----	-----	-----	.178	<.001	.163	<.001
Religious Involvement	-.048	.028	-.042	.053	-.052	.017	-.048	.027	-.063	.003	-.063	.004
Beliefs toward Deviance	.439	<.001	.436	<.001	.437	<.001	.439	<.001	.408	<.001	.401	<.001
Religious Beliefs	-.037	.099	-.035	.118	-.031	.165	-.035	.118	-.023	.302	-.017	.438
High School Graduate	.025	.184	.032	.086	.025	.176	.024	.202	.022	.222	.029	.120
Gender	.023	.236	.029	.124	.026	.173	.018	.349	-.020	.280	.001	.962
Race	.035	.067	.043	.023	.036	.054	.043	.023	.025	.189	.025	.181
Constant		<.001		.641		.501		.203		.615		.668
R ²		.231		.235		.236		.229		.253		.262
Adj. R ²		.228		.233		.234		.227		.250		.258
N		2233		2238		2237		2235		2237		2226

Table XIII: “Emerging” Adult Sample OLS Regression for the Effect of Strain, Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts and Self-Constraint on General Deviance Index (Controlling for Religious Involvement, Belief’s toward Deviance, Religiosity, Gender, and Race)

Dependent Variable

	General Deviance Index		General Deviance Index		General Deviance Index	
	Beta	p	Beta	p	Beta	p
<u>Strain</u>						
Times Moved	.077	<.001	-----	-----	.062	.003
Probation	-.134	<.001	-----	-----	-.132	<.001
Parole	-.030	.171	-----	-----	-.024	.259
Anxiety	-----	-----	.001	.975	-.002	.947
Monthly Depression	-----	-----	.160	<.001	.157	<.001
Yearly Depression	-----	-----	-.072	.003	-.070	.004
Suicidal Thoughts	-----	-----	.063	.008	.057	.016
Self-Constraint	-----	-----	.164	<.001	.160	<.001
Religious Involvement	.003	.917	-.012	.608	.000	.990
Beliefs toward Deviance	.083	<.001	.051	.019	.040	.066
Religiosity	-.045	.075	-.026	.299	-.027	.275
High School Graduate	-.014	.492	-.009	.649	.000	.990
Gender	.062	.004	.062	.004	.055	.010
Race	-.017	.430	-.027	.203	-.021	.306
Constant		<.001		<.001		<.001
R ²		.051		.080		.105
Adj. R ²		.047		.075		.099
R ² Change		-----		-----		.025
Sig. F Change		-----		-----		<.001
N		2202		2202		2202

Table XIV: “Emerging” Adult Sample OLS Regression for the Effect of Strain, Anxiety, Monthly Depression, Yearly Depression, Suicidal Thoughts, and Self-Constraint on Illicit Substance Index (Controlling for Religious Involvement, Belief’s toward Deviance, Religious Beliefs, Gender, and Race)

	<u>Dependent Variable</u>					
	Illicit Substance Index		Illicit Substance Index		Illicit Substance Index	
	Beta	p	Beta	p	Beta	p
<u>Strain</u>						
Times Moved	.107	<.001	-----	-----	.097	<.001
Probation	-.116	<.001	-----	-----	-.113	<.001
Parole	-.010	.617	-----	-----	-.010	.612
Anxiety	-----	-----	.000	.999	-.002	.927
Monthly Depression	-----	-----	.053	.045	.047	.068
Yearly Depression	-----	-----	.063	.003	.064	.003
Suicidal Thoughts	-----	-----	.014	.519	.008	.685
Self-Constraint	-----	-----	.166	.000	.163	.000
Religious Involvement	-.035	.109	-.062	.004	-.050	.018
Beliefs toward Deviance	.428	<.001	.399	.000	.385	.000
Religiosity	-.040	.073	-.021	.340	-.019	.383
High School Graduate	.035	.059	.032	.087	.041	.024
Gender	.008	.668	.000	.994	-.003	.865
Race	.050	.007	.026	.159	.035	.062
Constant		<.001		.683		.001
R ²		.252		.265		.289
Adj. R ²		.249		.261		.284
R ² Change		-----		-----		.024
Sig. F Change		-----		-----		<.001
N		2209		2209		2209

Figure 1: Robert K. Merton's (1938) Strain Theory

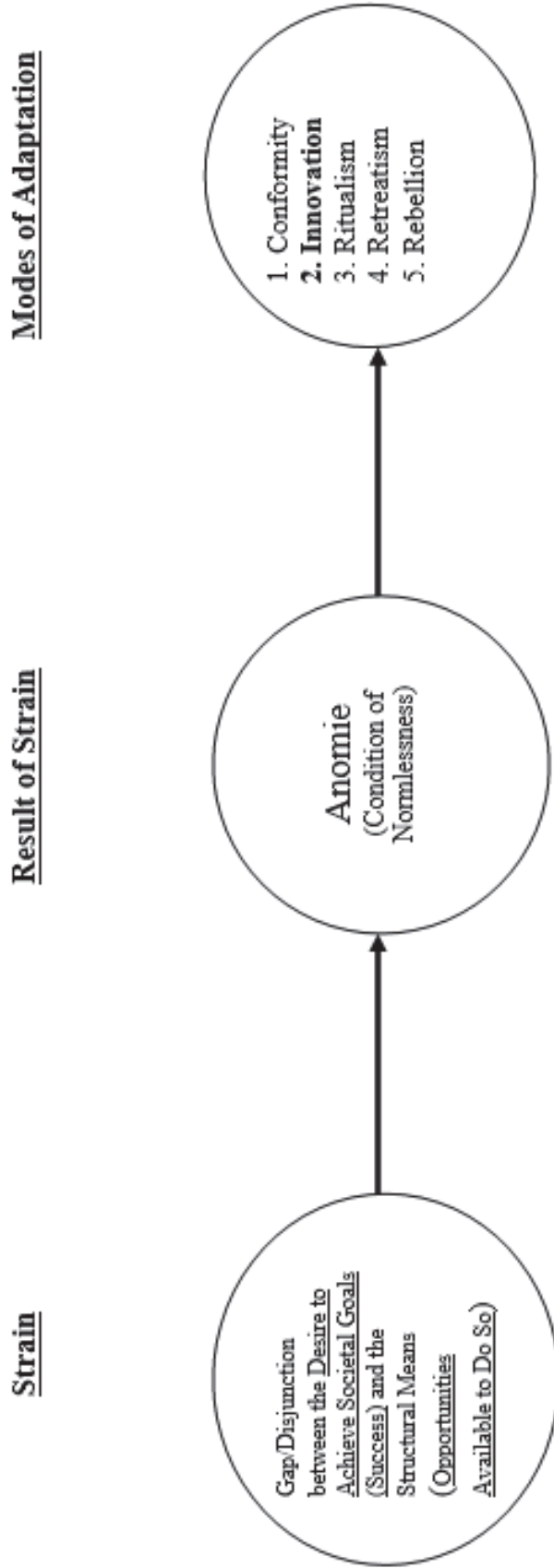


Figure 2: Robert Agnew's (1985) Revised Strain Theory

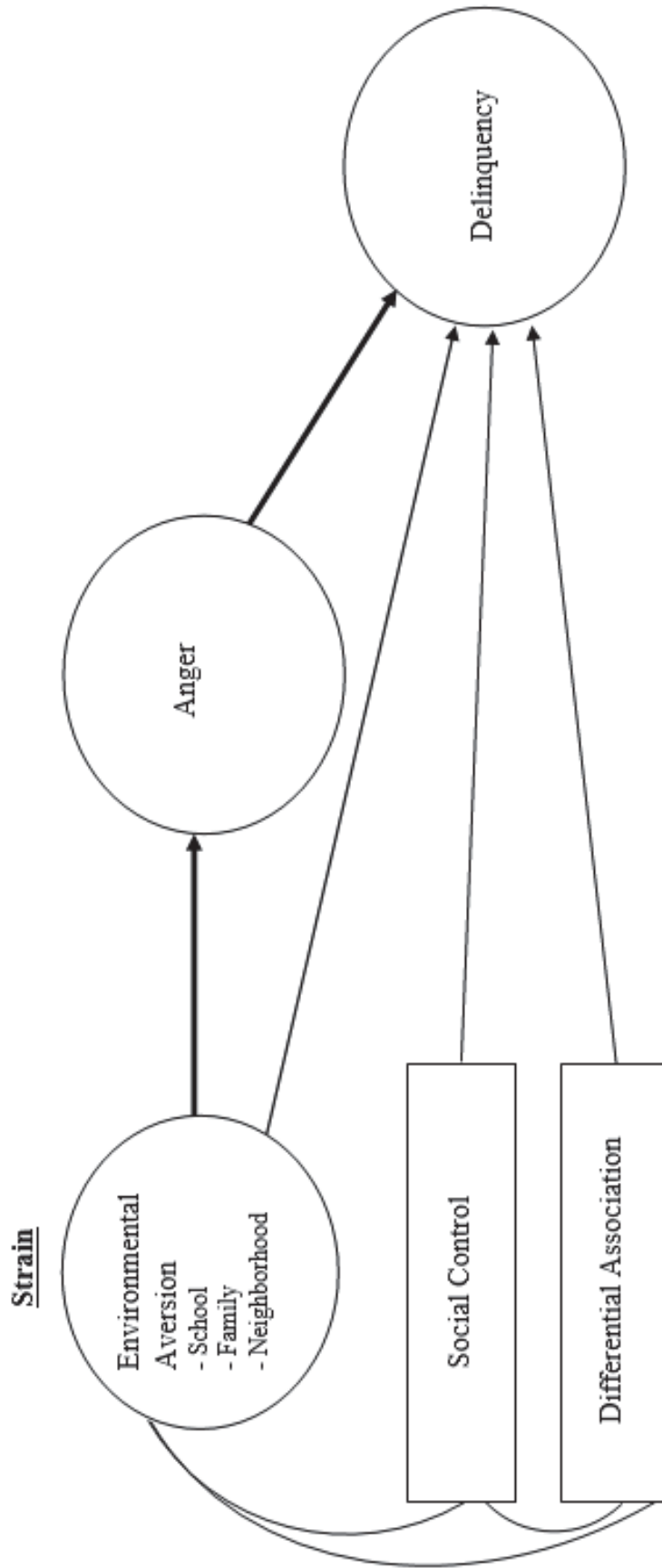


Figure 3: Robert Agnew's (1992) General Strain Theory [Not Test, Just Theory Clarification]

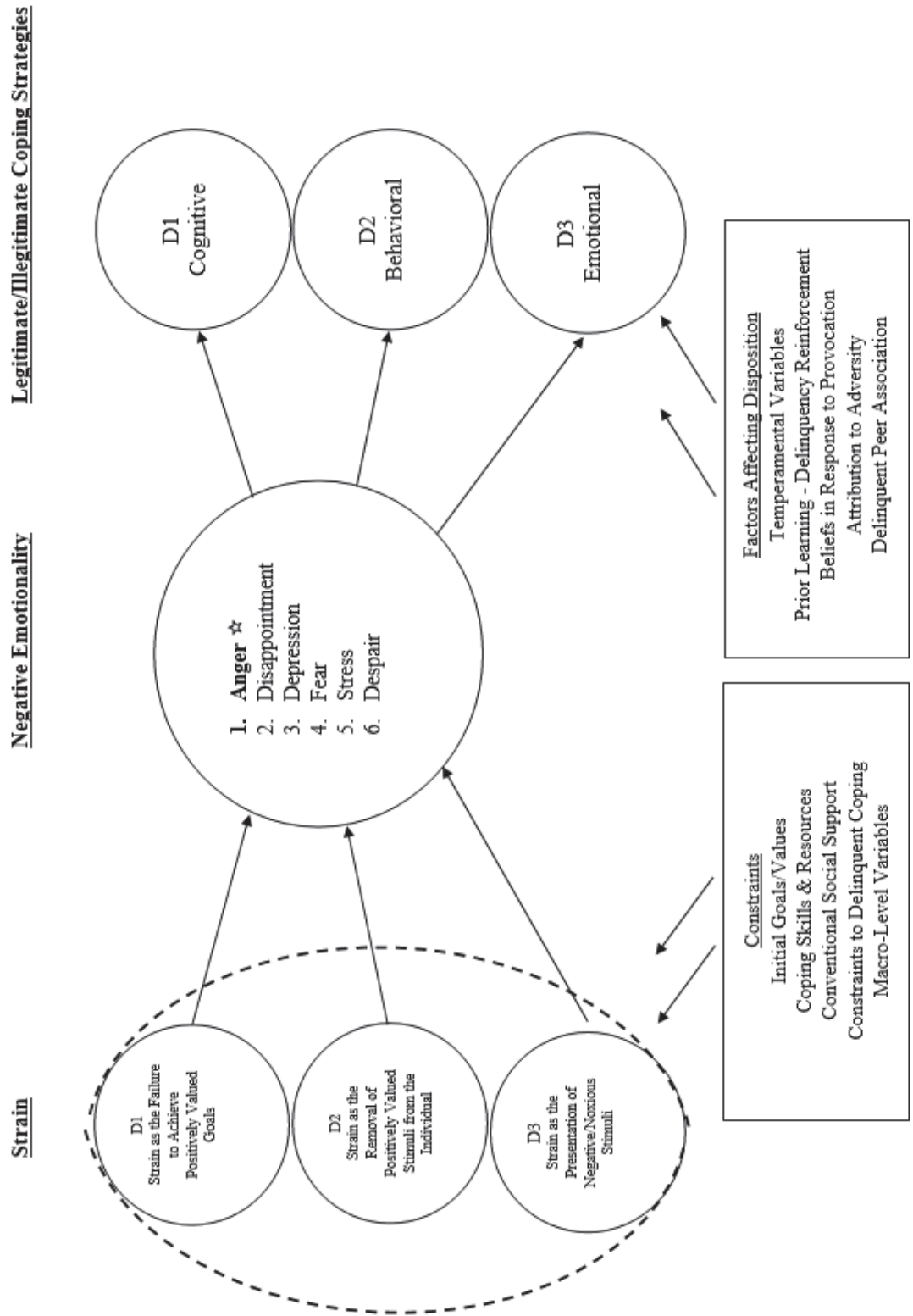


Figure 4: Robert Agnew's (2002) Extension of General Strain Theory [Theory Clarification, With Test]

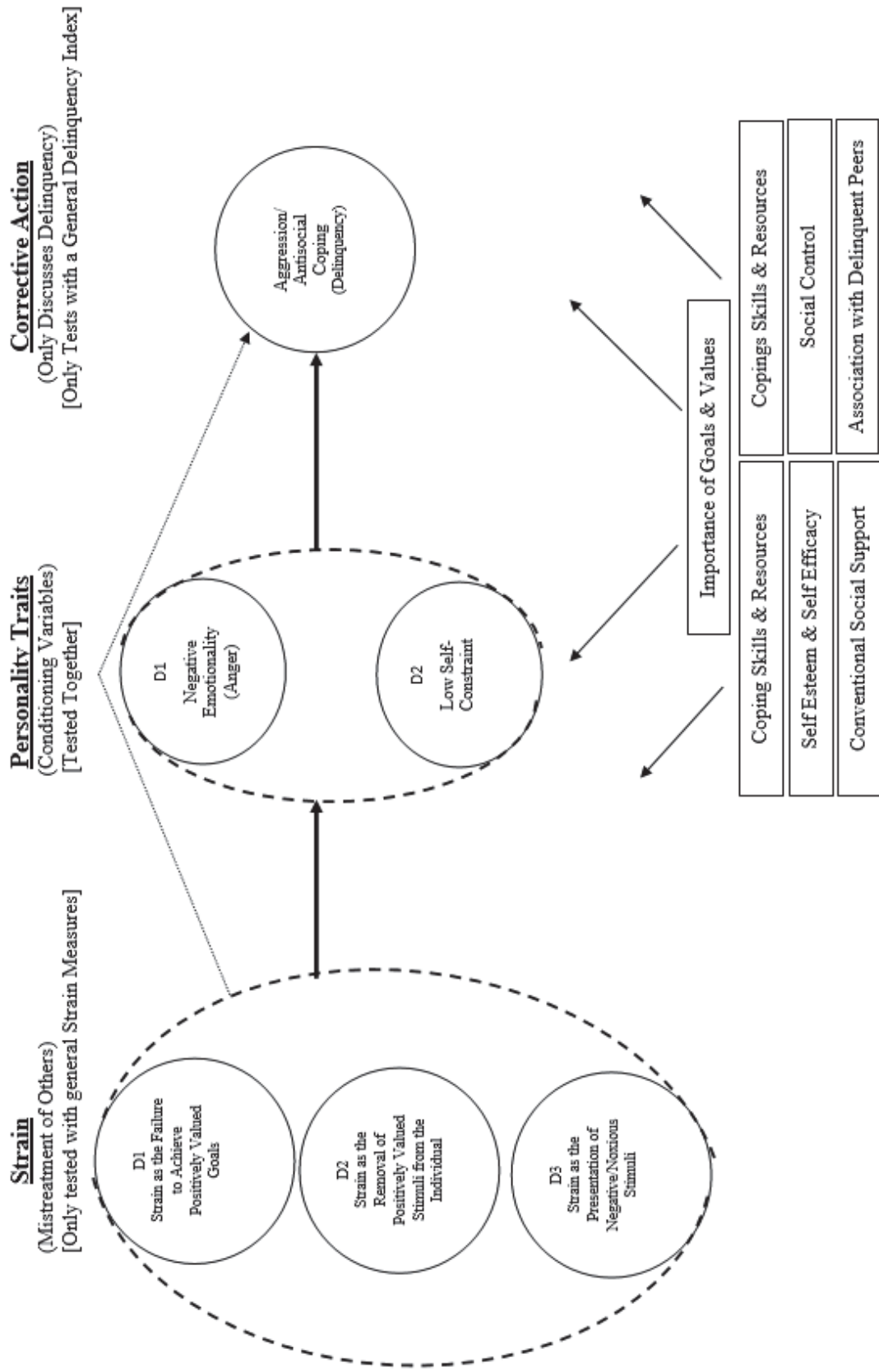


Figure 5: Robert Agnew's (2013) When Criminal Coping is Likely: Extension of General Strain Theory [Theory Clarification, No Test]

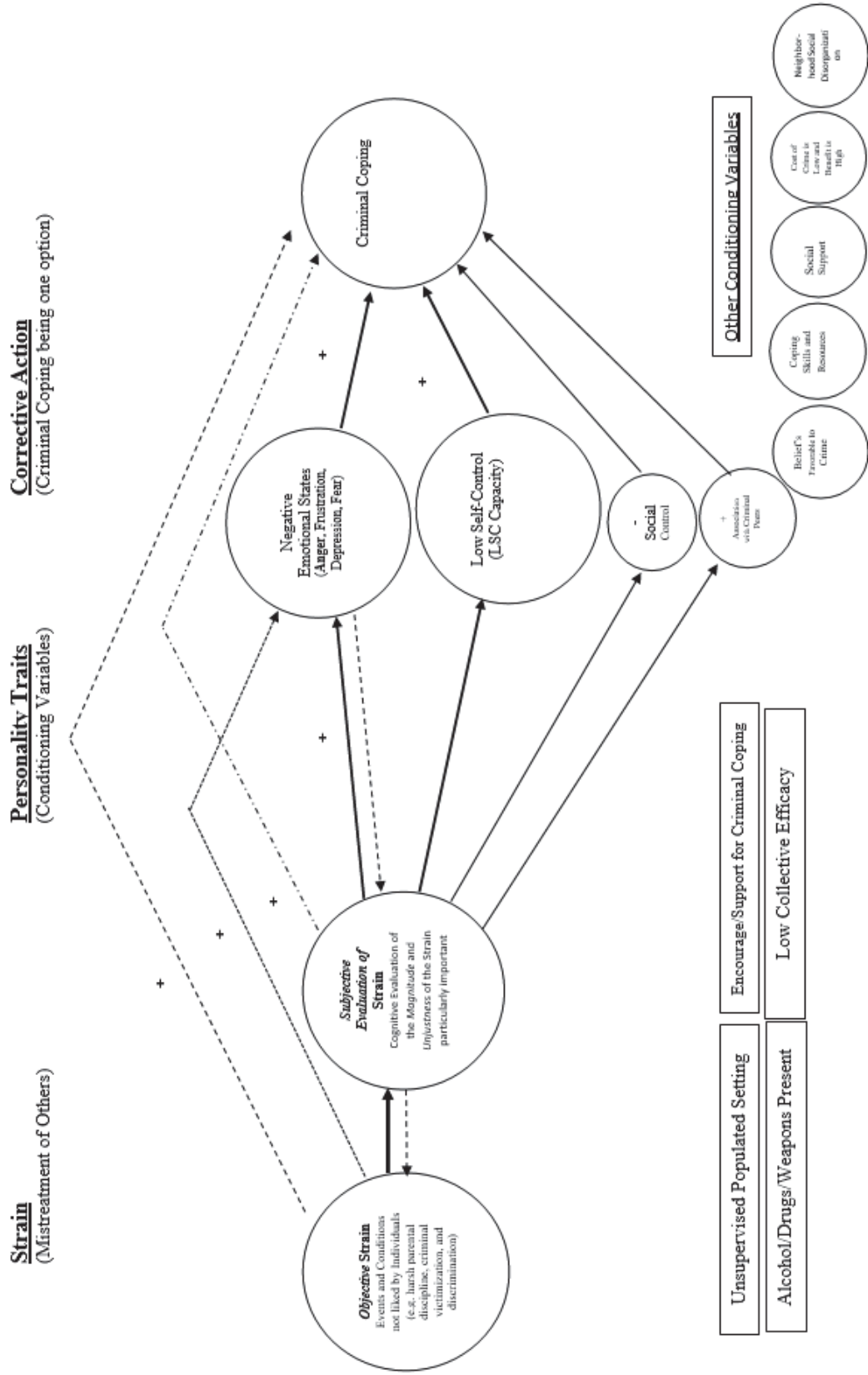


Figure 6A: Robert Agnew's (2002/2013) General Strain Theory with Youth Between the Ages of 12 and 17

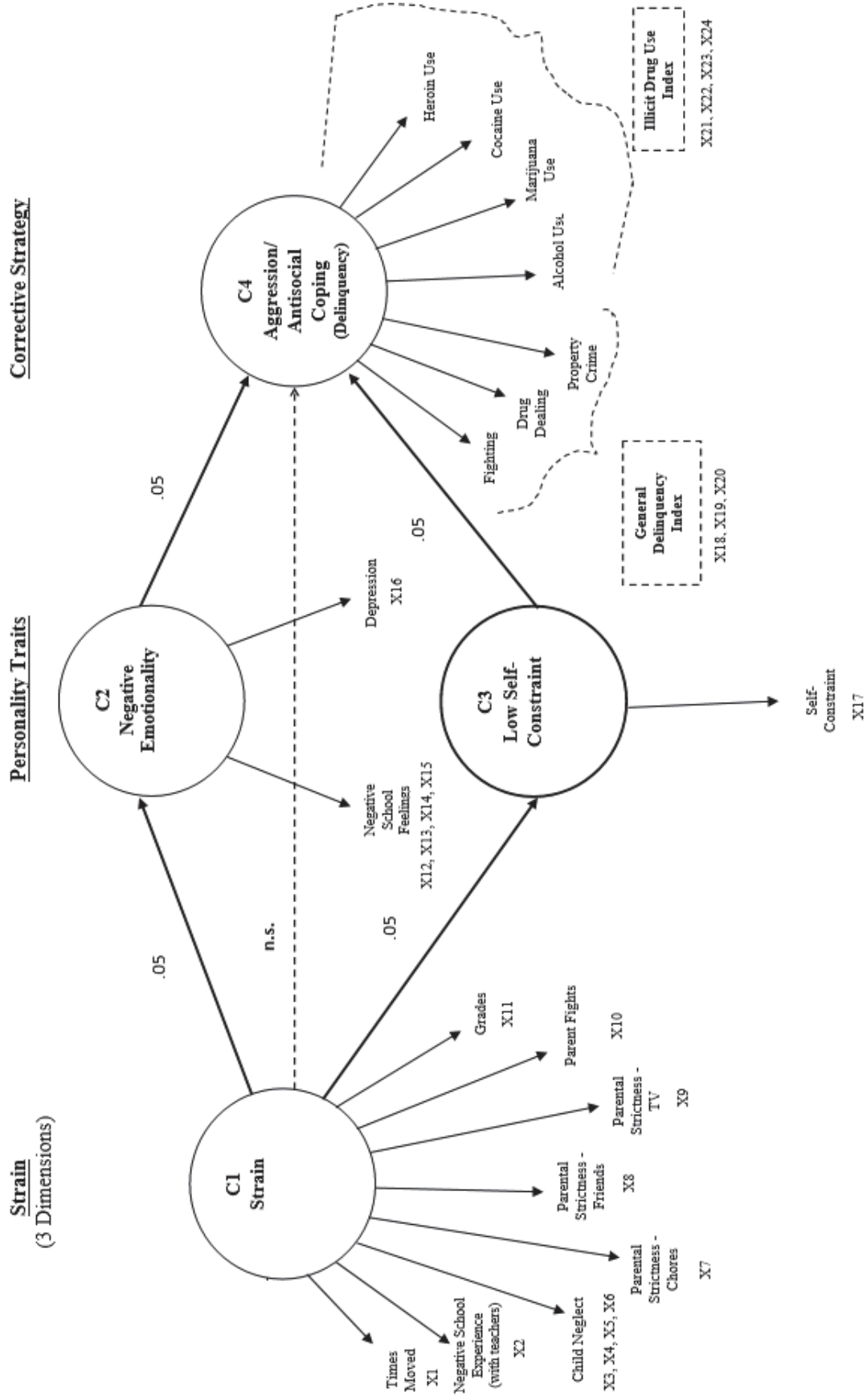
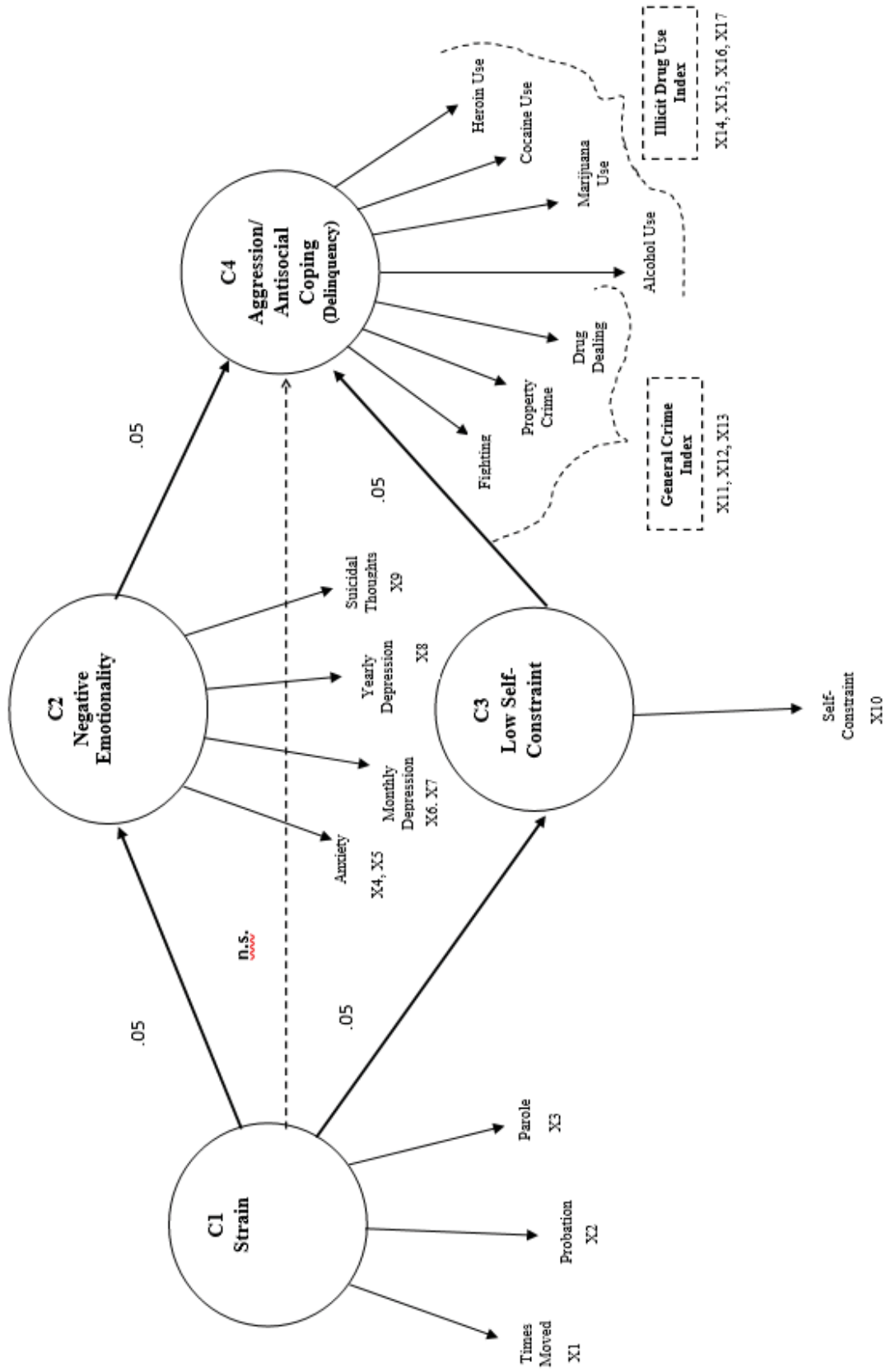


Figure 6B: Robert Agnew's (2002/2013) General Strain Theory with 18 Year Old Adults



Appendix

Youth Subsample: Data Set Measures

Strain

Times Moved: YEMOV5Y2, p. 498

Negative School Experience: YETCGJOB, p. 499

Child Neglect: ChildNegl, p. 501-502

Strictness, Chores: YEPCHORE, p. 501

Strictness, TV: YEPLMTTV, p. 502

Strictness, Friends: YEPLMTSN, p. 502

Fights with Parents: YEPARGUP, p. 503

Bad Grades: YELSTGRD, p. 500

Negative Emotionality

Negative School Emotionality: NegSchEmo, p. 498-499

Depression: DEPRESS1, p. 601

Self-Constraint

Self-Constraint: RKFSQRSKY, p. 222

Delinquency/Substance Use

Delinquency Index: DelIndex2, p. 504

Illicit Substance Index: ILLICIT1, p. 24, 28, 32, 40

Controls

Social Control: SoContr, p. 508

Differential Association: DiffAssoc, p. 500

Belief toward Delinquency: DelBelief, p. 506

Religiosity: Religiosity, p. 509

Demographics

Gender: Male, p. 658

Age: Age, p. 655

Race: White, p. 660

“Emerging” Adult Subsample: Data Set Measures

Strain

Times Moved: SNMOV5YW, p. 495

Probation: ProbStat, p. 303

Parole: ParolStat, p. 303

Negative Emotionality

Anxiety: AnxietyScale, p. 519

Monthly Depression: DepressionScale, p. 519-520

Yearly Depression: YrDepres, p. 534

Suicidal Thoughts: SuicideTh, p. 527

Self-Constraint

Self-Constraint: LowSelfConstraint, p. 222

Deviance/Substance Use

Deviance Index: DevIndex, p. 495-496

Illicit Substance Index: Illicits1, p. 24, 28, 32, 40

Controls

High School Graduate: HighGrad, p. 663

Religious Involvement: RelInvol, p. 496

Beliefs toward Deviance: DevBelief, p. 496

Religiosity: Religiosity2, p. 497

Demographics

Gender: Male, p. 658

Race: White, p. 660

Chapter VI

References

- Agnew, R. (1985). A revised strain theory of delinquency. *Special Forces*, 64, 151-167.
- Agnew, R. (1989). A longitudinal test of revised strain theory. *Journal of Quantitative Criminology*, 5(4), 373-387.
- Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, 30, 47-87.
- Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency*, 38, 319-360.
- Agnew, R. (2006). General strain theory: Current status and directions for further research. In F.T. Cullen, J.P. Wright, & K.R. Blevins (Eds.), *Taking Stock*, (pp. 101-123). New Brunswick, NJ; Transaction Publishers.
- Agnew, R. (2012). Reflection on “A Revised Strain Theory of Delinquency”. *Special Forces*, 91, 33-38.

- Agnew, R. (2013). When criminal coping is likely: An extension of general strain theory. *Deviant Behavior*, 34, 653-670.
- Agnew, R., & Brezina, T. (1997). Relational problems with peers, gender, and delinquency. *Youth & Society*, 29(1), 84-111.
- Agnew, R., Brezina, T., Wright, J.P., & Cullen, F.T. (2002). Strain, personality traits, and delinquency: Extending general strain theory. *Criminology*, 40, 43-71.
- Agnew, R., & White, H.R. (1992). An empirical test of general strain theory. *Criminology*, 30(4), 475-499.
- Aseltine, Jr., R.H., Gore, S., & Gordon, J. (2000). Life stress, anger and anxiety, and delinquency: An empirical test of general strain theory. *Journal of Health and Social Behavior*, 41, 256-275.
- Bernard, T.J. (1984). Control criticisms of strain theories: An assessment of theoretical and empirical adequacy. *Journal of Research in Crime and Delinquency*, 21(4), 353-371.
- Brezina, T. (1998). Adolescent maltreatment and delinquency: The question of intervening processes. *Journal of Research in Crime and Delinquency*, 35(1), 71-99.
- Broidy, L.M. (2001). A test of general strain theory. *Criminology*, 39, 9-35.
- Broidy, L.M., & Agnew, R. (1997). Gender and crime: A general strain theory

- perspective. *Journal of Research in Crime and Delinquency*, 34(3), 75-306.
- Cullen, F.T. (1988). Were cloward and ohlin strain theorists? Delinquency and Opportunity revisited. *Journal of research in crime and delinquency*, 25(3), 214-241.
- Cullen, F. T., Unnever, J.D., Hargman, J.L., Turner, M.G., & Agnew, R. (2008). Gender, bullying victimization, and juvenile delinquency: A test of general strain theory. *Victims & Offenders*, 3(4), 346-364.
- Dario, L., & O'Neal, E.N. (in press). Do the mental health consequences of sexual victimization differ between males and females? A general strain theory approach. *Women & Criminal Justice*.
- Eitle, D., & Turner, R.J. (2003). Stress exposure, race, and young adult male crime. *The Sociological Quarterly*, 44(2), 423-269.
- Froggio, G. (2007). Strain and juvenile delinquency: A critical review of agnew's general Strain theory. *Journal of Loss and Trauma*, 12(4), 383-418.
- Froggio, G., & Agnew, R. (2007). The relationship between crime and "objective" versus "subjective" strains. *Journal of Criminal Justice*, 35, 81-87.
- Grasmick, H.G., Burski, R.J., & Arneklev, B.J. (1993) Reduction in drunk driving as a response to increased threats of shame, embarrassment, and legal sanctions.

Criminology, 31(1), 41-67.

Greenberg, D. (1977). Delinquency and the age structure of society. *Contemporary*

Crisis, 1, 66-86.

Grothoff, G.E., Kempf-Leonard, K., & Mullins, C. (2014). Gender and juvenile drug

abuse: A general strain theory perspective. *Women & Criminal Justice*, 24, 22-43

Hay, C. (2003). Family strain, gender, and delinquency. *Sociological Perspectives*, 46,

108-135.

Heckert, A., & Heckert, D.M. (2004). Using an integrated typology of deviance to

expand merton's anomie theory. *Criminal Justice Studies*, 17(1), 75-90.

Hinduja, S. (2007). Work place violence and negative affective responses: A test of

agnew's general strain theory. *Journal of Criminal Justice*, 35, 657-666.

Hirschi, T. (1969). *Causes of Delinquency*. Berkeley, CA: University of California Press.

Hirschi, T. (1972). Toward a typology of juvenile offenders: Implications for therapy and

prevention. *Social Service Review*, 46(1), 137-138.

Hoffmann, J.P., & Miller, A.S. (1998). A latent variable analysis of general strain theory.

Journal of Quantitative Criminology, 14, 83-110.

Hollist, D.R., Hughes, L.A., & Schaible, L.M. (2009). Adolescent maltreatment, negative

emotion, and delinquency: An assessment of general strain theory and family

- based strain. *Journal of Criminal Justice*, 37, 379-387.
- Hughes, L.A., Schaible, L.M., & Gibbs, B.R. (2015). Economic dominance, the “American dream,” and homicide: A cross-national test of institutional anomie theory. *Sociological Inquiry*, 85(1), 100-128.
- Jang, S.J., & Johnson, B.R. (2003). Strain, negative emotions, and deviant coping among African americans: A test of general strain theory. *Journal of Qualitative Criminology*, 19(1) 79-102.
- Jang, S.J., & Rhodes, J.R. (2012). General strain and non-strain theories: A study of crime in emerging adulthood. *Journal of Criminal Justice*, 40, 176-186.
- Johnson, M.C., & Kercher, G.A. (2007). ADHD, strain, and criminal behavior: A test of general strain theory. *Deviant Behavior*, 28, 131-152.
- Kornhauser, R.R. (1978). *Social Sources of Delinquency*. Chicago, IL: University of Chicago.
- Mason, B., & Smithey, M. (2012). The effects of academic and interpersonal stress on dating violence among college students: A test of classical strain theory. *Journal of Interpersonal Violence*, 27(5), 974-986.
- Mernard, S. (1995). A developmental test of Merton’s anomie theory. *Journal of Research in Crime and Delinquency*, 32: 136-174.
- Merton, R.K. (1938). Social structure and anomie. *American Sociological Review*, 3(1),

672-682.

- Moon, B., Blurton, D., & McCluskey, J.D. (2008). General strain theory and delinquency: Focusing on the influences of key strain characteristics on delinquency. *Crime & Delinquency*, 54, 582-613.
- Moon, B., Morash, M. McCluskey, C.P., & Hwan, H.W. (2009). A comprehensive test of general strain theory: Key strains, situational- and trait- based negative emotions, conditioning factors, and delinquency. *Journal of Research in Crime and Delinquency*, 46, 182-212.
- Moon, M.M., & Jonson, C.L. (2012). The influence of occupational strain on Organizational commitment among police: A general strain theory approach. *Journal of Criminal Justice*, 40, 249-258.
- Ohlin, L.E. (1956). *Sociology and the field of corrections*. New York, NY: Russel Sage Foundation.
- Piquero, N., & Sealock, M.D., (2010). Race, crime, and general strain theory. *Youth Violence and Juvenile Justice*, 8(3), 170-186.
- Rebellion, C.J., Manasee, M.E., Van Gundy, K.T., & Cohn, E.S. (2012). Perceived Injustice and delinquency; A test of general strain theory. *Journal of Criminal Justice*, 40(3), 230-237.

- Slocum, L.A. (2010). General strain theory and the development of stressors and substance use over time: An empirical examination. *Journal of Criminal Justice*, 38, 1100-1112.
- Wilson, W.J. (1987). *The truly disadvantaged*, Chicago, IL: University of Chicago Press.
- Xie, M., & McDowall, D. (in press). Impact of victimization on residential mobility: Explaining racial and ethnic patterns using the national crime victimization survey. *Criminology*.