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General Strain Theory, Race, and Delinquency

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General Strain Theory, Race, and Delinquency

by

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A Thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts
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Dedication

This thesis is dedicated to a few wonderful people in my life. Mom and Mike, thank you for being my rock here in Florida, and showing me I can accomplish any scholarly and personal goals that I set my mind to. Dad and Terry, thank you for being my constant “New York” support and believing in me. Last but not least, thank you Justin for reminding me to laugh and smile every single day, and encouraging me day and in and day throughout this entire process.

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Table of Contents

List of Tables	iii
List of Figures	iv
Abstract	v
Chapter One Introduction	1
Chapter Two Theoretical Background.....	4
Traditional Strain Theories	4
Criticisms of Traditional Strain Theories	7
Agnew's Formation of General Strain Theory	9
The Basic Principals of a General Strain Theory of Crime and Delinquency	11
The Link between General Strain Theory and Delinquency	14
How Strain Differentially Affects Racial and Ethnic Groups in the Context of GST.....	17
Chapter Three Literature Review.....	25
General Strain Theory and Race Research	25
Summary	40
Limitations of Previous Research	41
Implications for the Present Thesis.....	42
Chapter Four Methodology.....	45
Data and Sample	45
Variables	45
Analysis Plan and Procedures.....	51
Chapter Five Results	53
Effects of Strain on Depression and Frustration	53
Effects of Strain on Nonserious and Serious Delinquency.....	60
Chapter Six Discussion and Conclusion	72
References.....	85

Appendices.....	97
Appendix 1: Data Use Statement.....	98
Appendix 2: Z Score Statistical Test Formula.....	99
Appendix 3: Measures of Key Theoretical Constructs.....	100

List of Tables

Table 1	Description of Variables	46
Table 2	OLS Regression Coefficients Representing the Effect of Race and Strain on Depression and Frustration.....	54
Table 3	OLS Regression Coefficients Representing the Effect of Strain on Depression and Frustration by Race	57
Table 4	Negative Binomial Regression Coefficients Representing Models for Nonserious Delinquency	61
Table 5	Negative Binomial Regression Coefficients Representing Models for Serious Delinquency	65
Table 6	Negative Binomial Regression Coefficients Representing Models for Nonserious and Serious Delinquency by Race	67

List of Figures

Figure 1	Conceptual Diagram of the Elements of General Strain Theory12
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Abstract

The present study drew on Agnew's General Strain Theory (GST) to examine the relationship between strain, race, and delinquent behavior. To address this possible association, five hypotheses were tested to examine if different types of strain and stress exposure influence delinquent coping and if these relationships are conditioned by race and ethnicity. Using data from the Add Health Study, White, African American, and Hispanic adolescents, the present study attempts to generalize GST to different racial and ethnic groups.

Results from OLS and negative binomial regression analyses indicate that some support was found for GST, in that indicators of strain to varying degrees predicted negative emotionality and youth involvement in nonserious and serious delinquency. Negative emotionality, however, did not mediate the relationship between strain and nonserious and serious delinquency. While, White, African American, and Hispanic youth did experience certain types of strain that lead to delinquent coping, these groups overall were not statistically different from one another. Furthermore, race and ethnicity were directly related to delinquent coping mechanisms, providing evidence that GST cannot fully explain the overrepresentation of minorities as delinquent offenders. A discussion of the findings, theoretical implications and directions for future research are highlighted.

Chapter One

Introduction

Traditional and classic strain theories (Merton, 1938, 1968; Cohen, 1955; Cloward & Ohlin, 1960) have received numerous criticisms throughout the 1970s concerning their inability to explain delinquent behavior (Hirschi, 1969; Bernard, 1987; Messner & Rosenfeld, 1994). These critiques and weaknesses alluded to the possible abandonment of strain theories in criminology (Hirschi, 1969; Kornhauser, 1978). However, the reemergence of strain theories in the 1990s as a prevailing force in criminological research was largely piloted by the formation of Robert Agnew's (1992) General Strain Theory (GST).

GST has been used to explain variations in crime and delinquency by examining the effect of strains on individuals and groups (Paternoster & Mazerolle, 1994; Mazerolle, 1998; Aseltine, Gore, & Gordon, 2000; Wallace, Hutchinson, Patchin, & May, 2005). GST argues that several strains or stressors increase the likelihood or occurrence of criminal activity. These strains are divided into three different types, including: (1) the failure to achieve positively valued goals, (2) the removal or threat of removal of positively valued stimuli, and (3), the presentation of noxious or negatively valued stimuli. Agnew (2006) also believed that certain strains are more likely to cause crime than others. These strains included parental rejection, divorce, death of a family member, child abuse and neglect, negative school experiences, residing in low

socioeconomic status communities, abusive peer relations, criminal victimization, homelessness, and experiences with prejudice and discrimination.

Even though there has been much empirical research testing the overall theory (Paternoster & Mazerolle, 1994; Broidy, 2001; Baron, 2004, Hoffmann & Spence, 2010), including international studies (Botchkovar & Broidy, 2010) less effort has been made to explain how strain differentially effects certain racial and ethnic groups. In fact, only ten studies have been conducted that connect GST, race, and deviant coping. Of these studies, many have been limited by examining only one racial or ethnic group (Jang & Lyons, 2006; Jang, 2007) and/or a non-representative sample (juvenile dropouts, violent juvenile offenders, etc) (Eitle & Turner, 2003; Piquero & Sealock, 2010). There is a need for research to understand racial variation in the theory and apply GST to Caucasians, African Americans, and Hispanics. This will allow for the ability to generalize the theory to different racial and ethnic groups.

Presently, there is a limited body of research around the theoretical concept connecting GST, race, and delinquency. Kaufman (2008) stated that GST can empirically explain minorities' overrepresentation of offending because certain races are exposed to disproportionate amounts and different types of strain and stressful situations. Comparing Whites and African Americans, she believed that African Americans experience differences in certain types of strain: economic, family, education, criminal victimization, discrimination, and community (pp. 425). More specifically, racial differences in strains and stressful situations that lead to crime include different levels of exposure to poverty, unemployment, parental strain, harsh and inconsistent discipline,

negative relations with teachers, economic disadvantage, witnessing violence, and racial discrimination and prejudice.

The focus of this thesis was to examine a nationally representative sample including White, Black, and Hispanic adolescents. The first wave of data from the National Longitudinal Study of Adolescent Health (Add Health) was utilized to assess how different types of strain and the magnitude of stress exposure can influence certain racial groups into committing delinquency. The study also attempted to identify if strain differentially affects Black, White, and Hispanic youth. More specifically, this research was conducted to examine if GST can be universally applicable to all racial and ethnic groups. The results also have the potential for the future refinement of general strain theory and directions for future research.

Chapter Two

Theoretical Background

The theoretical perspective used in the proposed research is Robert Agnew's (1992) General Strain Theory (GST). The following sections will discuss previous and traditional criminology strain theories, Agnew's development and discussion of the basic principles of General Strain Theory, and the theoretical linkages between GST and delinquency. Criticisms of previous and traditional strain theories, however, will be described first to emphasize why it is important to understand the full context and criticisms of traditional strain theories to fully understand the formation of GST.

Traditional Strain Theories

Strain theories suggest that individuals commit crime and delinquency due to a variety of pressures and strain. These types of theories are distinct from other types of theories because they argue that crime results from strain, instead of other factors (biological, psychological, etc). Central to traditional strain theories is the role between culture and structure. Classic strain theories between the 1930s and 1960s (Merton, 1938, 1968; Cohen, 1955; Cloward & Ohlin, 1960) have been the theoretical models for most empirical studies throughout the 1990s (Agnew, 2002).

Traditional anomie and strain theories utilized the historical work of Durkheim (1897) and the term *anomie* to describe a lack of social regulation (or normlessness) in society that can explain higher rates of suicide. Merton (1938) described that anomie is produced from the imbalance of social structure and culture. More specifically, the

dissociation between legitimate social means and valued cultural goals results in anomie in industrialized societies. The lower class and minority groups are particularly affected by this dissociation because of unequal access to legitimate means. It is argued that American society in particular emphasizes strong cultural goals of monetary success, but does not place this emphasis on using legitimate social means to obtain this economic goal (Merton, 1938). From this, Merton (1938) believed that strain is produced from the imbalance of social structure and culture. This results in more crime (especially by the lower class and minorities) in the United States than in other countries who do not have this imbalance.

While anomie is described primarily on a macro-structural level, Merton (1938) described that social structure and culture can affect individual behavior as well. He described five individual adaptations (conformity, innovation, ritualism, retreatism, rebellion) to strain based on the goal of economic success and lawful means of obtaining the goal. Later, Merton (1968) considered other measures of strain (aspirations, expectations, perceptions of blocked opportunities, relative deprivation, and dissatisfaction with monetary situation) still based on economic success. Baumer (2007) in particular believed that Merton's anomie theory reflected a multilevel theory, arguing that macro-level structural and cultural conditions increase the likelihood of deviant behavior among individuals. In turn, anomie theory could account for variation in crime and deviance within and across groups. The effects of structural and cultural features can be influenced by individual factors, and the effects of individual factors can be conditioned by macro-level conditions (Baumer, 2007).

Cohen (1955) agreed with Merton (1938) by reiterating that strain produced by structural and cultural conditions can lead to deviant coping, but focused more on a delinquent subculture in lower class adolescent males. The main difference between Cohen (1955) and Merton (1938) was Cohen's emphasis that this particular subgroup was unable to gain status and acceptance (not monetary success), especially in educational and occupational goals. Status and acceptance takes the form of society's middle class standards, which was unobtainable using legitimate means to this subgroup of adolescent males. In turn, this type of "status deprivation" produced a delinquent subculture formed out of frustration.

Drawing from previous theories, Cloward and Ohlin (Cloward, 1959; Cloward & Ohlin, 1960) described a differential opportunity theory of delinquency, designed to particularly focus on delinquent subcultures. The theory incorporated aspects of anomie, differential association, and social disorganization and argued that deviant coping is a function of environment/location and lawful or unlawful opportunity structures (Akers & Sellers, 2009). Cloward and Ohlin (1959; 1960) specifically described three types of delinquent subcultures (criminal, conflict, and retreatist). While deviant coping can result from strain in delinquent subcultures, it is the emphasis on the nature of deviant coping that occurs based on the type of illegitimate opportunities that occur in their living environment. They also agreed with previous theorists that higher rates of delinquency in adolescent males living in lower class and minority neighborhoods occurred due to the deprivation of legitimate educational and occupational means (Akers & Sellers, 2009).

Criticisms of Traditional Strain Theories

The previously described traditional strain theories have been criticized based on their underlying assumptions. Concerning Merton's (1938; 1968) anomie theory, it has been argued that anomie theory is a structural theory that cannot test for or predict individual deviant behavior (Bernard, 1987). Due to these inherent complications, the theory cannot be verified or falsified using individual level measures (Burton & Cullen, 1992), but can be falsified with aggregate data since it can be accurately tested at the macro-level (Bernard, 1987). Previous empirical studies of Merton's theory have used individual measures to interpret strain and anomie, but the base assumptions of this theory incorporate strain and anomie as components within social structures (Bernard, 1987). Also important, Messner and Rosenfeld (1994) identified four distinct criticisms of Merton's (1938; 1968) assumptions. First, while Merton assumed that monetary success is the first priority to achieve economic success and the American Dream, other goals are equally or more important to American society. Second, the crime problem described by Merton is exclusively class biased. Third, Merton ignored racial policy implications throughout his argument, and was incorrect in implying that social reform would be a pragmatic solution. Last, Merton failed to distinctly define his definition of anomie, as it is drastically different than Durkheim's.

Few empirically based studies were unable to directly measure the five adaptations to strain (Burton & Cullen, 1992). Another critique is that the theory is not applicable to test individual's criminal coping impulses, but is based on the social organization of communities (Messner, 1988). Overall, research testing anomie theory using direct measures of social structure and cultural goals has not provided much

empirical support (Akers & Sellers, 2009). Most research using structural variables has been examined to test theories of social disorganization and crime in communities.

Support for the classic theories of delinquent subcultures by Cohen (1955) and Cloward and Ohlin (1959; 1960) have been scrutinized as well. It is well known that gang delinquency is concentrated in lower class and minority neighborhoods (Akers & Sellers, 2009). However, empirical research cannot fully support if certain delinquent subcultures encompass these theoretical assumptions. While there is agreement that these subcultures have unequal access to legitimate means for success, the connection between inequality and gang membership is undetermined (Short & Strodtbeck, 1965). Also, there have been critiques concerning the validity of Cloward and Ohlin's identification of three types of delinquent subcultures (Bernard, 1987; Akers & Sellers, 2009). Empirical investigations that tested differential opportunity theory were unable to uniquely differentiate delinquent subgroups based on community structures, especially the inability to identify "retreatist" adolescent groups (Bernard, 1987). Lastly, Bernard (1987) criticized Cloward and Ohlin's conclusion that the gap between aspirations and expectations is linked to subcultural delinquency. He argued it is linked to class position.

There has also been mixed support concerning the validity of Cohen's (1955) assumption that lower class and minority youth's inability to obtain educational goals results in strain and delinquency (Elliott & Voss, 1974). From this perspective, dropping out of school should result in decreased strain and deviant coping, yet some empirical studies have refuted this theory (Thornberry, Moore, & Christenson, 1985; Jarjoura & Junger-Tas, 1993). Also, by only examining individual-level data, Cohen's (1955) theory

cannot be falsified. If the unit of analysis is the delinquent subculture (not individual adolescent youth within the subculture) it can be validated or falsified (Bernard, 1987).

Shifting from the structural and cultural emphasis of classic strain theories, there are also criticisms from the social psychological perspective. From this ideology, classic strain theories (Merton, 1968) hypothesized that large discrepancies between aspirations and expectations would lead to strain and criminal coping. However, prior research has found little support for this assumption. More specific, there are little differences between delinquent youths' perceptions of little or great discrepancies between their aspirations and expectations (Hirschi, 1969). There have also been criticisms concerning the measure of aspirations and expectations in traditional anomie and strain research. Farnworth and Leiber (1989) described how classic strain studies concentrated on measuring differences between educational aspirations and expectations and occupational aspirations and expectations. They found that a more sufficient combination to measure is to examine differences between economic goals and educational expectations.

Overall, there have been many other critiques to strain theories, including the inability to account for the desistence of deviant coping throughout the life course, and the failure to account for criminal activity committed by middle and upper classes (Hirschi, 1969; Messner & Rosenfeld, 1994). Lastly, there has also been a reluctance to test strain theories at the macro-level, especially with attempting to decipher group differences in pressures and strain (Burton & Cullen, 1992).

Agnew's Formation of General Strain Theory

Throughout the 1980s Robert Agnew's research concentrated on some of the critiques of previous strain theories in an attempt to form a revised strain theory that

could explain delinquency. Agnew in particular responded to the lack of empirical evidence testing strain theories, especially for the lack of support for the assumption that an increase in aspirations and a decrease in expectations should lead to an increase in delinquency (Agnew, 1985). He argued that the disjunction between aspirations and expectations is not a major source of strain and/or negative affect, and there are many additional sources of strain than were examined in previous research (Agnew, 1985). Due to these weaknesses, Agnew broadened the scope of traditional strain theories (e.g. the disjunction between aspirations and expectations) and included additional variables.

He also agreed that when individuals are unable to achieve important goals, they may become frustrated and turn to criminal coping styles. From this, Agnew shifted his research to an emphasis on the blockage of pain-avoidance behavior as an additional source of frustration and delinquency (Agnew, 1985). His results from a sample of adolescent youth suggested that aversive family and school environments have a direct effect on illegal escape attempts and other forms of delinquency; and an indirect effect through anger. The results were supported even after social control and subcultural deviance measures were included as control measures. Adolescents try to avoid painful and aversive behavior (e.g. in school and home environments). From a physiological approach (Zillman, 1979), youth who experienced blockage in goal-seeking behavior became frustrated and/or delinquent because they cannot legally leave their negative school and home environments (Agnew, 1985). Frustration results from experiencing goal blockage and delinquency may result from attempting to escape from the painful situation, or remove the harmful source from the environment. This revision of strain theories also provided some support to explain group differences in delinquency because

certain groups may experience aversion and negative environments more frequently than other groups (Agnew, 1985).

In order to assess the applicability of the revised strain theory, Agnew (1989) analyzed longitudinal research of a nationally representative sample of adolescent males. This study addressed the previous limitation involving the inability to generalize results from using experimental and survey data. More important, results supported the revised strain theory concluding that painful or aversive environments has a causal effect on delinquency. Lastly, the results also suggested the enhancement of the revised strain theory should concentrate on the possible connection between the presence of negative stimuli and delinquency.

Overall, the progression of Agnew's (1985; 1989) revised strain theory eventually developed into General Strain Theory (GST). Through the critiques of previous anomie and strain theories, Agnew was able to address these limitations, resulting in the formation of a more modern theoretical approach for explaining criminal behavior.

The Basics Principles of a General Strain Theory of Crime and Delinquency

Agnew (1992) initially developed GST through expanding the concept of strain and approaching it through a social psychological perspective based on an individual's social relationships. He differentiated GST from social control and social learning theories by focusing exclusively on negative relationships. The theory drew from past strain theory research and addressed previous limitations by expanding beyond Merton's adaptations to strain to included several sources of strain and stressful events. Agnew (1992) argued that individuals who experience strain adapt through crime and

delinquency. Therefore, individuals who experience strain (not just economic) can also be criminogenic. A conceptual diagram of General Strain Theory is provided in Figure 1.

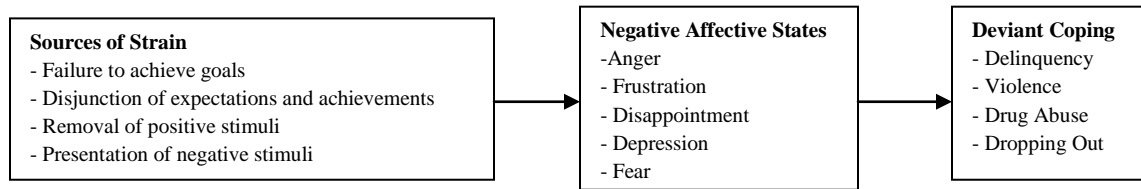


Figure 1: Conceptual Diagram of the Elements of General Strain Theory

Agnew (1992) defined strain as “relationships in which others are not treating the individual as he or she would like to be treated” (pp. 48). Strain can inhibit various forms, including an objective event, evaluation of an event, experiencing a negative condition, or emotional reaction (Agnew, 2001). He identified three types of strain that produces crime and delinquency: (1) strain as the actual or anticipated failure to achieve positively valued goals, (2) strain as the actual or anticipated removal of positively valued stimuli, and (3) strain as the actual or anticipated presentation of negatively valued stimuli (Agnew, 1992).

The first type of strain (the failure to achieve positively valued goals), includes three subtypes of strain. The first subtype includes the traditional principle of classic strain: the difference between aspirations and expectations/actual achievements. The second subtype includes the gap between expectations and actual achievements (which can lead to negative affects: anger, depression, etc). The third subtype transpires from what an individual believes are fair and just outcomes, compared to the actual outcomes. If an individual believes that a relationship is one-sided, unfair, or unjust, they may cope with their strain and stressful relationship through delinquency. Agnew believed that all

three subtypes within the first category of strain are relevant and responsible for delinquency.

Agnew specifically developed the second and third types of strain because he argued that “the psychological literature on aggression and the stress literature suggest that strain may involve more than the pursuit of positively valued goals” (Agnew, 1992, pp. 57). Agnew believed that the stress literature has ignored the first type of strain, and has placed more influence on the second and third type of strain: strain as the removal of positively valued stimuli; and strain as the presentation of negative stimuli. From this, Agnew decided to add the second and third type of strain into the basic assumption of GST, in order to add breadth and expansion from stress literature to criminological strain theories.

The second type of strain also includes the anticipated loss or actual loss of positively valued stimuli. Agnew argued that an individual may try to prevent the loss of these stimuli, and as a result may involve themselves in delinquent acts. This type of strain may also lead to delinquency in order to reclaim the original or find substitute stimuli, seek revenge on whom the individual believes is responsible for the anticipated or actual loss, or control their negative affect by illicit drug use. Prominent examples of this type of strain include loss of significant other, death or illness of friend or family member, and changing or being suspended from school (Akers & Sellers, 2009).

Agnew argued that the third type of strain (the presentation of negative stimuli) has been neglected in criminological research, which justifies his addition of this category into the GST principles. More specifically, Agnew believed that while the presentation of noxious stimuli may not be the forefront of his focus, he centers his

argument on the possible inability for individuals to escape from noxious stimuli (especially adolescents). The presence of negative stimuli may lead to adolescent delinquency in several ways. He stated that an adolescent may involve themselves in delinquent acts to escape, terminate, lessen, or seek revenge on the negative stimuli, or once again control their negative affect by using illicit drugs. Agnew also argued that adolescents who are unable to escape from negative stimuli react with anger which can lead to illicit drug use and/or delinquency (Kubrin, Stucky, & Krohn, 2009).

Agnew (1992) identified specific examples of noxious stimuli that have been linked to delinquency. These examples include child abuse and neglect, criminal victimization, physical punishment, negative relationships with parents and/or peers, adverse or negative school experiences, and verbal threats and insults.

The Link between General Strain Theory and Delinquency

While the three basic principles of GST have been identified and discussed, the inclusion of anger, depression, and fear as negative emotions can be added as components to GST as well. Most important, Agnew believed that anger is the key emotion in understanding the link between GST and delinquency because it increases the individuals feeling of entitlement, desire for revenge, and lowers inhibitions (Hoffmann & Spence, 2010). There is also the suggestion of an indirect relationship between strain/stressful situation and delinquency that is mediated by negative emotional states. Research has also indicated that negative emotions can moderate the link between strain and criminal activity (Botchkovar & Broidy, 2010). He argued that delinquency may be used to seek revenge, used as a method to alleviate strain, or manage negative affect

through illicit drug use. Overall, Agnew stressed that GST has the ability to explain numerous types of delinquency.

Agnew (2001) revisited GST and specified four characteristics of strain that were most likely to lead to delinquency. He described the characteristics of stressful events and strain that are most likely to result in delinquent offending. Agnew (2001) argued that if strains are (1) seen as unjust, (2) high in magnitude, (3) connected with low social control, and (4) create pressure to become delinquent, the individual will most likely use delinquent coping means. Agnew believed that the types of strain that are seen as unjust are most likely to lead to delinquency because it is likely that the strains will invoke anger within the individual. If a strain is seen as high in magnitude, it may increase the possibility of delinquency as a coping method. Concerning the third characteristic, Agnew believed that certain strains associated with low social control will lead to delinquency (erratic parental discipline, parental rejection, homelessness, etc.) Lastly, the fourth characteristic (strains that create pressure or incentive to engage in criminal coping), is usually associated with individuals who are exposed to people who model or reinforce criminal behavior (e.g. child abuse, being bullied, negative school environment, disrespectful treatment, and criminal victimization). If individuals (usually adolescents) are exposed to hostile living environments, they may believe that violence is the only way to retaliate against disrespectful treatment, because violence, crime, and delinquency are reinforced in their household.

Agnew (2001) also discussed examples of specific types of strain that are most likely to lead to delinquency. The stressors that were found to be associated with delinquency include negative life events, life hassles, negative relations with adults, and

parental fighting (Agnew & White, 1992). He also cited Paternoster and Mazerolle (1994) and stated that neighborhood problems, negative life events, school/peer hassles, and negative relations with adults are also related to delinquency. Other types of strain in the literature up to here include family and peer conflict, and physical and emotional abuse (Piquero & Sealock, 2000).

General Strain Theory can be also applicable for macro-level analysis, by being about to account for group-level differences in delinquency. GST is able to understand group differences in experiencing strain and criminal coping responses (Agnew, 2006). Incorporating macro-level research into GST can contribute to the breath of the theory by possibly explaining individual and community-level differences in responses to strain through delinquency.

Lastly, it is important to identify that GST has been used as a theoretical perspective to explain strain and delinquent outcomes across gender (Broidy & Agnew, 1997; Mazerolle, 1998; Piquero & Sealock, 2004), age (Agnew, 1997; Slocum, Simpson, & Smith, 2005), and more recently race/ethnicity (Taylor & Turner, 2002; Turner & Avison, 2003; Pérez, Jennings, & Gover, 2008; Jennings, Piquero, Gover, & Pérez, 2009). There is the universal assumption that theories affect all groups in the same way, but there is a need to assess the specific applicability of GST to other racial groups as well. Based on previous literature examining how GST is able to explain differences in offending, some results fail to support the base assumptions of the perspective (Jang & Johnson, 2003). Different racial and ethnic groups, for example, may be differentially affected by strain and stressful situations (Eitle & Turner, 2003; Pérez et al., 2008; Moon, Hays, and Blurton, 2009). Therefore, it is important to assess the applicability of GST's

perspectives to Whites, African Americans, and Hispanics. Certain racial groups may experience different types or levels of strain, which in turn can result in delinquent coping. The following section will explain the race/ethnicity-delinquency relationship through the context of GST.

How Strain Differentially Affects Racial and Ethnic Groups in the Context of GST

While General Strain Theory can be used to explain why some individuals become delinquent, GST can also be applied to why certain groups may experience more or different types of strain that can lead to delinquency. Agnew (2006) argued that minority groups (African Americans and Hispanics) are more likely to be involved in serious crime compared to Whites. There are many reasons why there is the belief that minorities experience more strain and stressful situations compared to Whites. The following section will outline both individual-level and structural-level strains that have been found to affect African Americans and Hispanics more than Whites. These include strains in the social environment (poverty, social isolation, and segregation), racial discrimination, economic stress, educational strain, and criminal victimization.

It has been argued that the primary explanation for why African Americans offend more than Whites is that they are more involved in experiences in the social environment that can lead to criminal offending (Agnew, 2006). These experiences include being a victim of abuse, chronic unemployment, working in the secondary labor market, criminal victimization, and racial discrimination (pp. 146). From these experiences of strain, they are also more likely than Whites to cope through delinquency.

Minority overrepresentation in offending and within both the criminal justice system (Hindelang, 1978) and the juvenile justice system (Leiber & Mack, 2003) has

been connected to three possible explanations. First, minorities are differentially involved in criminal offending. Second, minorities are differentially treated in selection (bias) and processing within the criminal justice system; and third, there is a combination between differential involvement and differential selection. Previous research concerning these possible explanations has shown varied results. These explanations for minority overrepresentation in criminal activity could possibly be connected to experiencing increased amounts of strain compared to Whites (e.g. economic inequality, racial discrimination, etc.)

Early prior research utilizing official statistics have found that minority groups and the lower class commit a disproportionate amount of crime and delinquency (Akers & Sellers, 2009). However, the race and class gap diminishes when examining self report studies of delinquency, or the combination of both types of measures (Akers, 1964; Piquero & Brame, 2008). Still though, some researchers have argued that self-report studies only examine minor criminal activity that do not include frequent offenders, where official statistics directly account for more serious offenses (Hindelang, Hirschi, & Weis, 1979). This may explain a possible reason for this discrepancy. They argued that while there may be little differences between class, race, and crime; the lower class (Farnworth, Thornberry, Krohn, & Lizotte, 1994) and minority groups commit a disproportionate amount of frequent and more serious offenses (Sampson, Morenoff, & Raudenbush, 2005). Dreyfoos (1990) found that Hispanic juveniles were disproportionately arrested second to African Americans, as well as overrepresented in incarcerated populations (Flowers, 1998).

Differences in offending between races are also influenced by certain structural constructs and unique social conditions that are more likely to affect African Americans and Hispanics more than Whites, which can lead to negative coping styles through crime. African Americans are more likely to live below the poverty line and reside in high-poverty neighborhoods due to historical effects of social isolation, and racial segregation and discrimination (Massey & Denton, 1993). Due to these historical situations and housing discrimination, African Americans are more likely to be poor and live in concentrated disadvantaged communities compared to Whites (Massey & Denton, 1993). These economic inequalities experienced by racial minorities hinder their aspirations of obtaining legitimate employment, possibly resulting in more social strain (Higgins, 2010). Sampson and Wilson (1995) have argued that social isolation and residential inequality of disadvantaged minority communities leads to structural barriers that break down crime control and social organization. Also, the effects of racial residential segregation and discrimination on minorities can lead to a differential involvement in criminal activity (Anderson, 1999). From this, poor and minority individuals are more likely to experience certain strains and negative experiences that promote criminal behavior.

Research has shown that while the inclusion of both individual-level and community-level variables reduce the race/crime relationship (Peeples & Loeber, 1994; McNulty & Bellair, 2003), these variables do not entirely explain the race gap in offending. African Americans are still disproportionately involved in criminal offending (Massey & Denton, 1993), which could be partially explained by experiencing strain.

From this, there are other types of strain that affect African Americans to a higher degree than Whites.

Racial and ethnic discrimination is a type of strain experienced more by African Americans and Hispanics (Pérez et al., 2008) than Whites and is conducive to crime and delinquency, regardless of economic conditions and neighborhood disadvantage (Kaufman et al., 2008). Regardless of class level, African Americans are more likely to experience racial discrimination throughout everyday life (Taylor & Turner, 2002).

African Americans have also been discriminated against in the school system. Teachers, administrators, and school officials may have lower expectations of them and place them in lower standing classes (Agnew, 2006). Also important, African Americans are also more likely to be discriminated against by criminal justice officials (Huebner & Bynum, 2008), juvenile justice personnel (Leiber & Johnson, 2008) and employers (Pager, 2004). African Americans are also more likely to be stopped, questioned, and arrested by law enforcement (Smith, Visher, & Davidson, 1984; Agnew, 2006).

Ethnic minorities (especially Hispanics) are also more likely to be exposed to prejudice and discrimination than Whites. They are more likely to be experience unique types of strain that can increase delinquent coping (Smart & Smart, 1995). These types of strain include acculturation-related problems that Whites do not experience since they are the majority population in the United States. In other words, acculturative strain is produced from conflicts of adapting to a foreign language, culture, social networks, stereotypes, and prejudices (Vega, Gil, Warheit, Zimmerman, & Apospori, 1993; Vega, Zimmerman, Gil, Warheit, & Apospori, 1993). While previous research had found that experiencing discrimination had led to delinquent coping, depression and other negative

emotions can result from perceived racial and ethnic discrimination (Finch, Kolody, & Vega, 2000). In summary, Hispanics along with African Americans can both experience feelings of prejudice and discrimination.

Being a victim of racial discrimination is seen as a main source of strain in African Americans, especially since research has suggested that discrimination increases negative emotions in African Americans which lead to delinquency (Harrell, 2000; Eitle & Turner, 2003; Simons, Chen, Stewart, & Brody, 2003). Racial discrimination has also been seen to lead to other types of strain which increase the likelihood of criminal coping (Simons et al., 2003). Strains in the form of school problems, peer abuse, unemployment, and work in the secondary labor market can stem from being a victim of racial discrimination. Since racial discrimination is a particular type of strain brought upon a certain group of people, African Americans may also identify their victimization from discrimination as deliberate acts by other people, thus leading African Americans to believe that their strains are unfair and unjust. For example, if an African American assumes that they lost their job because of racial discrimination, the strain is more likely to lead to criminal offending than if the strain was seen as legitimate and did not involve racial prejudice. (Kaufman et al., 2008).

This issue was also reiterated in Kaufman et al. (2008), where they agreed that GST can be applied to minority groups because certain races (minorities) are exposed to disproportionate amounts of qualitatively different types of strains, which leads to higher levels of negative affect. Minorities are also believed to have fewer legitimate coping resources, making them more susceptible to criminal coping. Comparing Whites and African Americans, African Americans experience differences in certain types of strain:

economic, family, educational, criminal victimization; discrimination, and community (Kaufman et al., 2008).

African Americans are more likely than Whites to experience economic strain in the forms of severe poverty, unemployment, low paying wages, few benefits, unsteady unemployment, poor working conditions, high demands, low autonomy, and coercive forms of control (Crunchfield, 1989; Massey, 1990; Colvin, 2000). African Americans who experience economic strain are considered more likely than Whites to cope through income-generating crimes (e.g. robbery) (Kaufman et al., 2008). If there are higher levels of inequality within communities, economic strain can be seen as an unjust strain, increasing the likelihood that African Americans will cope through criminal activity.

Within the context of family environments, there are certain experiences and situations that can be defined as types of strain in African Americans and Hispanics (Berry, 1998). Many types of family and parental strain can stem from economic strain (living in high-poverty communities, economic inequality, work in the secondary labor market) which increases the likelihood of adverse parenting practices (Agnew, Rebellon, & Thaxton, 2000; Patterson, Reid, & Dishion, 1992). These parenting practices lead to strain in children, which are unable to escape from their home environment, and are more likely to cope through delinquency (Agnew et al., 2000). Hispanics in particular experience family strain from the disjunction between parents and children concerning cultural issues, values, and practices (Vega et al., 1993). Other examples of family strain include harsh and inconsistent discipline from family members (Pinderhughes, Nix, Foster, & Jones (2001), abuse, and neglect (Baron, 2004).

African Americans are more likely than Whites to experience various types of educational strains. Examples of these strains include poor grades, discrimination, and prejudice from teachers, unfair discipline, and interpersonal problems with students. As described earlier, race may be considered a determinant of being placed in either high or low education classes, regardless of a student's economic ability (Irvine & York, 1993). More strain can also result from the student if they perceive that being placed in a lower educational track as unjust and unfair. Also important, there is often poorer quality education and lower teacher expectations in this type of education track, which is another indication and example of strain. From this African Americans are seen to experience disproportionately more strain than Whites, as well as qualitatively different types of educational strain.

Kaufman et al. (2008) indicated that African Americans are more likely to experience criminal victimization compared to Whites, including that these higher rates of victimization can partially explain why African Americans are disproportionately involved in offending (Eitle & Turner, 2003; Kaufman, 2005). Also, youths who witness violence are at a higher risk of later offending throughout adolescence (Attar, Guerra, & Tolan, 1994). From this, criminal victimization is another type of strain that disproportionately involves African Americans more than Whites, including being victimized by friends as well as family members (family strain).

As described earlier, African Americans are more likely than Whites to live in urban neighborhoods with high levels of economic disadvantage which are prone to violence and delinquency (Krivo & Peterson, 1996; Massey, 1990). From this, urbanization and concentrated disadvantage can be associated with a number of

community strains (high levels of neighborhood violence, witnessing violence, living in communities with residents who also have negative emotions because of economic inequality) (Kaufman et al., 2008). Therefore, a GST explanation of community strain involves more African Americans being prone to strains from living in concentrated disadvantaged neighborhoods. This results in African Americans encompassing higher levels of negative emotions that are dealt with through criminal activity and violence.

It is also argued that there are racial differences in reactions to strain in terms of minorities having fewer coping resources (Gabbidon, 2007). Since African Americans are less likely to have legitimate coping resources to diffuse their stressful experiences and situations, they are more likely to cope using criminal activity. African Americans are also more likely to live in single-parent, female-headed households, and have less social support from their families. Social support is a variable that can buffer the impact of noxious stimuli and strains. African Americans are hindered by this lack of support, therefore lacking necessary resources to cope with strain.

In sum, this study examined numerous and unique types of strains between racial groups to determine the validity of Kaufman et al.'s (2008) statements and other previous research that focused on African Americans and Hispanics. To date, there has been little empirical research testing the applicability of General Strain Theory to different racial and ethnic groups. Furthermore, this limited amount of research is not without limitations and some were the impetus for the present research. The following Chapter will introduce and describe the empirical literature that has been conducted concerning the issue of race and General Strain Theory.

Chapter Three

Literature Review

Historical and empirical studies that analyzed GST to explain how strain may operate differently across racial and ethnic groups is a fairly recent but limited area of research. The following chapter will review the literature on GST and race/ethnicity differences in delinquency and offending. It is necessary to understand the pioneering research that has focused on this specific area, for the implications of the present research is grounded in the context of GST and prior studies.

General Strain Theory and Race Research

Previous studies that examined the link between GST, race, and delinquency have utilized different methodologies, measures of GST, samples, and conditioning factors. There is a limited amount of empirical research on this topic, proving the need to expand the breadth and depth of this specific theory. These previous studies have reported a range of results that are applicable to GST, different racial and ethnic groups, and criminal coping. For example, results indicated that GST can be applied historically to slavery (Rocque, 2008); there is a reciprocal relationship between discrimination and delinquency (Simons et al., 2003); GST can be applied to African Americans (Jang & Johnson, 2003); deviant coping behavior from reacting to strain can be personally inner-directed (Jang & Lyons, 2006); and racial discrimination can lead to violent deviant behavior (Moon et al., 2009). Results also indicated that the relationship between GST and delinquency can be tested between different racial groups (Piquero & Sealock, 2010);

racial profiling can occur to both White and African Americans with both groups reacting to this type of strain with negative emotions (Higgins & Gabbidon, 2009); GST can be applied to Hispanic youth (Jennings et al., 2009; Pérez, et al., 2008); and racial differences in criminal activity can be explained by differences in strain exposure (Eitle & Turner, 2003). The following paragraphs will describe these studies in depth, showing the different ways that research has attempted to connect GST, race, and deviant coping.

To examine the relationship between racial discrimination and delinquency, Simons et al. (2003) specifically concentrated on an African American sample. The authors examined two waves of data (N= 718) from the Family and Community Health Study (FACHS), and adolescents and their caregivers were interviewed. Being a victim of racial discrimination is viewed as a type of strain experienced by African Americans. The authors also examined emotional and cognitive factors that mediated the relationship between racial discrimination and delinquency. Simons et al. (2003) predicted two specific hypotheses: 1) Being a victim of racial-ethnic discrimination predicts increased involvement in delinquency; and 2) the victimization-delinquency relationship is mediated by anger, depression, system blaming, and belief in the legitimacy of aggression. The authors included several measures collected from both waves of data. Wave two measures specifically included inept parenting and affiliation with deviant peers (used as control variables), depression, anger, system blaming, and legitimacy of violence.

Structural equation modeling (SEM) was used to test the two hypotheses to determine if the emotional and cognitive variables mediated the effect between victimization and delinquency. Overall results indicated there is an association between

discrimination and delinquency, and that anger and depression mediate the discrimination-delinquency relationship in African American youth. There was no support for system blaming as a mediator. A reciprocal relationship was also found between discrimination and delinquency, where delinquency also increased the chance of being a victim of discrimination. Besides the previous described results, the authors contribute to the literature by arguing that GST should expand to include depression as a mediating variable, instead of focusing on anger only (Simons et al., 2003).

African Americans were the racial group of focus for Jang and Johnson's (2003) empirical study. A nationally representative African American adult sample was examined to test four hypotheses between strain, negative coping, and deviant coping. Survey responses from in-person interviews were analyzed from the National Survey of Black Americans (NSBA) (N=1,211). Jang & Johnson (2003) first hypothesized that strain will have a positive effect on negative emotions, which will have positive effects on deviance. Next, they argued that negative emotions have positive effects on deviance with the same-directed effects being larger than their opposite-directed counterparts. They also believed that self-esteem, self-efficacy, and religiosity would weaken or buffer the positive effects of strain on negative emotions and deviance. Regarding race, they hypothesized that African American strain has larger effects on outer- than inner-directed emotions, and overall negative emotions in reaction to strain will have larger positive effects on outer- rather than inner-directed deviance. (pp. 87)

Jang and Johnson's (2003) measure of strain included "personal problems", where respondents who answered "yes" to any personal problem were asked about their emotions during the problem. Inner-directed emotions and outer-directed emotions were

combined into a negative affect measure. Respondents were also asked “how they acted” in response to the personal problem. Drug use and fight/argue measures were combined into a general deviance measure (outcome variable). Following Eitle and Turner (2003), Jang and Johnson (2003) included self-esteem, self-efficacy, a religiosity variable, measures of family attachment, and close friends.

Ordinary least squares (OLS) regression results indicated that all hypotheses were supported. Strain was found to have positive effects on negative emotions which have positive effects on deviant coping mechanisms. African Americans who experienced negative emotions towards others were likely to engage in other-directed coping (aggression). African Americans who experienced negative emotions towards themselves were more likely to cope with drug use. There was limited support for self-esteem and self-efficacy as conditioning factors, but religiosity buffered the effects of negative emotions on deviant coping for inner-directed but not outer-directed emotions. Overall, the study contributed to the literature by providing results that tests of GST can be applicable to African Americans by expanding results to a different racial group that had yet to be examined by GST and delinquency literature.

As an extension of Jang and Johnson (2003), Jang and Lyons (2006) tested five hypotheses concerning the relationship between strain and noncriminal deviant coping mechanisms (withdrawing behavior) in African Americans. Once again using the NSBA survey, this study is slightly different than other studies examining GST and race differences, due to the fact that Jang and Lyons (2006) did not use delinquency or criminal activity as an outcome variable. Withdrawing behavior was assessed as an outcome variable with its relationship with GST. The objective of Jang and Lyons

(2006) was to extend Jang and Johnson's (2003) model and hypotheses by understanding the effects of inner- and outer-directed emotions on noncriminal deviant coping, and also address the conditioning effects of social support on deviant coping (aggression). Once again, five hypotheses were tested throughout the study. Consistent with GST, Jang & Lyons (2006) hypothesized that strain is positively related to negative emotions, social support is negatively related to negative emotions, and negative emotions are positively related to withdrawing behavior (with inner-directed emotions being more strongly related than outer-directed emotions). They also argued that any direct effects of strain and social support on withdrawing behavior will decrease with the controlled measures of negative emotions. Lastly, they hypothesized that social support weakens the positive relationships between strain and negative emotions; strain and withdrawing behavior; and negative emotions and withdrawing behavior.

Personal problems were used as a measure of strain (Jang & Johnson, 2003). Negative emotional reactions to personal problems were measured as either outer-directed emotions (anger) or inner-directed, nonangry emotions (depression and anxiety). Two measures of social support were examined. The first measure was determined by an individual's potential support between themselves and family, relatives, and friends. The second measure of social support was determined by family and religious support networks. The outcome variable in this study (withdrawing behavior) was considered as the inner-directed noncriminal deviant coping behavior.

Results from OLS regression indicated that African Americans experienced anger, depression, and anxiety in response to personal problems. They were also more likely to withdraw from people when they felt depressed and anxious compared to when they were

angry (results parallel to Jang & Johnson, 2003). The effects of strain became indirect when nonangry and angry emotions were included in predicting withdrawing behavior. Social support was also found to weaken the effect of nonangry emotions and withdrawing behavior.

More recent, Jang (2007) evaluated how GST was able to explain gender differences in crime and deviance. Using Broidy and Agnew's (1997) theoretical assumptions, Jang used the USBA survey to examine the relationship between African Americans, GST, and gender. Consistent with prior research and Broidy and Agnew's propositions, Jang suggested four gender-specific hypotheses. They argued that African American women are more likely to experience "female strain", including physical health problems, interpersonal relations problems, and gender role issues in the family. This is in comparison to "male strains" such as stress related to financial issues, jobs, racial discrimination at work, and criminal victimization. They also hypothesized that female strains are more likely to lead to self-directed (depression and anxiety) than outer-directed emotions (anger), compared to men. Also, self-directed emotions were predicted to lead to self-directed deviant (drug use) and non-deviant coping mechanisms (ignoring or praying) than outer-directed mechanisms (fighting), compared to men. Lastly, the authors argued that self-esteem, self-efficacy, social support, and religiosity are more likely to enhance the positive effects of negative coping styles on self-directed, non-deviant, or legitimate coping behaviors, and weaken the effects on deviant coping mechanisms for women, compared to men.

As also included in prior studies, serious "personal problems" were measured by different types of coping mechanisms consisting of fighting or arguing, alcohol or drug

use, escapism, and religious coping. Different types of strains such as racial discrimination, financial, employment, criminal victimization, interpersonal relations, health, and housework, were measured to differentiate “female strain” and “male strain”. Measures of self-efficacy, religiosity, and various controls were also included.

OLS regression was conducted in order to test the four research hypotheses. Results indicated that African American women were more likely to experience “female” rather than “male” strains, including health problems and stress within family life. Also, results confirmed that males and females differed in their responses to strain. More specifically, certain “female strains” were more likely to predict depression and anxiety compared to anger, but not all strains were significant. Results also indicated that outer-directed emotions (anger) had larger effects on outer-directed deviant behavior compared to self-directed emotions (depression). These results were not supported concerning alcohol and drug use. Lastly, it was found that certain conditioning factors help explain certain gender differences in African Americans. Religiosity was more likely to weaken the positive effects of anger, depression, and anxiety on African American women’s deviant coping mechanisms. Overall, these results as well as the previous research of Jang and colleagues complimented the literature on African Americans and strain, and once again illustrated that GST can be applied to African Americans.

Instead of limiting the scope to one racial group, two studies in particular compared White and Non-White samples of either college students or delinquent youth. Moon et al., (2009) examined the effect of strain, negative emotions, and conditioning factors on deviant behavior. More specific, two hypotheses were predicted in a nonrandom, convenience sample (N=294) who were given a questionnaire in a college

setting in the Western United States. The first hypothesis stated that anger is positively associated to deviance, yet the direct effects of strain are significantly mediated when anger is added. The second hypothesis stated that on the one hand, when strains are interacted with positive conditioning factors, it is less likely to produce deviance. On the other hand, when strains are interacted with negative conditioning factors, it is more likely to produce deviance.

Strain was measured using eight variables (goal blockage, family conflict, parental punishment, teachers' emotional punishment, racial discrimination, gender discrimination, criminal victimization, and negative community environment). The negative emotion measured was anger, and the conditioning variables (to measure interaction effects) included positive relationship with parents, deviant peer association, problem solving ability, and attitude toward the use of violence. The outcome variable was deviance, measured by general deviancy, violent deviancy, and nonviolent deviancy.

Findings indicated from a series of stepwise OLS regression analyses that students who experience goal blockage, teachers' emotional punishment, or racial discrimination were more likely to engage in all three types of deviance. Students who experienced racial discrimination were more likely to engage in violent deviance (Agnew, 2001; Simons et al., 2003). Contrary to previous results and assumptions (Agnew, 2001; Simons et al., 2003) anger only minimally mediated the effect between strain and deviance.

Overall, Moon and colleagues (2009) contributed to the literature by measuring a more comprehensive amount of strains. The results also reiterated the conclusion that individuals who experience racial discrimination are more likely to cope through deviant

mechanisms. The results did not find that anger, as a negative affect, had a large impact as a mediating variable. As mentioned earlier, Moon et al. (2009) was the only study that included both a White and Non-White sample. Piquero and Sealock (2010) addressed these two groups as well two years later.

White and Non-White samples were specifically tested for racial differences using race specific models by Piquero and Sealock (2010). More specifically, GST was applied to offending patterns across races in a sample of juvenile offenders (N=148) who were administered the Substance Abuse Subtle Screening Inventory and were on probation supervision. Strain was measured by the respondent experiencing abuse (presentation of negative stimuli), while negative affect was measured by depression and anger. Peer delinquency was also included because it is believed to increase the severity between negative affect and crime (Agnew, 2002). Variables that are seen to alleviate strain and negative affect were measured by peer support, family communication, and coping resources. Lastly, interpersonal aggression and property offending were the outcome measures of deviant coping. The analyses examined one of the GST assumptions that negative emotions arise from strain that can lead to offending, and to specifically examine the effects of strain on both anger and depression across different races.

Results indicated that White youth experienced more strain, anger, and depression than Non-White youth, who reported more cognitive, emotional, physical, and spiritual coping resources (contrary to Kaufman et al., 2008, who argued that minorities have fewer coping resources). Inconsistent with previous assumptions and research (Eitle & Turner, 2003; Kaufman et al., 2008), minorities were exposed to or experienced less strain than Whites. Support was found for Agnew's (1992) statement that strains produce

negative emotions, but there were mixed results that the effect of strain on deviant coping would be reduced after the inclusion of anger and depression into the model. More specific, the mediating effects for both negative emotions were supported only for White juvenile offenders.

Overall, Piquero and Sealock (2010) contributed to the literature by directly testing for racial differences between a White and Non-White sample, increasing the breath of research in the field. Numerous variables were also included in the analytic models, which encompassed a wide range of measures that are applicable to test thoroughly test GST across different racial groups.

To add to the previous research that examined racial discrimination as a type of strain, Higgins and Gabbidon (2009), used both Black and White samples to understand perceptions of experiencing consumer racial profiling (CRP) that resulted in negative emotions. CRP was explained by Gabbidon (2003) as the discriminatory treatment of racial and ethnic minorities in retail establishments. While this study did not specifically address strain that resulted in criminal coping, negative emotions were the outcome variable in this particular study. Higgins and Gabbidon (2009) examined the role of racial discrimination within the context that the presentation of noxious stimuli (experiencing CRP) will produce negative emotions. A telephone survey was administered to residents in Philadelphia, Pennsylvania measuring gender, race, income, age, and negative emotions due to CRP.

Results indicated that negative emotions were produced due to individuals' perceptions of experiencing CRP. This provides evidence that experiencing CRP can be considered a strain which leads to negative emotions. Negative emotions from being

victims of discrimination from experiencing CRP were more likely to be Black and have higher incomes, yet Whites were also shown to produce negative emotions when experiencing CRP (an unexpected finding). This is important to note because both racial groups perceived themselves to experience CRP in a retail environment. Still though, the results supported implications from previous theoretical assumptions that racial and ethnic minorities are likely to experience negative emotions from stressful situations (perceptions of CRP). While Higgins and Gabbidon (2009) did not specifically address GST in the context of criminal deviant coping, this exploratory study still contributed to the literature and examined the effect of a specific type of strain on negative emotions in a nature that had yet to be explored.

Research using GST has only been applied to Hispanics in a limited number of studies. Two studies that specifically addressed the link between strain and delinquency in Hispanics utilized samples from the “Mexican-American Drug Use and Dropout Study” but each individual study had different research agendas (Jennings et al., 2009; Pérez et al., 2008).

In the first study that used this specific data set, GST was extended to explore gender differences (Broidy & Agnew, 1997) in interpersonal aggression and property offending (Jennings et al., 2009). Even though gender differences are not a focus in the present thesis, Jennings et al. (2009) examined GST in a Mexican American (Hispanic) sample (N=1,729). This replication study (Piquero & Sealock, 2004) tested five hypotheses. They tested for gender differences between anger and depression as negative affects; strain being associated to negative emotions; anger being more related to interpersonal aggression and property offending; depression having no relation to any

type of negative coping; negative emotions mediating the effect between strain and offending; and finding frequent three-way interaction effects between gender, negative affects, and conditioning factors (pp. 407).

Strain was measured by the introduction of negative stimuli by examining the occurrence of physical abuse, sexual abuse, academic problems, future expectations, school dropout, and involvement in the criminal justice system. Negative affect was measured by levels of anger and depression, while conditioning variables were measured by peer delinquency, peer support, poor family communication, and coping resources. To test for the effect of strain on Hispanic adolescents, the outcome variables that were measured included interpersonal aggression and property offending.

Significant gender differences were found concerning the effect of strain on interpersonal aggression and violent offending, yet the focus for the purposes of this thesis is confined to the effects of strain on delinquent coping mechanisms. Anger (not depression) was found to be significantly related to both types of offending, with different types of strain resulting in different types of negative emotions. When measures of negative emotionality were added to the models, they only partially mediated the effects of strain on both types of offending. All measures of strain (except for school dropout for both genders, and future expectations for females) significantly predicted property offending, and most strains predicted both the threatening and use of interpersonal aggression.

Overall, the results reinforced previous research by providing evidence that various types of strain can lead to delinquent coping mechanisms, along with addressing numerous gender differences that occurred within a sample of Hispanic youth. This

study contributed to the literature by using a specific ethnic sample that had yet to be thoroughly examined. Many types of strain were also measured, including two forms of negative emotionality, conditioning factors that were utilized in previous research, and negative coping mechanisms.

While many types of strains were examined throughout the previous research, a shift in the types of strain measured was apparent in Pérez et al. (2008). More detailed, ethnic-specific strains were examined in relation to delinquency in a sample of Hispanic adolescents (N=1,729). While prior theoretical and empirical research has indicated that different groups may have increased exposure or different types of strain (Agnew, 1992; Eitle & Turner, 2003; Kaufman et al., 2008), Pérez et al. (2008) examined how strains unique to Hispanics may lead to delinquent coping. Prejudice and discrimination have been seen to be distinct types of strains to ethnic (Smart & Smart, 1995) and racial minorities. More specifically, three research questions were examined. The authors examined if traditional and ethnic-specific strains increase violent delinquency among Hispanic youth, and if the effect of strain is invariant across Hispanic concentration. Consistent with GST, Pérez et al. (2008) also examined if negative affective states mediate the relationship between strain and violent delinquency.

Traditional forms of strain were measured by the occurrence of family physical abuse, peer physical abuse, and academic and economic strain. Ethnic-specific strains were measured by nativity, English proficiency, intergenerational conflict, and perceived discrimination. Negative affect was measured by anger, and coping resources were measured by levels of cognitive, spiritual, and physical coping. Levels of ethnic-group concentrations across populations were measured to examine if the effect of strain is

invariant across different Hispanic concentrations. The outcome variable of a measure of delinquency included violence and/or interpersonal aggression (Jang & Johnson, 2003; Jang & Lyons, 2006; Piquero & Sealock, 2010.)

Results indicated that family physical abuse, peer physical abuse, and academic strain were all positively related to violent delinquent coping. Ethnic-specific strain measures also increased the likelihood in violent coping mechanisms (experiencing ethnic discrimination was related to violent behavior.) The effect of strain across different Hispanic concentrations that experienced discrimination was related to violent behavior regardless of concentration level. Consistent with GST assumptions (Agnew, 1992), anger as a negative affect partially mediated both the effects of traditional and ethnic-specific strains on violent coping mechanisms when entered into the model.

Overall, results from Pérez et al. (2008) contributed to the literature by concluding that GST can be generalized to Hispanic youth, and tested for both traditional and ethnic-specific strains. From the compilation of GST research that focused on racial and ethnic differences in coping with strain, it can be concluded that GST can be applied to other racial and ethnic groups (Whites, African Americans, and Hispanics).

The most comprehensive study of racial variation in GST is actually one of the pioneering studies in this body of literature. Compared to the sample characteristics and racial/ethnic groups analyzed in the previous described studies, Eitle and Turner (2003) comprised the most diverse sample population to examine the applicability of GST to different racial groups. To assess the role of race/ethnicity between stressful life events and offending, Eitle and Turner (2003) tested GST in a stratified random sample of young adult males (N = 898). The sample was taken from a South Florida study of risk

and protective factors in young adult substance use and abuse. The sample was divided into certain racial/ethnic groups based on respondent self-report: Whites, Blacks, Cuban Americans, and Other Hispanics.

A “life events” checklist was assembled that measured social stress or strain. In order to understand differences in stress exposure between groups, strain was indexed within several measures. These measures included forms of chronic stressors (general stress, employment stress, unemployment stress, relationship stress, resident stress, child-care stress, etc); and recent life events and lifetime major events (divorce, abandonment, parental substance use problems, death events, being a victim of abuse or sexual assault, witnessing violent events, etc). Coping resources were also measured by a social support variable, which combined scales measuring family, friends, and partner social support. Other coping resources variables included self-esteem levels and mastery levels measuring self-efficacy. While Agnew and White (1992) believed that a comprehensive test of GST includes the measurements of social control and differential association, Eitle and Turner (2003) accounted for these effects by including variables of parental attachment, moral beliefs, adolescent deviance, and peer criminality. Self-reported criminal activity committed in the past month is measured as the outcome variable.

Logistic regression was used to estimate the effects of stress and other measures on criminal activity. Overall results indicated support for GST. Independent of social control and differential association measures, strain was positively and significantly associated with criminal activity. Racial differences in the outcome variable were explained by differences in strain and stress exposure. Race was believed to be seen as a marker for increased stress exposure. Blacks were exposed to greater levels of stress and

strain than any of the other racial/ethnic groups. Eitle and Turner (2003) argued that if all groups analyzed were exposed to similar stressful life events, there would be no differences between instances of criminal activity among these groups. The authors contributed to the literature by providing evidence that differences in offending are due to Blacks experiencing increased amounts of stressful life events and strain. More important, the results parallel those from previous research by detailing how GST can universally apply across racial/ethnic groups.

Summary

The previously described studies showed the applicability of GST through different racial groups, measures of GST, conditioning variables, and dependent outcomes. Results indicated that GST can be applied to African Americans as well as Hispanics, even with measuring different aspects of GST. Also important, Eitle and Turner's (2003) study can be seen as the one of the more complete studies connecting GST with race and delinquency. This study examined four racial and ethnic groups, several measures of GST, four conditioning factors, and seven measures of criminal activity. The results therefore provided a more definitive conclusion about why African Americans may commit a disproportionate amount of offending compared to other racial and ethnic groups. Unfortunately, these studies do not come without limitations, which will emphasize the justification for the present thesis.

The next section will introduce the implications for the present thesis. The limitations of previous research that tested GST between different racial groups will be addressed. Next, justification for why the present thesis will contribute to the literature is described. The discussion will concentrate on how the present thesis addressed the past

limitations of GST and race/ethnicity research, and how it facilitates the generalizability of the theory to different races, ethnicities, ages, and locations.

Limitations of Previous Research

Previous research testing GST between different racial groups are not without limitations. Many studies have only examined one racial or ethnic group. African Americans were exclusively sampled in four studies (Jang & Johnson, 2003; et al., 2003; Jang & Lyons, 2006; Jang, 2007; Rocque, 2008; Hoskin, 2011), while Hispanics were the sample group in two empirical studies (Pérez et al., 2008; Jennings et al., 2009). Some studies have compared more than one racial or ethnic group in their research (Moon et al., 2009; Higgins & Gabbidon, 2009; Piquero & Sealock, 2010), but only one study examined more than two racial or ethnic groups (Eitle & Turner, 2003).

There were also limitations concerning the depth of the variables measuring GST and deviant coping/delinquency. Some studies did not include Agnew's measure of negative emotions such as anger, or angry disposition (Eitle & Turner, 2003) while other studies did not examine offending itself, but the dependent variable was negative emotionality (Higgins & Gabbidon, 2009), or inner deviant coping behavior and general deviance (Jang & Johnson, 2003; Jang & Lyons, 2006). These studies therefore cannot offer the most comprehensive test of how GST can be applied to different racial and ethnic groups.

Concerning the ability to generalize findings to other locations, many samples have been isolated to one county or city location (Eitle & Turner, 2003; Higgins & Gabbidon, 2009). While there have been some nationally representative samples in some studies, the data only included one race (African American) within the dataset (Jang &

Johnson, 2003; Jang, 2007; Jang & Lyons, 2006). Other studies have only examined a specific population such as violent juvenile offenders or young adult substance use abusers (Eitle & Turner, 2003; Pérez et al., 2008; Piquero & Sealock, 2010). Also, the studies combined have examined samples of individuals of all ages. However, some researchers have used children and caregivers (Simons et al., 2003), young adults (Eitle & Turner, 2003; Moon et al., 2009) or adults (Jang & Johnson, 2003; Jang & Lyons, 2006; Jang 2007) for their sample.

The description of limitations of previous research is necessary to understand the justification for the present thesis. From discussing the weaknesses concerning sampling, variables, sample populations, and generalizability, the present thesis is able to acknowledge those limitations, and emphasize the need for this specific type of research.

Implications for the Present Thesis

There is a significant need to understand how the levels and types of stress exposure can influence different racial groups into juvenile offending. Due to the lack of research and inconsistent sample populations and variable measures, the present study is able to address past limitations of race and GST research, and help generalize the theory to different races, ethnicities, ages, and locations.

The present study examined a nationally representative sample including Whites, African Americans, and Hispanics. The first wave of data (1994-1995) from the National Longitudinal Study of Adolescent Health (Add Health) was used to identify racial variations in experiencing strain and stressful situations in a sample of seventh through twelfth grade adolescents. The dataset contained variables pertaining to family, neighborhood, community, friends, and school situations.

Overall, this study is needed because it included Whites, African Americans, and Hispanics into the analyses, used a national representative sample, and a larger age range of respondents. There are several strain and stress variables that were identified within the dataset, which will be discussed in depth in the next chapter. The present research also can address the limitations of past GST research. Lastly, it attempts to apply GST to different racial and ethnic groups in one dataset, which has yet to be studied thus far in this area of research.

Based on the core assumptions of GST, the intention is to examine racial variations GST and delinquency. From this, race-specific models will be examined to guide the research and five hypotheses. The first hypothesis guiding the research is:

H₁: Strain is likely to be significantly associated with negative affective states (depression and frustration).

Agnew believed that negative emotions are key components to GST. It is necessary to first examine if there is a direct effect between strain and negative emotionality, in order to later assess the possible mediating effects of negative affective states between strain and delinquency. The theory also suggests that those who encompass negative emotions will also more likely be strained (Broidy, 2001). Thus, the justification for H₁ is based on the key assumptions of Agnew's GST.

H₂: Minorities, relative to Whites, are more likely to experience negative emotionality (depression and frustration) due to experiencing different types of strain.

Taking into considering the strain variables and relative controls, previous research indicated that minorities are exposed to both disproportionate amounts and qualitatively different types of strain which can produce higher levels of negative emotionality compared to Whites (Kaufman et al., 2008; Higgins & Gabbidon, 2009). Therefore, it is

hypothesized that based on prior research, minorities will experience higher levels of depression and frustration due to experiencing diverse types of strain (e.g. family, neighborhood, prejudice, educational, economic, and criminal victimization.)

H_{3a}: Strain is likely to be significantly associated with delinquent coping (nonserious and serious delinquency).

Consistent with the base assumptions of GST, Agnew argued that individuals who experience strain adapt through committing criminal and delinquent acts. Therefore, justification for H_{3a} is based on the theoretical statements of GST, hypothesizing that strain will have a direct effect on nonserious and serious delinquent coping.

H_{3b}: Negative affective states (depression and frustration) will likely mediate the relationship between strain and nonserious and serious delinquency.

In other words, the direct effect of strain on delinquent coping will be mediated by depression and frustration. Thus, the justification for H_{3b} is based on Agnew's assumption that negative emotionality is a key component to understanding the link between GST and delinquency. Results from prior research have also indicated support for this assumption (Simons et al., 2003).

H₄: Minorities, relative to Whites, are more likely to experience different types of strain and increased levels of negative affect (depression and frustration), which will result in increased levels of delinquent coping.

Consistent with prior research, African Americans and Hispanics experience strain that leads to delinquent coping mechanisms (Eitle & Turner, 2003). Thus, the justification for H₄ is based on prior results that the relationship between strain, negative emotionality, and delinquency will differ by race and ethnicity (Simons et al., 2003; Jennings et al., 2009).

Chapter Four

Methodology

Data and Sample

Data used for the present thesis comes from the National Longitudinal Study of Adolescent Health (Add Health) (See Appendix 1). The original study was based on a nationally representative sample of 80 high schools and 52 “feeder schools” (e.g. middle or junior high schools) that were recruited from the community and stratified by region, urbanicity, school type, ethnic mix, and size. During the 1994-1995 school year, students in seventh through twelfth grade were randomly chosen from the class rosters of the selected schools and were interviewed in their own homes (N=6,504). The data analyzed is from the first wave of the Add Health in-home sample (1995) and were restricted to responses from White, African American, and Hispanic adolescents (N = 6,203).

Variables

The coding schemes and distributions of variables in the present thesis are presented in Table 1. The variables of interest are based on the General Strain Theory (GST) and prior research. A race and ethnicity variable was created based on the racial and ethnic background of the youth (White, Black or African American, American Indian or Native American, Asian or Pacific Islander, or Other), and if the youth considered themselves of Hispanic or Latino origin. This response was used to represent three categories: White, African American, and Hispanic. To control for the possible influence of other variables, the respondent’s age and gender were included in the analysis. Gender

was coded as a dummy variable differentiated by male = 0 and female = 1. Age was measured as a continuous variable that ranged from 11 to 20 years old.

Table 1 *Description of Variables* (N = 6,203)

Variable	Code	%	M	SD	Range
Independent					
Race	1- White	64			
	2- Black	24			
	3- Hispanic	12			
<i>Strain</i>					
<i>Family</i>					
Mom Home-School	always-never		2.59	1.49	1-5
Family – Suicide	0-no	94			
	1-yes	6			
<i>Neighborhood</i>					
Feel Safe	0-yes	89			
	1-no	11			
Feel Happy	high-low		2.08	1.03	1-5
<i>Fairness</i>					
Students – Prejudiced	disagree-agree		3.12	1.21	1-5
Teachers – Fair	agree-disagree		2.51	1.08	1-5
<i>Education</i>	low-high		11.06	4.17	4-29
<i>Economic</i>					
Mom-Welfare	low-high		.88	.873	0-2
	0-no	84			
	1-yes	16			
<i>Criminal Victimization</i>	low-high		.84	1.43	0-10
<i>Negative Affect</i>					
Depression	low to high		3.07	2.77	0-15
Frustration	low to high		1.10	1.31	0-9
Coping Resources/Controls					
Spiritual Beliefs	low to high		8.38	3.39	3-13
Adult Support	low to high		4.39	.818	1-5
Friend Support	low to high		4.25	.788	1-5
Gender	0-male	48			
	1-female	52			
Age	low to high		15.03	1.77	11-20
Maternal Attachment	low to high		18.88	3.14	4-23
Peer Substance Abuse	low to high		2.46	2.61	0-9
Dependent					
Nonserious			1.19	2.28	0-18
Serious			1.41	2.60	0-26

NOTE: Black and Hispanic were dummy coded with White as the reference group.

The concept of *family strain* was created based on two questions provided by the adolescent. Respondents were asked about the availability of the mother in the household, particularly if she was present at home when the youth returned from school (1 = always, 2 = most of the time, 3 = some of the time, 4 = almost never, 5 = never). The second question asked about family member's possible suicide attempts (0 = no, 1 = yes).

The theoretical construct of *neighborhood strain* was derived from two specific questions asking the youth if they usually felt safe in their neighborhood (0 = yes, 1 = no), and how happy they were living in their neighborhood (1 = very much, 2 = quite a bit, 3 = somewhat, 4 = very little, 5 = not at all). Both of these questions were reversed coded to indicated higher levels of strain. A measure of *fairness* was operationalized by responses to two questions to assess perceived prejudice and fair treatment of the respondent. The first question was reverse coded and specifically asked if students at their school were prejudiced (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree). The second question asked if they believed that teachers at their school treated students fairly (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

The *education strain* scale was created from a total of 8 questions to assess strain and stressful situations in the school environment. More specifically, youth were asked to respond if they had ever received and out-of-school suspension or were expelled from school (0 = no, 1 = yes). Two questions asked how often youth had trouble getting along with teachers and other students (0 = never, 1 = just a few times, 2 = about once a week, 3 = almost every day, 4 = everyday). Respondents were also asked if they feel close to

people, feel a part of, feel happy, and feel safe in the school environment (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree).

Economic strain was comprised of one scale created from two questions, and one separate variable assessing the amount of income of the respondent and family. Two questions created the economic strain scale, which asked the respondent the amount of money they earn from a non-summer or summer job, which assesses if the respondent has paying job. Responses were dichotomized so that 0 = had a job and 1 = did not have a job inferring from theoretical assumptions that not having a job would lead to economic strain. The second variable assessing economic strain asked if the respondent's resident mother is receiving public assistance (such as welfare) (0 = no, 1 = yes).

The *criminal victimization* scale was made up of five questions that specifically asked the respondent during the past 12 months, how often did "someone pull a knife on you", "someone shot you", "someone cut or stabbed you", "you got into a physical fight", or "you were jumped" (0 = never, 1 = once, 2 = more than once). Consistent with prior research, criminal victimization is believed to be type of strain that leads to delinquent coping, therefore it seemed appropriate to include this specific scale.

Negative affect was measured using two specific scales. The *depression scale* was comprised of five questions assessing if the respondent felt they could not shake off the blues, were depressed, felt sad (0 = never/rarely, 1 = sometimes, 2 = a lot of the time, 3 = most/all of the time), felt happy, or enjoyed life. Responses to feeling happy or enjoying life were reverse coded and indicated higher levels of depression. The *frustration scale* was made up of three questions that asked the respondent during the last week if they felt bothered by things that normally don't bother them, if they thought their life had been a

failure, and if people were unfriendly to them (0 = never/rarely, 1 = sometimes, 2 = a lot of the time, 3 = most/all of the time).

Consistent with the assumptions from Agnew and White (1992), an appropriate test of GST should require measures of social control and differential association to assess the connection between strain and criminal activity. To measure social control, the maternal attachment scale was created, and to measure differential association, a peer substance abuse scale was created, to account for the effect of these variables on the dependent variable.

The maternal attachment scale was comprised of a total of seven questions. The first question asked youth how close they feel to their mother (reverse coded) (1 = not at all, 2 = very little, 3 = somewhat, 4 = quite a bit, 5 = very much). They were also specifically asked in the past four weeks have they done with their mother: “talked about someone you’re dating, or a party you went to”, “had a talk about a personal problem you’re having”, “talked about school work or grades” (0 = no, 1 = yes). Lastly, they were asked three specific questions about how warm and loving their mother is, how satisfied the respondent is with the way they communicate with their mother, and overall how satisfied the respondent is with the relationship with their mother (1 = strongly disagree, 2 = disagree, 3 = neither agree or disagree, 4 = agree, 5 = strongly agree). These three questions were reverse coded so that higher values on this scale indicated higher levels of maternal attachment. The scale was limited to only questions that concerned the youth’s mother because over 30 percent of the sample reported not having a biological or resident father.

The peer substance abuse scale was used to represent the measure of differential association in order to accurately test GST. This 3-item scale asked youths to respond to questions about deviant activities of their three best friends. The respondent was asked out of their three best friends, “how many smoke at least one cigarette a day”, “how many drink alcohol at least once a month”, and “how many use marijuana at least once a month” (0 = no friends, 1 = one friend, 2 = two friends, 3 = three friends).

The spiritual beliefs scale was created in order to assess possible coping mechanisms. Previous GST research has indicated that that certain coping skills and mechanisms may help alleviate the effect of strain. The spiritual beliefs variable was a 3-item scale that reflected the extent to which the youth attended religious services and attended special activities for teenagers at places of worship (youth groups, Bible classes, or choir) (1 = never, 2 = less than once a month, 3 = once a month or more/less than once a week, 4 = once a week or more). Respondents were also asked how often they pray (1 = never, 2 = less than once a month, 3 = at least once a month, 4 = at least once a week, 5 = at least once a day). Adult support and friend support were two additional variables that were including as coping resources. Youth were asked how much they felt adults and their friends cared about them (1 = not at all, 2 = very little, 3 = somewhat, 4 = quite a bit, 5 = very much). Higher scores indicated higher levels of coping resources.

Two dependent variables were included in the present thesis. Six items were created in the nonserious delinquency scale and nine items comprised the serious delinquency scale. Concerning the nonserious delinquency scale, respondents were asked about engaging in delinquent acts in the past twelve months, including painting graffiti, damaging property, shoplifting, driving a car without the owner’s permission, and

stealing something worth less and/or more than \$50 (0 = never, 1 = one or two times, 2 = three or more times, 3 = five or more times). The serious delinquency scale was created to assess if respondents engaged in serious fighting, committed burglary, threatened to use a weapon, sold marijuana or other drugs, pulled a knife or gun on someone, or shot or stabbed someone in the past twelve months. Responses were coded the same way as the nonserious delinquency scale. The respondent was also asked in the past 30 days “how many days did you carry a weapon- such as a gun, knife, or club- to school?” (0 = none, 1 = one day, 2 = two or three days, 3 = four of five days, 4 = six or more days). Individual variables and reliability coefficients of the additive scales are presented in Appendix A.

Analysis Plan and Procedures

The analysis plan was guided by the research hypotheses. Exploratory factor analysis was first conducted. The purpose of exploratory factor analysis was to express whether the observed variables were all tapping into the same latent construct, and was conducted for all scales. Tests for reliability using Cronbach’s alpha was also used. The second step in the analysis was the estimation of ordinary least squares (OLS) regression including a baseline model with all racial and ethnic groups where strain first predicted two different negative affective states (depression and frustration). Separate models for each racial and ethnic group (White, Black, and Hispanic) were then estimated to determine possible differences in experiencing strain and negative affective states between each group. The third step included coefficient comparison tests involving z-scores (Paternoster, Brame, Mazerolle, & Piquero, 1998) to observe possible significant effects that may vary by race and ethnicity on depression and frustration (See Appendix 2).

Next, negative binomial regression (Long & Freese, 2001) was performed for predicting nonserious and serious delinquent offending because both measures of delinquency had a large number of zero values and overdispersion. Under these conditions, negative binomial regression models were appropriate because they most closely approximated the distribution of these variables. Race specific models were once again estimated to examine possible statistically significant differences predicting nonserious and serious delinquency. Finally, coefficient comparison tests were calculated to observe possible race interaction effects between strain and nonserious and serious delinquency across all three racial and ethnic groups.

Chapter Five

Results

Effects of Strain on Depression and Frustration

Table 2 presents the results from two OLS regression models of strain first predicting depression, then frustration. Comparing both models predicting two types of negative emotions, approximately twenty four percent of the variation in the depression model was explained by the included strain, race, coping resources, and relevant control variables. Twenty percent of the variation in the frustration model was explained by the same variables.

Some support for GST was found with many strain indicators having a significant effect on both depression and frustration (Hypothesis 1). Among the strain variables in the depression model, eight of the ten variables had significant effects on depression. Experiencing a family member that attempted suicide, neighborhood strain, prejudice, educational strain, and economic strain (including welfare), are more likely to experience higher levels of depression. Surprisingly, experiencing one type of family strain (mother not being home when the youth comes home from school), is associated with lower levels of depression. In other words, a one unit increase in youth being home alone after school is associated with a .06 decrease in depression. One form of educational strain (teachers treating students fairly) and experiencing criminal victimization were not significant predictors of depression.

Table 2 OLS Regression Coefficients Representing the Effect of Race and Strain on Depression and Frustration (N = 6,203)

Independent Variables	Depression	Frustration
Strain		
Mom Home-School	-.06^{b**} (.02)	-.03^{**} (.01)
Family – Suicide	.59^{**} (.13)	.32^{**} (.07)
Feel Safe	.54^{**} (.11)	.33^{**} (.05)
Feel Happy	.17^{**} (.03)	.02 (.02)
Students – Prejudiced	.09^{**} (.03)	.08^{**} (.01)
Teachers – Fair	-.02 (.03)	.01 (.02)
Education	.13^{**} (.01)	.07^{**} (.01)
Economic Strain	.09[*] (.04)	-.01 (.02)
Mom-Welfare	.30^{**} (.09)	.19^{**} (.04)
Criminal Victimization	.05 (.03)	.05^{**} (.01)
Race		
Black ^a	.21^{**} (.08)	.20^{**} (.04)
Hispanic ^a	.35^{**} (.10)	.11^{**} (.05)
Coping Resources/Controls		
Spiritual Beliefs	-.02[*] (.01)	.01 (.01)
Adult Support	-.42^{**} (.04)	-.14^{**} (.02)
Friend Support	-.15^{**} (.04)	-.10^{**} (.02)
Gender	.84^{**} (.07)	.36^{**} (.03)
Age	.10^{**} (.02)	.05^{**} (.01)
Maternal Attachment	-.12^{**} (.01)	-.02^{**} (.01)
Peer Substance Abuse	.10^{**} (.01)	.02^{**} (.01)
R ² :	.24^{**}	.20^{**}

a: White is the reference group

b: Unstandardized coefficient, S.E. (), β

* p < .05, ** p < .01

Significant race effects were found for both negative affective states even after controlling for demographic variables, coping resources, and other variables. Focusing on depression, both Blacks and Hispanics were associated with higher levels of depression compared to Whites ($p < .01$).

Hypothesis 1 was again partially supported because many strains significantly predicted frustration. Youth who experienced family strain, one type of neighborhood strain (not feeling safe in a neighborhood), prejudice, educational, welfare, and being a victim of crime are more likely to experience frustration as a negative affective state, than those who do not experience these types of strain. Having an absent mother when a youth comes home from school significantly predicts lower levels of frustration, which is in the same directional result when predicting depression. Teachers treating students fairly (educational strain) was not predictive of frustration, and one type of neighborhood strain (not feeling happy in a neighborhood) was not significantly associated with frustration.

Significant race effects were also found when predicting frustration in youth. Being Black and Hispanic is associated with higher levels of frustration compared to Whites, when controlling for all other variables. In other words, being Black is associated with a .20 increase in frustration compared to Whites, and being Hispanic is associated with a .11 increase in frustration compared to Whites.

Overall, the relative effect of strain on both depression and frustration are consistent with the theoretical assumptions of GST, where experiencing strain can lead to feelings of negative emotions. While not all measures of strain were predictive of depression and frustration, the majority of strain variables were significant determinants

of increased levels of negative affective states. Concerning the research hypotheses, results support the hypothesis that minorities compared to Whites experience higher levels of negative affective states. These overall results are also consistent with prior research that minorities experience higher levels of negative emotions due to the presence of strain and stressful situations (Kaufman et al., 2008).

Table 3 details the extent that strain varies by race and ethnicity. More specific, race specific equations were estimated to assess if these effects differ among Whites, Blacks, and Hispanics. The White model explained approximately twenty three percent of the variation in predicting depression, while twenty four percent of the variation of the dependent variable were accounted for by Blacks and Hispanics. When controlling for all relevant variables, two strain indicators (feeling safe in a neighborhood and educational strain) significantly predicted depression for all three groups. Whites, Blacks, and Hispanics are all more likely to be depressed when experiencing educational strain and neighborhood strain. Also interesting, Black youth who perceived that classmates were prejudiced were more likely to experience depression, while not being a significant predictor of depression for Whites and Hispanics. In other words, Black youth who experience a one unit increase in prejudice are associated with a .25 increase in depression, compared to White and Hispanic youth. This finding is consistent with prior research that Blacks who are more likely to perceived feelings of prejudice are more likely to encompass negative emotions (Eitle & Turner, 2003; Jang & Johnson, 2003; Simons et al., 2003).

Table 3 OLS Regression Coefficients Representing the Effect of Strain on Depression and Frustration by Race (N = 6,203)

Independent Variables	Depression			Frustration		
	White	Black	Hispanic	White	Black	Hispanic
Strain						
Mom Home-School	-.05^a* (.03)	-.04 (.05)	-.09 (.07)	-.02 (.01)	-.04 (.03)	-.04 (.03)
Family – Suicide	.53** (.17)	.80** (.27)	.31 (.37)	.25** (.08)	.49** (.15)	.32 (.18)
Feel Safe	.04 (.16)	.07 (.20)	.03 (.27)	.05 (.07)	.08 (.10)	.06 (.13)
Feel Happy	.04 (.05)	.10 (.07)	.10 (.10)	.08 (.02)	.08 (.04)	.07 (.05)
Students – Prejudiced	.22** (.08)	.07 (.03)	.16 (.06)	.03 (.02)	.01 (.03)	.02 (.04)
Teachers – Fair	.02 (.03)	.25** (.06)	.09 (.08)	.06** (.02)	.08** (.03)	.15** (.04)
Education	.01 (.04)	.11 (.06)	.04 (.10)	.06 (.02)	.06 (.03)	.13 (.05)
Economic Strain	-.02 (.04)	.02 (.06)	-.04 (.10)	.02 (.02)	-.01 (.03)	-.04 (.05)
Mom-Welfare	-.01 (.01)	-.01 (.02)	-.01 (.03)	.02 (.01)	-.01 (.01)	-.03 (.01)
Criminal Victimization	.13** (.01)	.12** (.02)	.15** (.03)	.07** (.01)	-.08** (.01)	.07** (.01)
	.20 (.05)	.17 (.08)	.21 (.11)	.24 (.02)	.24 (.04)	.20 (.05)
	.04 (.12)	.03 (.18)	-.04 (.23)	.01 (.06)	.01 (.10)	-.06 (.11)
	.03 (.03)	.06 (.05)	.03 (.06)	.03 (.02)	.08 (.03)	.09 (.03)
	.02 (.03)	.03 (.05)	.05 (.06)	.05 (.02)	.03 (.03)	.09 (.03)
Coping Resources/Controls						
Spiritual Beliefs	-.01 (.01)	-.04** (.02)	.01 (.03)	.01 (.01)	-.01 (.01)	-.01 (.02)
Adult Support	-.02 (.06)	-.05 (.08)	.01 (.12)	.02 (.03)	-.01 (.04)	-.02 (.06)
Friend Support	-.36** (.10)	-.55** (.17)	-.33** (.15)	-.13** (.08)	-.14** (.09)	-.18** (.12)
Gender	-.19** (.06)	-.06 (.08)	-.23 (.12)	-.09** (.03)	-.10* (.04)	-.16** (.06)
Age	-.05 (.08)	-.02 (.14)	-.07 (.20)	-.05 (.04)	-.06 (.07)	-.10 (.10)
Maternal Attachment	.16 (.02)	.12 (.04)	.22 (.06)	.12 (.01)	.12 (.02)	.24 (.03)
Peer Substance Abuse	.07 (.01)	.07 (.02)	.04 (.03)	.09 (.01)	.05 (.01)	.01 (.02)
	-.12** (.01)	-.13** (.02)	-.10** (.03)	-.02* (.01)	-.02* (.01)	-.02 (.02)
	-.13 (.02)	-.15 (.03)	-.11 (.04)	-.04 (.01)	-.05 (.02)	-.05 (.02)
	.12** (.02)	.05 (.03)	.06 (.04)	.03** (.01)	.02 (.02)	.02 (.02)
	.12 (.02)	.05 (.03)	.06 (.04)	.06 (.01)	.03 (.02)	.03 (.02)
R ² :	.23**	.24**	.24**	.19**	.18**	.26**

NOTE: Estimations of race interaction effects with each independent variable and both dependent variables failed to yield the presence of a statistically significant relationship at $p < .05$.

a: Unstandardized coefficient, S.E. (), β

* $p < .05$, ** $p < .01$

Family strain in the form of youth being home alone when they get home from school was a significant negative predictor of depression for only Whites. Having a

family member attempt suicide and being on welfare were significant strains that predicted depression for both Whites and Blacks, but not for Hispanics. Economic strain was a significant predictor of depression for Whites only. Two types of strain (teachers not treating students fair and criminal victimization) did not reach significance across all three racial and ethnic groups. Overall, results indicated that seven of the ten strain variables significantly predicted depression for Whites, five strain variables predicted depression for Blacks, and two strain variables predicted depression for Hispanics.

While educational strain and perceived prejudice were significant predictors of frustration for the three racial and ethnic groups, different effects were found these across groups for the remaining strain variables. Approximately nineteen, eighteen, and twenty six percent of the variation predicting frustration was explained for the White, Black, and Hispanic models, respectively. Experiencing an attempted suicide of a family member was once again significantly related to Whites and Blacks but not Hispanics in predicting frustration. Results also indicated that Whites and Blacks who do not feel safe in their neighborhood are significantly more frustrated than Hispanics, as this ethnic group was not related to frustration concerning this specific strain measure. Consistent with prior research, being on welfare (experiencing economic strain) for both Black and Hispanic youth is associated with increased frustration, while being White is not associated with this measure. Kaufman et al. (2008) argued that comparing Whites to minorities (especially African Americans), minorities are more likely to experience different types of strain that can lead to negative affective states.

Experiencing criminal victimization is a significant predictor of frustration for Whites and Hispanics, but not for Blacks. Once again, youth who perceived that teachers

do not treat students fair was not related to frustration for all three racial groups. Surprisingly, compared to the results predicting depression, being home alone when youth come home from school, not feeling happy in a neighborhood, and experiencing economic strain did not significantly predict frustration for any of the racial and ethnic groups.

Overall, five strain measures significantly predicted frustration for both Whites and Blacks, and four strain measures predicted frustration for Hispanics. Comparing both types of negative emotions, Whites experience different types and a higher quantity of strains conducive to depression than frustration, Hispanics are more likely to experience more and different types of strains that predict frustration compared to depression, and Blacks experience the same quantity and types of strains for both depression and frustration.

No statistically significant race interactions were found when coefficient comparisons were made across the three separate race models predicting depression and frustration. At this point, the results point to the belief that different types of strain indicators played out similarly across racial and ethnic groups when predicting depression and frustration. In other words, support was not found for the second hypothesis. Even though Whites, Blacks, and Hispanics experienced different types and magnitudes of strain, these results did not statistically differ between each racial and ethnic group. In addition to using z-score comparisons of the unstandardized regression coefficients to assess for interactions, separate models were also estimated using race interaction terms with the independent (strain) variables and the dependent variables (depression and frustration). The results confirmed the use of the z-scores.

Effects of Strain on Nonserious and Serious Delinquency

Table 4 presents the results from the negative binomial regression predicting nonserious delinquency. First, the direct effects of strain on nonserious delinquency were examined (Model 1). Second, Blacks and Hispanics were added into the equation to assess for possible race effects (Model 2). Third, the potential mediating effects of depression (Model 3) and frustration (Model 4) were included in the model. Finally, Model 5 presents the full model including strain, race, depression, frustration, and relevant control variables examining their effects on nonserious delinquency.

Model 1 indicated that numerous strains predicting nonserious delinquency were statistically significant (chi-square = 2017.01, df = 17, $p < .001$). However, more measures of strain predicted higher levels of depression and frustration, compared to predicting nonserious delinquency. Five specific strain measures had direct effects on deviant coping mechanisms. Model 2 presents the inclusion of both racial and ethnic variables (chi-square = 2051.13, df = 19, $p < .001$). Results indicated that Hispanics are associated with higher levels of nonserious delinquency compared to Whites, but no race effects were found for Blacks. All significant strain variables still significantly predicted nonserious delinquency with the inclusion of Blacks and Hispanics. Somewhat surprising, not having a job (economic strain) significantly predicted nonserious delinquency, but in the other direction. In other words, not having a job is associated with lower levels of nonserious delinquency.

Table 4 Negative Binomial Regression Coefficients Representing Models for Nonserious Delinquency (N = 6,203)

Variables	Nonserious				
	Model 1	Model 2	Model 3	Model 4	Model 5
Strain					
Mom Home-School	.09^{b**} (.13)	.09^{**} (.01)	.09^{**} (.01)	.09^{**} (.01)	.09^{**} (.01)
Family – Suicide	.11 (.07)	.11 (.07)	.10 (.08)	.10 (.07)	.10 (.07)
Feel Safe	-.03 (.06)	-.07 (.06)	-.09 (.06)	-.08 (.06)	-.09 (.06)
Feel Happy	.05^{**} (.02)	.05^{**} (.02)	.05[*] (.02)	.05^{**} (.02)	.05[*] (.02)
Students – Prejudiced	.02 (.02)	.02 (.02)	.02 (.01)	.04 (.02)	.02 (.02)
Teachers – Fair	.04[*] (.02)	.04[*] (.02)	.04[*] (.02)	.04[*] (.02)	.04[*] (.02)
Education	.03^{**} (.01)	.03^{**} (.01)	.03^{**} (.01)	.03^{**} (.01)	.03^{**} (.01)
Economic Strain	-.04 (.02)	-.05[*] (.02)	-.05[*] (.02)	-.05[*] (.02)	-.05[*] (.02)
Mom-Welfare	.09 (.05)	.07 (.05)	.06 (.05)	.06 (.05)	.06 (.05)
Criminal Victimization	.19^{**} (.01)	.18^{**} (.01)	.18^{**} (.01)	.18^{**} (.01)	.18^{**} (.01)
Race					
Black ^a		.01 (.05)	.01 (.05)	.01 (.05)	.01 (.05)
Hispanic ^a		.33^{**} (.06)	.31^{**} (.06)	.32^{**} (.06)	.31^{**} (.06)
Depression			.04^{**} (.01)		.03^{**} (.01)
Frustration				.05^{**} (.02)	.01 (.02)
Coping Resources/Controls					
Spiritual Beliefs	-.01[*] (.01)	-.02[*] (.01)	-.01[*] (.01)	-.02[*] (.01)	-.01[*] (.01)
Adult Support	-.11^{**} (.02)	-.12^{**} (.02)	-.10^{**} (.02)	-.11^{**} (.02)	-.10^{**} (.02)
Friend Support	.08^{**} (.03)	.09^{**} (.03)	.09^{**} (.03)	.09^{**} (.03)	.09^{**} (.03)
Gender	-.37^{**} (.04)	-.39^{**} (.04)	-.42^{**} (.04)	-.40^{**} (.04)	-.42^{**} (.04)
Age	-.12^{**} (.01)	-.12^{**} (.01)	-.13^{**} (.01)	-.13^{**} (.01)	-.13^{**} (.01)
Maternal Attachment	-.06^{**} (.01)	-.06^{**} (.01)	-.06^{**} (.01)	-.06^{**} (.01)	-.06^{**} (.01)
Peer Substance Abuse	.15^{**} (.01)	.15^{**} (.01)	-.15^{**} (.01)	.15^{**} (.01)	.15^{**} (.01)
Log Likelihood					
Chi Square	2017.01^{**}	2051.13^{**}	2074.60^{**}	2060.40^{**}	2075.20^{**}

a: White is the reference group

b: Unstandardized coefficient, S.E ().

* p < .05, ** p < .01

Depression was the first negative affect added to the equation (Model 3) and estimated alongside the strain, race, and ethnic variables (chi-square = 2074.60, df = 20, p < .001). Depression was statistically significant, along with the same strain measures and Hispanic variable that were significant in the previous two models. Being Black was still

not significantly related to nonserious delinquency, compared to Whites. Frustration was also a statistically significant predictor of nonserious delinquency (Model 4), still including the previous strain and Hispanic variable (chi-square =2060.40, df = 20, p <.001). All of these measures continued to be significant predictors of nonserious delinquency.

Finally, the results from the full model (Model 5) indicated that having a parent absent when youth came home from school, feeling unhappy in their neighborhood, teachers not treating students fair, experiencing educational strain, and being a victim of crime were all directly related to higher levels of nonserious delinquency (chi-square = 2075.20, df = 21, p <.001). All of these strain variables have a direct effect on committing nonserious delinquent acts. Therefore, partial support for the first part of the third hypothesis was found. Six of the strain measures were significantly associated with nonserious delinquent coping, yet not having a job was significantly related to decreased levels of nonserious delinquency. Surprisingly, having a family member attempt suicide, not feeling safe in their neighborhood, youth believing their schools peers are prejudice, and experiencing economic strain the form of receiving welfare did not predict nonserious delinquent coping. The difference in the logs of expected counts is expected to be 0.31 units higher for Hispanics compared to Whites. In other words, being Hispanic still had a direct effect on nonserious delinquency, while being Black failed to have significant direct effects throughout all five models. These results are inconsistent with prior research.

Eitle and Turner (2003), for example found that Blacks were exposed to greater levels of stress than Whites and Hispanics. They concluded that racial differences in

criminal activity were explained by differences in strain exposure. In this case, Hispanics were related to nonserious delinquency, but not Blacks. However, recall from Table 2 that being Black, compared to Whites, was significantly related to higher levels of depression and frustration. From this, there is the belief that there is an indirect effect between Blacks and nonserious delinquency, through the effect of depression. Depression still significantly predicted nonserious delinquency, while frustration failed to reach significance once depression was added to the full model. In other words, Blacks who are depressed are more likely to commit nonserious delinquency. Since Hispanics also had a direct effect on nonserious delinquency, this measure also significantly predicted depression and frustration. From this, the relationship between being Hispanic and committing nonserious delinquency may be affected through experiencing depression.

In summary, results indicate in the full model (Model 5) that certain strain measures still directly effect nonserious delinquency while controlling for all relevant variables. Therefore, the mediating effects of depression and frustration do not give much merit. Strain is still directly related with nonserious delinquency even with the inclusion of negative emotionality. Moon et al. (2009) found similar results when examining anger as a mediating negative emotion. Anger did not mediate the relationship between strain and deviant behavior. Overall, support was not found for the second part of Hypothesis 3. Negative affective states did not mediate the relationship between strain and nonserious delinquency. There is not much of a mediating relationship involving race and ethnicity are both of these continued to play a role in committing nonserious deviant coping.

Table 5 presents the results from the negative binomial regression predicting serious delinquency. Following the same order for estimating each model as described for nonserious delinquency, the results from Model 1 indicated that only three types of strain significantly predicted serious delinquency. Compared to nonserious delinquency, experiencing educational strain, welfare, and criminal victimization were the only strain measures that were statistically significant predicting serious delinquency (chi-square = 3684.21, $df = 17$, $p < .001$).

When Black and Hispanic measures were added to the model (Model 2), both variables had direct effects on serious delinquency (chi-square = 3727.67, $df = 19$, $p < .001$). All previous significant strain measures continued to be significant. Being Black and Hispanic, compared to Whites, is associated with higher levels of serious delinquency, compared to nonserious acts where only Hispanics were significant. Once again, depression was the first negative emotion entered into the model (Model 3), and significantly predicted serious delinquency (chi-square = 3742.74, $df = 20$, $p < .001$). All previously significant variables continued to have direct effects and continued to be predictors of serious delinquent coping mechanisms. The results from Model 4 indicated that when depression was removed and frustration was added to the model, relevant strain, racial, and ethnic models still predicted serious delinquency (chi-square = 3742.04, $df = 20$, $p < .001$). Frustration was also significantly associated with the outcome variable. Up to this point in the analysis, there little evidence of mediating effects of depression or frustration on serious delinquency by strain, race and ethnicity, and relevant controls.

Table 5 Negative Binomial Regression Coefficients Representing Models for Serious Delinquency (N = 6,203)

Variables	Serious				
	Model 1	Model 2	Model 3	Model 4	Model 5
Strain					
Mom Home-School	.02 ^b (.01)	.01 (.01)	.02 (.01)	.02 (.01)	.02 (.01)
Family – Suicide	.06 (.07)	.06 (.07)	.05 (.07)	.05 (.07)	.04 (.07)
Feel Safe	.01 (.06)	-.03 (.06)	-.04 (.06)	-.05 (.06)	-.05 (.06)
Feel Happy	.03 (.02)	.02 (.02)	.02 (.02)	.02 (.02)	.02 (.02)
Students – Prejudiced	-.01 (.02)	.01 (.02)	.01 (.02)	.01 (.02)	.01 (.02)
Teachers – Fair	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)	.03 (.02)
Education	.05** (.01)	.05** (.01)	.05** (.01)	.05** (.01)	.05** (.01)
Economic Strain	-.02 (.02)	-.04 (.02)	-.04 (.02)	-.04 (.02)	-.04 (.02)
Mom-Welfare	.17** (.05)	.13* (.05)	.12* (.05)	.12* (.05)	.12* (.05)
Criminal Victimization	.44** (.01)	.43** (.01)	.43** (.01)	.43** (.01)	.43** (.01)
Race					
Black ^a		.30** (.05)	.30** (.05)	.29** (.05)	.29** (.05)
Hispanic ^a		.23** (.06)	.23** (.06)	.23** (.06)	.23** (.06)
Depression					
			.03** (.01)		.02* (.01)
Frustration					
				.06** (.02)	.04* (.02)
Coping Resources/Controls					
Spiritual Beliefs	.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Adult Support	-.04 (.02)	-.05 (.02)	-.03 (.02)	-.04 (.02)	-.03 (.03)
Friend Support	-.02 (.02)	-.01 (.02)	.01 (.02)	.01 (.02)	.01 (.02)
Gender	-.47** (.04)	-.48** (.04)	-.51** (.04)	-.51** (.04)	-.52** (.04)
Age	-.10** (.01)	-.10** (.01)	-.11** (.01)	-.11** (.01)	-.11** (.01)
Maternal Attachment	-.02** (.01)	-.02** (.01)	-.02** (.01)	-.02** (.01)	-.02** (.01)
Peer Substance Abuse	.12** (.01)	.13** (.01)	.13** (.01)	.13** (.01)	.13** (.01)
Log Likelihood					
Chi Square	3684.21**	3727.67**	3742.74**	3742.04**	3747.42**

a: White is the reference group

b: Unstandardized coefficient, S.E ().

* p < .05, ** p < .01

Finally, the results from the full model (Model 5) indicated that experiencing education strain, welfare, and criminal victimization significantly predicted serious delinquency (chi-square = 3747.42, df = 21, p < .001). More specifically, for a one unit increase in criminal victimization, the difference in the logs of expected counts of serious

delinquency would be expected to increase by 0.43 units. Therefore, partial support for the first part of the third hypothesis was found. Three of the strain measures were significantly associated with serious delinquent coping. Unexpectedly, experiencing family strain, neighborhood strain, unfairness, and not having a job were not significantly related to serious delinquency. Overall, while support for GST was found in predicting serious delinquency, there was increased support for the theory when predicting nonserious delinquent coping. Concerning race and ethnicity, the difference in the logs of expected counts is expected to be 0.29 units higher for Blacks compared to Whites, and 0.23 units higher for Hispanics compared to Whites. In other words, being Black and Hispanic continued to have a direct effect on serious delinquency, and results also indicated that race still plays a role in committing delinquency. Once again, recall from Table 2 that Blacks and Hispanics had direct effects on depression on frustration. Therefore, the effects of race and ethnicity may be working through negative affective states to predict serious delinquency. Also shown in the full model (Model 5), both depression and frustration directly affect serious delinquency, compared to only depression predicting nonserious delinquency (Table 3, Model 5).

In summary, relevant strain, racial, and ethnic variables continued to have direct effects on serious delinquency. Once again, support was not found Hypothesis 3b. Depression and frustration did not mediate the relationship between strain and serious delinquency. Therefore, the results do not support the assumptions of GST that negative emotionality mediates the relationship between strain and delinquency.

Table 6 presents the extent that strain varies by race and ethnicity when predicting nonserious and serious delinquency. More specific, separate race equations were

estimated for both types of delinquency to determine if these effects differ among Whites, Blacks, and Hispanics.

Table 6 Negative Binomial Regression Coefficients Representing Models for Nonserious and Serious Delinquency by Race (N=6,203)

Independent Variables	Nonserious			Serious		
	White	Black	Hispanic	White	Black	Hispanic
Strain						
Mom Home-School	.09*** (.02)	.12** (.03)	.08* (.04)	.01 (.02)	.02 (.03)	.09* (.04)
Family – Suicide	.11 (.10)	.03 (.16)	.10 (.19)	.03 (.10)	.11 (.14)	-.10 (.19)
Feel Safe	-.17 (.09)	-.02 (.11)	-.04 (.14)	-.20* (.10)	.04 (.10)	.02 (.14)
Feel Happy	.02 (.03)	.14** (.04)	-.01 (.05)	-.01 (.03)	.05 (.04)	-.04 (.06)
Students – Prejudiced	.02 (.02)	.05 (.03)	-.03 (.05)	.01 (.02)	.04 (.03)	-.04 (.05)
Teachers – Fair	.03 (.03)	.06 (.04)	.07 (.05)	.01 (.03)	.08* (.03)	.02 (.06)
Education						
Economic Strain	-.01 (.03)	[[[-.16**]] (.05)	-.06]]] (.01)	.01 (.03)	-.13** (.04)	-.08 (.06)
Mom-Welfare	.01 (.07)	.18 (.10)	.09 (.12)	.01 (.08)	.26** (.09)	.17 (.12)
Criminal Victimization	.19** (.02)	.17** (.03)	.17** (.03)	.46** (.02)	.39** (.03)	.38** (.03)
Negative Affect						
Depression	.03** (.01)	.03 (.02)	.04 (.02)	.02 (.01)	.01 (.02)	.03 (.02)
Frustration	.02 (.02)	.02 (.03)	-.02 (.05)	.04 (.02)	.06 (.03)	-.01 (.05)
Coping Resources/Controls						
Spiritual Beliefs	-.02* (.01)	-.03** (.01)	.02 (.02)	-.01 (.01)	.01 (.01)	.01 (.02)
Adult Support	-.13** (.03)	-.08 (.05)	-.06 (.06)	-.03 (.03)	-.05 (.05)	-.03 (.06)
Friend Support	.05 (.03)	.14** (.05)	.10 (.12)	.01 (.04)	-.01 (.04)	.07 (.06)
Gender	-.46** (.05)	-.43** (.08)	-.23** (.12)	-.60** (.05)	-.43** (.08)	-.31** (.11)
Age	-.12** (.02)	-.14** (.02)	-.14** (.03)	-.11** (.02)	-.11** (.02)	-.12** (.03)
Maternal Attachment	-.06** (.06)	-.04** (.01)	-.06** (.02)	-.03** (.01)	-.01 (.01)	-.01 (.02)
Peer Substance Abuse	-.16** (.01)	.11** (.02)	.12** (.02)	.14** (.01)	.11** (.02)	.10** (.02)
Log Likelihood						
Chi Square	1430.11**	430.11**	240.99**	2416.16**	804.72**	487.99**

a: Unstandardized coefficient, S.E ().
 [[[]]]: Significant interaction at p < .05
 * p < .05, ** p < .01

Focusing first on nonserious delinquency, when controlling for all relevant variables, three strain indicators significantly predicted nonserious delinquent coping for all three groups. Youth coming home from school and their mother not being home, and experiencing educational strain and criminal victimization were all significantly related to

increased levels of committing nonserious delinquency. Whites, Blacks, and Hispanics are all more likely to be involved in nonserious delinquent coping when experiencing these three types of strain.

Four types of strain (having a family member attempt suicide, youth not feeling happy in their neighborhood, perceived unfairness, and being on welfare) did not reach significance across all three racial and ethnic groups. The relationship between experiencing prejudice/discrimination and delinquent outcomes has been found in prior research (Simons et al., 2003; Moon et al., 2009), yet was not supported in this study predicting nonserious delinquency. Results indicated that three of the strain variables for Whites, four strain variables for Blacks, and three strain variables for Hispanics significantly predicted serious delinquent coping.

Youth not feeling happy in their neighborhood was significantly related to nonserious delinquency for only Blacks. Surprisingly, Blacks also experienced decreased levels of nonserious delinquency when they did not have a job, while this relationship failed to reach significance for Whites and Hispanics. Being depressed was related to the outcome measure for only Whites. Being depressed was not a significant predictor of nonserious delinquency for Blacks or Hispanics. Jang & Lyons (2006) found that Blacks who were depressed was a significant predictor of delinquency, but they examined inner-directed deviant coping behavior (not delinquent coping). Frustration as a negative affective state was not a significant predictor of nonserious delinquency for either racial or ethnic groups.

Table 6 also presents race specific equations predicting serious delinquency. When controlling for all relevant variables, two strain indicators (compared to three

predicting nonserious delinquency) significantly predicted serious delinquent coping for all three racial and ethnic groups. Once again, experiencing educational strain and criminal victimization was associated with higher levels of serious delinquency. Whites, Blacks, and Hispanics are all more likely to commit serious delinquent acts when experiencing educational strain and previous criminal victimization. Consistent with prior research, educational strain was positively related to violent behavior in Hispanics (Pérez et al., 2008). Three types of strain (having a family member attempt suicide, youth not feeling happy in their neighborhood, and youth perceiving that their classmates are prejudiced) did not reach significance across all three racial and ethnic groups. Results indicated that three of the strain variables for Whites, five strain variables for Blacks, and three strain variables for Hispanics significantly predicted serious delinquent coping.

Teachers not treating students fairly and receiving economic assistance in the form of welfare were significant predictors for serious delinquency for only Blacks. Kaufman et al. (2008) argued that African Americans compared to Whites are more likely to experience discrimination (unfairness) and economic strain, which can lead to delinquent coping mechanisms. These results are consistent with Kaufman et al.'s (2008) statements. Not having a job was once again significantly related to decreased levels of serious delinquency for Blacks, and did not reach significance for Whites or Hispanics. Recall, the same result occurred when predicting nonserious delinquency also. Surprisingly, White youth did not feel safe in the neighborhood were associated with lower levels of serious delinquency, but not for Blacks and Hispanics. According to GST, feelings of neighborhood strain are related to higher levels of delinquency, not

lower. Youth being home alone from school without their mother present was a significant predictor of serious delinquency for only Hispanics.

Both types of negative emotionality (depression and frustration) were not significant predictors of serious delinquency for either racial or ethnic groups. Recall from Table 3, Whites, Blacks, and Hispanics did experience certain types of strains that predicted depression and frustration. However, experiencing these negative affects does not have a significant relationship with serious delinquency that is statistically different between all three groups.

Comparing both types of delinquent coping styles, Whites are more likely to experience more types of strain and depression as a negative affect conducive to nonserious delinquency than serious delinquency. Blacks experience the same number of strain predicting both types of delinquent behavior, but the types of strain vary between nonserious and serious delinquent coping. Lastly, Hispanics experience the same quantity and type of strains for both types of delinquent coping.

One statistically significant race interaction was found, when coefficient comparisons were made across the three separate race models on nonserious delinquency. Blacks who are unemployed (compared to Hispanics) are less likely to commit nonserious delinquent acts. While this result is in the opposite direction of GST's assumptions (unemployment is a type of strain that can lead to delinquent coping), previous research has found that unemployment has been related to less criminality (Britt, 1994). No significant race interactions were found when coefficient comparisons were made across the race models predicting serious delinquency. The results point to the belief that different types of strain indicators played out similarly across racial and ethnic

groups when predicting serious delinquency, yet one significant race interaction was found between Blacks and Hispanics concerning the relationship between neighborhood strain and nonserious delinquency.

In turn, support was not found for the fourth hypothesis. While Whites, Blacks, and Hispanics experienced different types and magnitudes of strain (as predicted by the fourth hypothesis), these results did not statistically differ between each racial and ethnic group when predicting serious delinquency. The only interaction effect between two racial groups was between one measure of strain predicting nonserious delinquency between Blacks and Hispanics.

Chapter Six

Discussion and Conclusion

The purpose of this study was to assess if different types and magnitudes of strain and stress exposure influence involvement in delinquent behavior and to assess if these relationships are conditioned by race and ethnicity. In other words, the present thesis attempted to indentify if strain differentially affects White, African American, and Hispanic adolescents. Based on previous critiques of criminological strain theories and lack of research on the link between strain, race, and delinquency, this study improved upon earlier work in numerous ways. Specifically, this study examined various types of strains and measures of negative emotionality while using a nationally representative sample of White, Black, and Hispanic youth and incorporated a larger respondent age than in previous research.

Five research hypotheses guided the study that examined the effect of General Strain Theory (GST), race, and delinquent coping. Overall, support for GST was found in regards to the direct relationship between strain and negative affective states, and the relationship between strain and delinquency. Two of the core assumptions of GST is that strain and stressful situations lead to feelings of negative emotionality, and is also directly associated with delinquency (Agnew, 1992). However, support was not found for GST's assumption that negative emotionality mediates the relationship between strain and delinquent coping. Therefore, only partial support overall was found for GST. Regarding the relationship between strain, negative emotionality, delinquency, and race,

support was not found for the prediction that minorities relative to Whites experience different types of strain that lead to depression, frustration, and delinquency. While all three racial and ethnic groups did experience certain types of strain that lead to negative emotionality and delinquent behavior, statistically, these groups were not different from each other. Overall, partial support for GST was found throughout this study, since negative emotionality did not mediate the relationship between strain and delinquency. Also, race and ethnicity still directly play a role in delinquent offending. These findings point to the belief that minorities commit more delinquent acts compared to Whites, even after accounting for specific strains they may have experienced.

Regarding each specific research hypothesis, some support was first found for GST because numerous strain indicators significantly predicted negative emotionality. Numerous types of strain in the forms of family problems, perceptions of neighborhood life, being a victim of racial prejudice and/or crime, educational issues, and economic troubles either predicted feelings of depression, frustration, or both types of negative emotionality. These results generally support the first research hypothesis. Eight out of the ten measures of strain were related to depression, and seven measures were related to feelings of frustration in youth. These findings support Agnew's (1992) theoretical assumptions and prior research that strain produces negative emotionality (Brezina, 1996; Aseltine et al., 2000; Simons et. al, 2003). Based on these results, depression and frustration are two types of negative emotionality and are actually adaptive responses from experiencing stress and strain. While anger has been predominately researched as the main negative affect in testing GST, these results promote the use of additional types of negative emotionality as a response to strain.

Based on prior research and the theoretical model of GST (see Broidy, 2001) the possible relationship between strain and negative emotionality was examined first. This was done in order to later inspect the possibility that negative emotionality may mediate the relationship between strain and delinquent coping. When first examining the link between strain and depression and frustration, several strain indicators were related to both measures of negative emotionality. This result lead to questioning whether the measures of depression and frustration were actually connected, instead of indicating two separate negative affect states. In other words, since many of the same types of strains were related to both feelings of depression and frustration, an inquiry was made to address in further detail the possible relationship between depression and frustration. A separate OLS regression model was estimated that included all measures of strain, race, relevant controls, and frustration predicting depression. Another OLS regression model was estimated with depression predicting frustration. Results confirmed that frustration predicted depression and depression predicted frustration. No significant race interactions were found throughout the two models. An examination for collinearity showed some overlap between depression and frustration. The zero-order correlation was 0.58. However, the diagnostic indicators (e.g. variance inflation factor (VIF), tolerance) revealed acceptable levels of shared association. Furthermore, depression and frustration did not cluster together from the results of exploratory factor analysis. This confirmed that the two measures are somewhat distinct; therefore they were utilized as two separate measures of negative emotionality.

Regarding the second hypothesis, the results of this study did not find support that minorities compared to Whites were more likely to experience feelings of negative

emotionality due to experiencing different types of strain. Whites, Blacks, and Hispanics collectively experienced certain types of strain (not feeling safe in their neighborhood and educational problems) that were related to feelings of depression. All three groups also experienced strain in the form of prejudice from classmates and educational problems that were related to frustration. Also, as described earlier from the results, certain races and ethnic groups did individually experience different types of strains conducive to depression and frustration. For example, the results indicated that Black youth compared to Whites and Hispanics who believed that their classmates were prejudiced were more likely to be depressed. This is not entirely surprising since prior research has indicated that Blacks who are victims of prejudice are more likely to experience negative emotionality (Eitle & Turner, 2003; Jang & Johnson, 2003; Simons et al., 2003). In other words, minorities are more likely to experience prejudice compared to Whites, and these perceived feelings can occur at any age. However, it must be noted that none of the strains examined in the present study were statistically different between Whites, Blacks, and Hispanics. Therefore, this gives less merit to the results differentiating each racial and ethnic group to what strains they experienced and the relationship between feelings of depression and frustration. On the one hand, within the framework of GST, White, Black, and Hispanic youth may experience different types of victimization, family, neighborhood, economic, and educational strains due to possible differences in each individual's social environment. On the other hand, collectively as specific racial and ethnic groups, these groups are not statistically different from each other.

Support was also found for the first part of the third hypothesis that strain would be directed related to delinquency, and these results generally supported GST. In other

words, numerous strain measures were directly associated with nonserious and serious delinquent coping. Certain strain in the forms of family, neighborhood, educational, criminal victimization, and unfairness were associated with higher levels of nonserious delinquency. Not having a job was associated with lower levels of nonserious delinquency, indicating the possibility that youth who are unemployed are less likely to commit nonserious delinquent acts. While not consistent with GST (joblessness can be considered a form of strain conducive to delinquent coping), prior research has found an association with unemployment and lower crime rates (Glaser & Rice, 1959; Gibbs, 1966; Smith et al., 1992; Britt, 1994).

Concerning serious delinquency, educational strain, being on welfare, and being a victim of crime were all associated with higher levels of serious delinquency. In particular, criminal victimization has been seen by Agnew (1992) and previous research (Lauritsen, Sampson, & Laub, 1991) as a type of noxious stimuli that is linked with delinquency. If youth have been victimized, they may see the victimization as unjust and cope through delinquent means. Results also confirm prior research that forms of educational and school strain are related to delinquency (Agnew, Brezina, Wright & Cullen, 2002). If youth have certain problems at school and do not enjoy their educational experience, they may act out in delinquent means. Agnew et al., (2002) also found that strain in general was more likely to lead to delinquent coping in youth between the ages of twelve and sixteen, which is within the age range of the present study. Overall, these results are consistent with previous research that numerous strain measures are significant predictors of delinquency, and bring continued support to GST through the

results of the present thesis (Agnew & White, 1992; Paternoster & Mazerolle, 1994; Baron, 2004).

However, support was not found for the second part of the third hypothesis that negative affective states mediate the relationship between strain and delinquency. Inconsistent with GST, negative emotionality (depression and frustration) did not mediate this relationship. Agnew's assumption that negative emotionality (particularly anger) mediates the effect of strain on criminal activity has shown mixed empirical results either supporting (Mazerolle & Piquero, 1997; Simons et al., 2003) or not supporting (Moon et al., 2009; Piquero & Sealock, 2010) this assumption of mediation. The results of this study indicated that certain strain measures still directly affected nonserious and serious delinquency, therefore depression and frustration did not mediate the relationship between strain and crime. Based on these results, the depression and frustration measures of negative emotionality used in this study could be considered a measure of strain. Being depressed or frustrated were directly related to delinquent coping, and therefore could have been measured as an indicator of strain, not a negative affective state.

The present results did not find support for the fourth hypothesis. While the hypothesis stated that minorities relative to Whites were more likely to experience more and different types of strain that would result in delinquent coping, only one significant race interaction was found. More specific, Blacks who are unemployed (compared to Hispanics) are less likely to commit nonserious delinquent acts. Once again, as described earlier, this result is in the opposite direction of GST's assumptions. Moreover, no significant race interactions were found in relation to serious delinquency.

From these results it is assumed that strain indicators played out similarly across racial and ethnic groups when predicting serious delinquency, as Whites, Blacks, and Hispanics were not statistically different from one another. While White, Black, and Hispanic youth who experienced educational strain and criminal victimization were more likely to commit both types of delinquency, each group was statistically the same. Therefore, the process of strain in the way it is related to delinquency operates statistically similar across race, but there may be some differences qualitatively in the way some strains work uniquely for different racial and ethnic groups. When individual race and ethnic models were estimated, there was some variation within each White, Black, and Hispanic models that indicated some differences between the groups. The results found that certain races experienced different types of strain that resulted in delinquent coping, so there may be some differences substantially (even if not statistically) different across groups. Statistically though, these results do not give much merit to the prediction that White, Black, and Hispanic youth experience different types and magnitudes of strain that are conducive to delinquent coping.

From the results of the present thesis, it can be generally assumed that the connection between GST, race, and delinquency merits further investigation. While results indicated that certain racial and ethnic groups experienced different types of strains, they were not statistically significant across all groups. These findings can be interpreted as one of the first studies to attempt to identify different types of strain that Whites, Blacks, and Hispanics each experience, and attempted to identify if GST can be universally applied to these three groups. In the end, GST can be applied to White, Black, and Hispanic youth with the results pointing to the notion that these groups do

experience certain types of strain that lead to delinquent coping. This conclusion has also been reached in prior research finding that different racial and ethnic groups have experienced strains that led to delinquent coping (Eitle & Turner, 2003; Jang & Johnson, 2003; Moon et al., 2009; Pérez, et al., 2008; Piquero & Sealock, 2010). Even though this research has applied GST to certain racial and ethnic groups, only one of these studies compared Whites, Blacks, and Hispanics in the same study (Eitle & Turner, 2008). Lastly, there is the caveat that the results in the present thesis indicate that Whites, Blacks, and Hispanics do not significantly differ between each other in term of what types of strain they experience, even if they do experience different types of strain and stressful situations.

It must be noted that the present research is not without its limitations. Possible explanations for the lack of support for the research hypotheses could be from the use of secondary data, and the measures used to define the strain and negative emotionality variables. Possible reasons for the failure to find significant race interactions between strain and delinquent coping could be from inadequate measures of strain. Since White, Black, and Hispanic youth were found to experience different types of strain conducive to delinquent coping, but these groups were not statistically different from each other (with one exception), future significant relationships could possibly be found with better measurements of strain.

The Add Health study collects data to examine the link between individual health attitudes and health related behavior, but not specifically designed to measure the effect of stress and strain on delinquent coping. Also, the Add Health study originally oversampled Blacks whose parents had a college degree and three other ethnic groups.

Therefore, the sample includes a high proportion of minority adolescents from middle-class and upper-middle-class backgrounds.

In relation to the accuracy of how strain was measured in the present thesis, the indicator of fairness was measured based on feelings of perceived fairness of teachers and prejudice of classmates. This indicator was considered a proxy for perceived unjust treatment. However, this assumption is solely based on the respondent's answer to the two specific questions, whether this type of strain actually occurred compared to the youth's response is unknown. Interview questions in the Add Health study did not specifically ask respondents about possible encounters with racial or ethnic discrimination. From this limitation, feelings of perceived fairness and prejudice by classmates and teachers were believed to be the best indicator of this type of strain.

Also, Agnew (1992) argued that anger as a negative affect is the most significant emotion within GST. Unfortunately, the data used in the present thesis does not ask respondents about questions referring to feelings of anger. While this may make the present study not a true test of GST, two measures of negative emotionality (depression and frustration) were still examined. Depression as a negative affect has been suggested by prior research to be examined in the link between strain and delinquency (Agnew 1992; Broidy, 1991; Agnew, 2002) as well as frustration (Agnew, 1995; Agnew, 1999) because frustration can be seen as parallel to anger.

The use of cross-sectional data (only examining one wave of data of the Add Health study) is also a weakness of the present study. The need for longitudinal data with a short lag between each wave of data collection would be beneficial to understand the link between strain, negative emotionality, and criminal coping. However, this

methodology is rarely seen in criminological research due to limitations of resources, and other studies examining GST and race have also utilized cross-sectional data (Jang & Johnson, 2003; Jang & Lyons, 2006; Jang 2007; Pérez et al., 2008; Moon et al., 2009; Higgins & Gabbidon, 2009).

Future research should continue to examine the applicability of GST to different racial and ethnic groups. An important feature in criminological theory is the ability to generalize and apply its assumptions throughout numerous ages, groups, and locations. From this, future studies should examine more racial and ethnic-specific strains that African Americans and Hispanics experience, to specifically address different types of strains that minorities experience compared to Whites.

The present thesis found that minorities were still involved in higher levels of delinquency compared to Whites even when taking into account ten measures of strain. These findings lead to the possible assumption that the reason Blacks and Hispanics commit more delinquency than Whites is not entirely due to experiencing more and different types of strain and stressful situations. In other words, the link between race, ethnicity, and delinquency cannot be fully explained by GST. There may be other possible explanations for the reasons that African Americans and Hispanics are more likely to be involved in delinquent offending compared to Whites. Some reasons for this disproportionate involvement could be due to minorities living in more underclass neighborhoods (Peeples & Loeber, 1994; McNulty & Bellair, 2003), having a lower socioeconomic status (Duncan & Brooks-Gunn, 1997), and experiencing increased family disruption (Sampson, 1987). Specific indicators of these types of measures were

not available in the present thesis, therefore possibly explaining for some of the hidden reasons why minorities were more involved in delinquent coping.

Future studies should also attempt to examine the applicability of GST to specific gender and racial dyads. Expanding Broidy and Agnew's (1997) gender specific propositions of GST to numerous racial and ethnic groups would be beneficial to understanding the link between gender, race, and crime. Also, measures of additional types of negative emotionality should be included in GST research. Jang and Lyons (2006) in particular have examined negative emotionality in terms of anger, depression, and anxiety. Future research should identify other negative affective states (e.g. grief, fear, jealousy) that arise from strain and stressful situation, and how these emotions may mediate the relationship between strain and delinquency.

Future research examining race and GST should apply more advanced levels of analytic procedures. To more completely understand the effects of neighborhood, family, and economic strain, macro-level indicators of poverty, divorce, and unemployment rates can integrate GST into a multi-level theory. This can be done by combining both Agnew's (1992) micro-level and Agnew's (2006) macro-level strain theory. Presently, this has only been done in a few studies (Brezina, Piquero, and Mazerolle, 2001; Warner & Fowler, 2003; Wareham, Cochran, Dembo, & Sellers, 2005). For example, Agnew (2006) argued that high-crime communities are more likely produce strain in individuals, and foster delinquent and criminal coping resources. Exploring the impact of macro-level strain indicators on delinquency committed by Whites, Blacks, and Hispanics can further the popularity of GST.

Finally, the research presented here did find partial support for GST. From this, certain crime control and prevention implications can be considered. Agnew (1995) specifically addressed four recommendations for crime control based on GST's theoretical assumptions. First, reduce negative relationships within adolescent's social environment. Second, change the way youth respond to their social environment and decrease the probability of negative or delinquent coping. Third, increase the amount of social support by friends, family, and teachers (when controlled, adult and friend support were not found to be significant predictors of serious delinquency in the present study). This recommendation would tailor best to youth who commit nonserious delinquent acts. The results from the present study found that social support of adults, friends, and religiosity were related to lower levels of nonserious delinquency. From this, GST is better applied to nonserious delinquent coping, than serious delinquency. Finally, youth should be taught effective coping mechanisms when encountered with strain or stressful situations.

From this, family and parenting based programs can reduce the amount of negative emotionality in youth by teaching parents efficient discipline practices and problem solving abilities. Results from the present study found that educational strain is a major stressor in all race and ethnic groups. Also, school based programs to enhance the relationship between youth and their classmates and teachers can help decrease the prevalence of educational strain. Finally, teaching individuals to cope with strain and stressful situations can lead to better management of negative emotionality.

It is unrealistic to assume that strain can be completely eliminated from everyday life, but more macro-level programs to help enhance neighborhood conditions and

decrease feelings of neighborhood strain would be beneficial. Also, attempting to decrease the amount of one type of strain can lead to decreasing other types of strain simultaneously. Improving neighborhood conditions can also decrease the amount of criminal victimization within neighborhoods. Being a victim of crime regardless of race was significantly associated with future delinquent coping. Overall, no matter what racial or ethnic group experiences certain types or magnitudes of strain, it is beneficial to all groups to address policy implications that can attempt to decrease the amount of crime and delinquency.

Despite the present study's shortcomings, this research has found continued support for GST, while incorporating less examined concepts of negative emotionality, and most important the influence of strain on different racial and ethnic groups. This study found that GST by itself does not entirely count for delinquent offending in African Americans and Hispanics, since strain was directly related to nonserious and serious delinquency in both groups compared to Whites. There are still other possible explanations for the connection between Blacks and Hispanics offending that GST was not able to determine. In the end, this was the first known study to incorporate additional negative affective states that were not examined in previous research, and observed the relationship between strain, negative emotionality, and delinquency across three racial and ethnic groups. The present study addressed Agnew's (2006) suggestion for future research to examine the effect of strain and stressful situations on other negative emotions besides anger. Continued research in this area is needed to assess the generalizability and applicability of GST throughout all races and ethnic groups, to enhance the recognition and reputation of this criminological theory.

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Appendices

Appendix 1: Data Use Statement

This research uses data from Add Health, a program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill, and funded by grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 23 other federal agencies and foundations. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health website (<http://www.cpc.unc.edu/addhealth>). No direct support was received from grant P01-HD31921 for this analysis.

Appendix 2: Z Score Statistical Test Formula

$$Z = \frac{b_1 - b_2}{\sqrt{SEb_1^2 + SEb_2^2}}$$

Appendix 3: Measures of Key Theoretical Constructs

Variable	Individual Items	Alpha
Education Strain	<ol style="list-style-type: none"> 1. Have you ever received an out-of-school suspension from school? 2. Have you ever been expelled from school? 3. How often did you have trouble, getting along with your teachers? 4. How often did you have trouble, getting along with other students? 5. You feel close to people at your school. 6. You feel like you are a part of your school. 7. You are happy to be at your school. 8. You feel safe in your school? 	.72
Economic Strain	<ol style="list-style-type: none"> 1. How much money do you earn in a typical non-summer week from all your jobs combined? 2. How much money do you earn in a typical summer week from all your jobs combined? 	.72
Criminal Victimization	<p>During the past 12 months, how often did each of the following things happen?</p> <ol style="list-style-type: none"> 1. Someone pulled a knife or gun on you. 2. Someone shot you. 3. Someone cut or stabbed you. 4. You got into a physical fight. 5. You were jumped, 	.66
Depression	<p>How often was each of the following true during the last week?</p> <ol style="list-style-type: none"> 1. You felt that you could not shake off the blues, even with help from your family and friends. 2. You felt depressed. 3. You were happy. 4. You enjoyed life. 5. You felt sad. 	.78
Frustration	<p>How often was each of the following true during the last week?</p> <ol style="list-style-type: none"> 1. You were bothered by things that usually don't bother you. 2. You thought your life had been a failure. 3. People were unfriendly to you. 	.49
Maternal Attachment	<p>In the past 4 weeks, have you done with your mother:</p> <ol style="list-style-type: none"> 1. Talked about someone you're dating, or a party you went to. 2. Had a talk about a personal problem you were having. 3. Talked about your school work or grades. 4. How close do you feel to your mother? 5. Most of the time, your mother is warm and loving toward you. 6. You are satisfied with the way your mother and you communicate with each other. 7. Overall, you are satisfied with your relationship with your mother. 	.74
Spiritual Beliefs	<ol style="list-style-type: none"> 1. In the past 12 months, how often did you attend religious services? 2. How often do you pray? 3. Many churches, synagogues, and other places of worship have special activities for teenagers- such as youth groups, Bible classes, or choir. In the past 12 months, how often did you attend such activities? 	.80

Appendix 3: Measures of Key Theoretical Constructs (Continued)

Variable	Independent Items	Alpha
Peer Substance Abuse	Of your 3 best friends, how many: 1. Smoke at least 1 cigarette a day? 2. Drink alcohol at least once a month? 3. Use marijuana at least once a month?	.75
Non Serious Delinquency	In the past 12 months, how often did you: 1. Paint graffiti or signs on someone else's property or in a public place? 2. Deliberately damage property that didn't belong to you? 3. Take something from a store without paying for it? 4. Drive a car without the owner's permission? 5. Steal something worth less than \$50? 6. Steal something worth more than \$50?	.76
Serious Delinquency	In the past 12 months, how often did you: 1. Get into a serious physical fight? 2. Hurt someone badly enough to need bandages or care from a doctor or nurse? 3. Go into a house or building to steal something? 4. Use or threaten to use a weapon to get something from someone? 5. Sell marijuana or other drugs? 6. Take part in a fight where a group of your friends was against another group? During the past 12 months, how often did each of the following things happen: 7. You pulled a knife or gun on someone. 8. You shot or stabbed someone. 9. During the past 30 days, on how many days did you carry a weapon- such as a gun, knife, or club- to school?	.75