

CAN GENERAL STRAIN THEORY EXPLAIN WHITE-COLLAR CRIME?
A PRELIMINARY INVESTIGATION

By

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Agnew's General Strain Theory has been tested across a wide range of populations and on numerous criminal and analogous behaviors. For a theory to be truly "general" it must be applicable to both street crimes and white-collar crimes. However, the ability of General Strain Theory to predict white-collar offending has never been explored. Using a dataset drawn from the presentence investigation reports of convicted white-collar offenders, this research tests the pertinence of General Strain Theory for eight different white-collar offenses. The results reveal that General Strain Theory is useful for predicting a select group of white-collar offenses but may not be generalizable to individuals committing corporate-type crimes. Additionally, the findings suggest that the types of strain and negative emotion at work in a General Strain model for white-collar offending may differ from those seen in more typical deviant behaviors. The implications for white-collar crime studies are discussed.

CHAPTER 1 INTRODUCTION

When Merton (1938) and Sutherland (1940) first presented their respective strain theory and notion of white-collar crime, their concerns and fundamental assumptions were completely at odds with one another. While Sutherland's primary focus was on the crimes of the socially elite and powerful, Merton and other classical strain theorists (Cloward and Ohlin, 1960; Cohen, 1955) were busy delineating a causal path between low social class status and crime. Although evidence from these early strain theories suggests that strain can and does predict crime at lower socio-economic levels, the basic focus on the stresses associated with being poor is incompatible with studies of white-collar crime.

Early strain theory faced substantial and damaging criticism. To begin with, the first empirical tests of the theory were focused on its ability to explain the delinquency of urban, lower-class male gangs only (Cohen, 1955, Cloward and Ohlin, 1960), and its application beyond this parochial group appeared limited. Even more importantly, however, arguments were raised against the theory's fundamental assumption that there is uniform pressure at all levels of society to achieve wealth, but that only the poor suffer from the disjunction between wanting wealth and being able to actually acquire it. Kornhauser (1978), for one, noted that those with wealth may feel equally strained by the desire to gain even more money as those with less to begin with. She also noted that the delinquent youths from Cohen's and Cloward and Ohlin's studies suffered from both low expectations and low aspirations, suggesting that the problem was not a strain-inducing

gap between what they wanted and what they got (Kornhauser, 1978). These and other criticisms (see also Akers, 1996; Agnew, 1995) served to weaken support for strain theory, and by the 1980s the theory had been largely abandoned within criminology.

In 1992, however, Robert Agnew significantly revitalized and extended classic strain theories with his General Strain Theory (GST). In GST, Agnew postulates that strain need not be specifically tied to economic status since it actually operates through negative emotions rather than simply by the rejection of legitimate means or definitions of success. Thus, individuals from all social classes can engage in criminal behavior because they can all experience negative emotions arising from strain, and this modification helped to restore strain theory to a place of theoretical prominence within criminology.

Empirical tests of GST have been conducted with a wide range of samples, both criminal (Piquero and Sealock, 2000) as well as non-offending populations, including youths (Agnew and White, 1992; Aseltine et al., 2000; Brezina, 1996; Paternoster and Mazerolle, 1994), college students and adults (Mazerolle and Piquero, 1997, 1998; Broidy, 2001). The theory has also been examined across gender (Broidy and Agnew, 1997; Eitle, 2002; Hoffman and Su, 1997; Mazerolle, 1998; Hay, 2003; Piquero and Sealock, 2004) and race (Jang and Johnson, 2003), and for violent crimes, property crimes, and other deviant behaviors. To date, however, no research has explored the adequacy of GST for predicting acts of white-collar crime.

This is not to suggest that the white-collar crime literature is devoid of theoretical explanations. In fact, many mainstream theories, such as deterrence (Block et al., 1981; Hollinger and Clark, 1983; Simpson and Koper, 1992; Makkai and Braithwaite, 1994),

Goffredson and Hirschi's general theory of crime (Hirschi and Goffredson, 1987, 1989; Benson and Moore, 1992; Reed and Yeager, 1996; Herber et al., 1998; Simpson and Piquero, 2002), rational choice theory (Paternoster and Simpson, 1993,1996) and neutralization (Cressey, 1953; Benson, 1985; Hollinger, 1991) have been used to explain white-collar and corporate crimes. Among the dominant theories used to explain corporate crimes, however, are organizational theories, based on the idea that the environment and attitudes within certain corporations foster criminal behavior. While organizational theories indicate that two very separate lines of thought are needed to explain white-collar crime and street crimes (Clinard and Quinney 1973; Clinard and Yeager 1980; Vaughan 1983), Agnew's General Strain Theory implicitly suggests the opposite. If, in fact, GST is a truly "general" theory of crime it should be able to account for both "crimes of the suites" as well as "crimes of the streets" (Nader and Green, 1972).

The applicability of GST to explain white-collar crime has been hinted at by Agnew among others. The most obvious connection of course, is the claim that the theory is a general theory focused on an individual's psychological reaction to his or her social environment. Through this assertion, the theory purports to be able to explain all types of offending, including white-collar crime. In addition, some research has focused on the positive correlation between the pursuit of money and delinquent behavior (Wright et al., 2001). Researchers have taken note of a monetary strain placed on white-collar offenders, pointing out that white-collar criminals are often driven by the fear of falling, or in others words, the stress of losing what they have worked so hard to gain (Wheeler, 1992; Weisburd et al., 1991; Coleman, 1995). Agnew further argues that an inability to legitimately achieve one's desired monetary success is an important type of strain, and he

then states, “many middle and upper class people in the United States want more money than they can have and obtain through legitimate channels” (Agnew, 2001b, p162).

Finally, Agnew cautiously acknowledges that “certain types” of white-collar crime could be solutions to the strain of excessive demands associated with conventional pursuits like a well-paid job (Agnew, 2001a, p341). Thus, the foundation has already been established for applying General Strain Theory with white-collar crime outcomes.

According to GST, individual level stressors and reactions (e.g. negative emotions) to these adverse challenges are at the root of all criminal acts. On the other hand, organizational theories have typically turned to the general atmosphere and climate within a business or corporation in order to explain why white-collar and corporate crimes occur. While this research attempts to explore whether GST, an individual-level, social-psychological theory can predict white-collar offending, it is not designed to turn a blind eye to the organizational theory put forth by white-collar and corporate crime scholars. It is important to note, however, that this research deals strictly with the crimes of natural persons, actual individuals who committed occupational crimes. It does not extend the reach to include juristic persons, corporations or businesses charged with a crime (Coleman, 1990, 1996). Thus, corporate crime is only included to the extent that an individual is charged for his or her own particular participation in a corporate-type offense.

There is a great deal of gradation among white-collar crimes in terms of definition, complexity of the offense, the number of individuals involved, and degree of victimization inflicted, and this differentiation seems to be related to the social and economic status of the offender. For example, more complex, large-scale, corporate-type

offenses, such as antitrust and securities violations, tend to be committed by middle-aged white males with a much higher socioeconomic status than the average offender (Weisburd et. al., 1991). More individual, less organized white-collar crimes, such as credit fraud and embezzlement, tend to be perpetrated by persons who enjoy less financial stability and social status (Weisburd, et al., 1991). Therefore, this study conducts a modest test of GST beginning with the assumption that GST should be able to predict the lower level white-collar offenses, (e.g., mail and wire fraud and bank embezzlement), but that organizational theories, or perhaps a combination of GST and organizational theories, may be better equipped to provide an explanation for individuals charged in connection with corporate-type offenses (e.g., antitrust).

The contribution of this study to the GST literature is an assessment of the theory's applicability for helping to understand white-collar crime. For GST to be legitimately declared a general theory of crime, it must be able to explain white-collar offenses as well as the usual deviant behaviors and property and violent offenses. In light of prior research offering mixed results regarding the association between strain and nonviolent offenses, a test of GST on white-collar offenses will be particularly revealing of the depth and scope of the theory. This study will examine the relationship between strain, coping, and outcome for white-collar offenders.

The following chapter consists of a literature review on General Strain Theory. The third chapter discusses the data and the methods to be utilized in this research. Chapter four presents the results, and the last chapter provides the discussion and conclusion and outlines several potential future research directions.

CHAPTER 2 LITERATURE REVIEW

General Strain Theory

Agnew's General Strain Theory (GST) (1992, 1995, 2001) deviates from previous, less successful, macro-level strain theories (see Cloward and Ohlin, 1960, Cohen, 1955, Merton 1938) by focusing on the social-psychological aspects of strain rather than examining it as a social structural variable. The classic strain theorists blamed the unequal distribution of opportunities across society for lower class delinquency. They argued that lower class individuals were strained by a lack of ability to gain the material wealth and success that societal norms pushed them to covet (Merton, 1938; Cohen, 1955; Cloward and Ohlin, 1960). However, these classic versions of strain theory were limited in their scope of explanation and theoretical depth. On the other hand, by taking into account personal conceptualizations and reactions to strain, Agnew's GST is intended to provide an individual explanation for both why crime occurs and why it does not occur across all levels of society.

Agnew (1992) identifies three cardinal categories of strain. The first classification, failure to achieve positively valued goals, is divided into three subsets: the disjunction between aspirations and expectations, the disjunction between expectations and actual achievements, and the disjunction between just/fair outcomes and actual outcomes. The disjunction between aspirations and expectations refers to the strain type experienced by many lower class individuals, who feel culturally encouraged to covet monetary success, yet are also unable to legitimately gain more assets than debt. The disjunction between

expectations and actual achievements can be understood in terms of an individual who expects to have a stable career yet is incapable of holding down a job for a consistent period of time. An example of the disjunction between just/fair outcomes and actual outcomes is the strain that results if an individual feels under-rewarded for his or her actions or accomplishments.

The second type of strain is the removal of positive stimuli from the individual, and the third form is the presentation of negative or noxious stimuli. The removal of positive stimuli refers to the strain resulting from events such as the death of a friend or family member or the loss of a spouse. The presence of noxious stimuli is exemplified as such experiences as physical punishment or a polluted and noisy living environment. While GST posits that each type of strain ultimately leads to deviance for slightly different reasons, all three types are thought to increase the likelihood that an individual will experience negative emotions in proportion to the magnitude, duration, and recency of the stress. More specifically, Agnew (2001a) clarifies that the strains most likely to result in crime are those seen as unjust and high in magnitude, associated with low social control, and creating some incentive to engage in criminal behavior. Additionally, it has been noted that objective strains (most easily measured in GST tests) and subjective strains (specific events or conditions that are unpleasant to a specific individual) are two distinct entities (Agnew, 2001a; Capowich et al., 2001), and that an individual level theory such as GST needs to take into account specific, personal reactions to negative stimuli.

According to Agnew, strain-induced negative emotions, such as anger or other unpleasant emotional states, can lead an individual to crime/delinquency if other

adaptations or coping strategies are not mobilized. Tests of GST, however, yield mixed results regarding whether negative emotion actually mediates between strain and criminal behavior or whether strain has more of a direct relationship with crime. Several studies have found strain-induced anger to be the primary negative emotion to exert a significant effect on deviance (Piquero and Sealock, 2000; Broidy, 2001). Others have found that the significant mediating impact of anger is limited to situations of violence (Aseltine et al., 2000; Capowich et al., 2001; Mazerolle, 2000; Mazerolle and Piquero, 1998; Piquero and Sealock, 2000), and even that anger actually has an indirect effect on crime and strain a direct effect (Mazerolle, et al., 2000). Theoretically, however, GST essentially predicts that an individual feels strained, is either successful or unsuccessful at adapting to the stress through coping mechanisms, and if not successful, resorts to any means necessary, including illegal, to correct the original cause of the strain.

In addition to strain and negative emotion, coping mechanisms are also incorporated into GST. Agnew identifies means of cognitive, behavioral, and emotional coping that allow an individual to adapt to strain rather than react to strain. Cognitive coping mechanisms are enacted through such strategies as minimizing the importance of goals/values, lowering standards for evaluating outcomes, and taking personal responsibility for adversity. Behavioral coping strategies include vengeful behaviors and actions that attempt to correct the strainful situation, such as leaving an unpleasant environment. Finally, when the first two prove unsuccessful, emotional coping tactics work to ease negative emotion and include everything from the use of stimulants or depressants, to meditation, to physical exercise and deep-breathing.

Empirical Tests of GST

Numerous empirical tests of GST have been conducted since its introduction in 1992, each examining different aspects of the theory or investigating its relevance for individuals within various groups or populations. One of the very first tests of GST was conducted by Agnew and White (1992) using a sample of juvenile delinquents from the Rutgers Health and Human Development data set. After holding constant measures of social control and differential association, they found that measures of negative life events (e.g., life hassles, parental fighting, negative relations with adults and neighborhood problems) were all significantly correlated with delinquency and drug use. Furthermore, Agnew and White also found support for their hypothesis that delinquent friends or associates would increase the effect of strain on analogous behavior and limited support for the theory that self-efficacy would reduce these same effects. Self-efficacy was found to have a significant impact on delinquency outcomes but not drug use.

Paternoster and Mazerolle (1994) conducted a similar test of GST with data from the National Youth Survey. After controlling for variables from social control and differential association theories, the authors also found strain to have a significant positive association with delinquency, stronger than the correlation between delinquency and the measures from either of the other two theories. Their preliminary causal model showed strain to indirectly affect delinquency by weakening social bonds and increasing associations with delinquent others.

Aseltine and his colleagues (2000) used a sample of high school students to further explore the generalizability of GST and the interaction between strain and levels of social and personal resources in impacting deviant behavior. The authors found negative life

events and conflict with family members to be significantly and positively related to adolescent violent behaviors. However, they did not find strain to impact marijuana use, implying that GST may not be applicable for nonviolent deviant acts. Additionally, the authors found very limited evidence to suggest an interaction effect of deviant peers, self-efficacy, and parental support on the relationship between strain and deviant behavior. On the other hand, Mazerolle and his colleagues' (2000) test of GST among juveniles found strain to have a direct effect on violent outcomes while risk factors like deviant associates and weak social constraints interact with strain to foster nonviolent analogous behaviors.

Brezina's (1996) test of GST on 11th grade male students investigated GST's view of delinquency as a rational, adaptive response to unpropitious environments. His research found support for the theory's assumption that strain is positively associated with the experience of negative emotions like anger, resentment, anxiety, and depression. Results also revealed that the impact of strain on these emotions appears greater when participation in delinquency is low, and lessens when participation in deviance is higher. In other words, preliminary research suggests that delinquent behavior does facilitate the process of coping with the socio-emotional problems caused by negative social relations.

In the final study to test the assumptions of GST on a juvenile population, Agnew and his colleagues (2002) used the National Survey of Children to focus on the impact of personality on individual reactions to strain. The authors found a positive relationship between delinquency and family, school, peer, and neighborhood strains and found the relationship to be exacerbated among individuals who possess the personality characteristics of negative emotionality and low constraint. When these two personality

traits were high in strain they appeared to have an impact on criminal versus noncriminal reactions to the strain.

Other researchers have performed empirical tests of GST on college students. Mazerolle and Piquero (1997, 1998) examined GST's ability to predict drunk driving, shoplifting, and fighting outcomes. For fighting, the authors found limited support for GST's supposition that anger mediates between strain and intentions to engage in deviant behavior. Additionally, after controlling other theoretical perspectives, such as moral beliefs and exposure to deviant peers, GST again received only restricted support. Rather than the variables from GST operating above and beyond those from other theories to predict offending behavior, Mazerolle and Piquero found that strain effect might actually operate indirectly through such factors as moral beliefs and deviant peers.

Broidy (2001) similarly analyzed the relationships among strain, anger, coping, and crime for students at a northwestern university, controlling for relevant demographic and personality variables. She found mixed support for GST's assumption that strain and deviance are positively linked by anger, uncovering that strain as the failure to achieve one's goals actually has a negative effect on anger responses. Likewise, only non-angry negative emotions were significantly associated with legitimate coping mechanisms. Support was shown for the GST assumption that strain-induced anger increases the likelihood of deviance, controlling for coping.

Piquero and Sealock (2000) designed the first study that examined the ability of GST to explain the criminal actions of an offending sample of juveniles. The authors studied the relationship between strain, negative emotion, coping, and both property and violent offenses. Their research revealed that the overall effects of the major variables

are in the direction predicted by GST, but that negative affect, namely anger, mediates between strain and deviant behavior in violent offenses only.

Jang and Johnson (2003) tested the applicability of GST on a sample of African American respondents, hypothesizing that a member of a minority may be more prone to psychological distress due to common experiences of racism and economic disadvantage. The authors also looked at individual internal and external traits impacting the decision to cope with strain and negative affect in a delinquent versus nondelinquent fashion. Their study found support for the major tenants of GST, namely, that strain had a positive effect on negative emotions, which, in turn, had a positive effect on deviant activity. Additionally, they found that strain had a greater effect on outer-directed emotions, like anger, than on inner-directed emotions, and that outer-directed emotions had a greater tendency to result in outer- rather than inner-directed deviance. They further proposed that the effects of strain on inner-directed emotions might be greater for whites than for blacks.

Finally, several tests of GST have tested the theory's ability to account for gender differences in criminality (Broidy and Agnew, 1997; Eitle, 2002; Hoffman and Su, 1997; Mazerolle, 1998; Hay, 2003). Each of these studies looked at the types and levels of strain that men and women experience and how the strain, in turn, correlated with delinquency. Hoffman and Su (1997) examined differences in men and women's interpersonal relationships, yet found stressful life events among males and females to be similarly related with delinquency. Broidy and Agnew (1997) and Eitle (2002) specifically touched on the relationship between the strain of perceived gender oppression and female criminal activity. Eitle's (2002) test of this relationship revealed

that negative life events and the perception of being a victim of a major act of discrimination increased the likelihood of female criminal involvement but that experiences of day-to-day discrimination did not have a significant effect on deviant behavior. More generally, however, all of the results suggested that GST works to explain both male and female criminality and that there may be an association between the gender gap in criminal or deviant behavior and the types of strain and gender-related differences in coping that men and women experience (Eitle, 2002; Mazerolle, 1998; Hay, 2003).

In sum, empirical assessments of GST have found the theory to be relatively successful at explaining individual variations in property and violent offenses for juveniles, college students, offenders, minorities and between men and women. However, research has yet to apply GST to white-collar offenders, despite the fact that Agnew and others have, in fact, provided several pieces of insight that suggest GST should be able to predict white-collar crimes. Until a test of GST and white-collar crime is completed, the question of whether GST is truly a “General” theory of crime remains to be seen.

CHAPTER 3 DATA AND METHODS

Sample

The data in this paper is extracted from Wheeler, Weisburd, and Bode's 1976-1978 "Nature and Sanctioning of White Collar Crimes" study. These data are unique in that they contain key measures of GST concepts and criminal outcomes that do not exist elsewhere.

The participants in the study are convicted white-collar offenders (individuals only, businesses and corporations are not included) in seven federal judicial districts: central California, northern Georgia, northern Illinois, Maryland, southern New York, northern Texas, and western Washington. The districts represent major metropolitan centers of the United States and cover a wide geographic range.

Over three fiscal years, 1976, 1977, and 1978, up to 30 individuals in each of these seven federal judicial districts were selected for each of eight offense types, namely bribery, bank embezzlement, mail and wire fraud, tax fraud, false claims and statements, credit and lending institution fraud, postal theft, and postal forgery¹. Additionally, all known co-defendants of these core sample members and all individuals convicted of SEC violations and antitrust offenses in federal courts nationally during the study time period were included in the sample as well. Thus, the research incorporates white-collar offenses with low levels of victimization and organizational complexity, those that

¹ The data set originally included 12 categories of offense type. Income tax offenses were divided into four categories. Forgery was separated from false claims and statements and postal and interstate wire fraud was distinguished from postal larceny and theft. However, the authors formed eight offense categories out of the original 12 (Weisburd et.al, 1991) and this research follows their lead.

involve considerable amounts of planning and participation and cause substantial harm, and even those offenses that fall somewhere between the two extremes (Weisburd et al., 1991).

For the resulting sample of 1,910 convicted white-collar offenders, comprehensive information about the offense, socio-economic indicators, and offenders' views about the offense was gathered from pre-sentence investigation reports (PSIs), obtained from the Administrative Office of the U.S. Court. In other words, the data includes measures of a number of Agnew's (1992, 2001a) strain-causing variables.

As seen in Table 1, the sample is 84 percent male and 16 percent female, a distribution which is fairly reflective of gender differences in offending across all crime types. The mean age of the included defendants at the time of the study is 40 years but the total age range spans from 18 to 78 years old. Thus, not only will GST be tested for the first time with white-collar offenders, the sample is also much older than the high school and college samples most commonly utilized for GST testing (Agnew and White, 1992; Broidy, 2001; Mazerolle and Piquero, 1997, 1998).

Additionally, it has been previously noted that although the offenders are clearly more "white-collar" than typical street offenders, many occupying positions of wealth, power, and status at the time of their offense, a significant portion of the sample includes average middle-class Americans (Weisburd et al., 1991; Weisburd et al., 1995). The crimes are also such that opportunities to commit any number of them are available to the common individual. In other words, the offenders in the sample were not necessarily living privileged, stress-free lives, and this provides a basis for exploring whether

personal strain factors contribute to offending for all types of white-collar crimes and criminals.

Table 1 Descriptive Stats

Variable	Mean	Standard Deviation	Minimum	Maximum
Age	39.69	12.248	18	78
Race (1=nonwhite)	0.254	0.435	0	1
Sex (1=male)	0.840	0.369	0	1
Prior Arrest	5.560	6.766	0	65
Coping	1.142	0.877	0	6
Strain	1.119	0.947	0	4
Motivation				
Personal	0.233	0.423	0	1
Financial	0.448	0.497	0	1
Business	0.319	0.466	0	1
Offense				
Embezzlement	0.120	0.325	0	1
Tax Fraud	0.137	0.344	0	1
Credit Fraud	0.088	0.283	0	1
Mail/Wire Fraud	0.248	0.432	0	1
Bribery	0.051	0.240	0	1
False Claims	0.178	0.322	0	1
Antitrust	0.061	0.240	0	1
SEC violations	0.118	0.322	0	1

Variables

Strain

In order to measure strain in a manner that reflects each angle of the characterization of strain in GST (Agnew, 1992), a cumulative index composed of six different variables was developed. This measure is designed to represent a count of strainful events. Therefore, higher values represent the presence of more strainful events. However, none of the offenders reported having all six strain measures. The items included in the index are “Number of legal marriages,” “Description of defendant’s neighborhood at time of PSI,” “How is defendant’s overall academic performance in school described,” “Total value of defendant’s assets (in thousands of dollars) at time of PSI,” “Total value of defendant’s liabilities (in thousands of dollars) at time of PSI,” and

“How would you describe defendant’s employment history over the past five years?”

Although prior research has successfully utilized similar strain scales in GST studies (Mazerolle, 1998; Mazerolle et al., 2000; Mazerolle and Piquero, 1997), Agnew (2001a) point out that such cumulative measures fail to provide information about which individual strain types actually have the strongest impact on deviant behavior. However, because this is a first test of GST among white-collar criminals, the attempt is simply to gauge whether higher strain influences offending at the white-collar level. The influence of specific types of strain should be explored at a later point.

The first variable, “Number of legal marriages,” originally ranged from none to five or more, was changed into a dichotomous variable, coded one (1) for two or more legal marriages and zero (0) for none to one marriage. Under the assumption that more than one marriage requires the defendant to have experienced the loss of a spouse at some point, a score of one reflects the type of strain described in GST as the removal of positively valued stimuli. Previous studies examining the types of strain most related to crime in adults also identify marital problems as a critical variable (Agnew et al., 1996; Sampson and Laub, 1993; Holmes and Rahe, 1967).

The second type of strain, “description of the defendant’s neighborhood at time of PSI,” was also condensed into a dichotomous variable. The original variable extended from “lower class (poor, bad, etc.),” given a value of one, to “upper class (exclusive, wealthy, magnificent, etc),” given a value of five. For the strain index, however, a score of one for this particular variable indicates that the defendant’s neighborhood was either lower class or lower middle class, and a zero represents a neighborhood described as middle class or better. The inclusion of this variable in the scale gives representation to

the GST classification of strain as the presentation of negative stimuli, since it has been noted in previous research that residing in a noxious or deprived neighborhood can be considered a cause of stress (Agnew, 1999; Mazerolle and Piquero, 1998; Paternoster and Mazerolle, 1994).

The variable referring to the defendant's academic performance in school was incorporated into the scale as a measure of the type of strain resulting from the failure to achieve positively valued goals. Agnew (1992) originally used inability to accomplish a certain grade-point average as one of his examples of the type of strain that results from the disjunction between expectations and actual achievement. Thus, below average academic performance fits into the GST model under the same heading. However, subsequent tests of the strains most related to street crimes have suggested that poor academic performance does not have a significant impact on offending (Agnew, 1995; Agnew, 2001a; Paternoster and Mazerolle, 1994). Due to the composition of the sample this variable is believed to have the expected impact. White-collar offenders are significantly better educated than both common criminals and the general public (Weisburd et al., 1991). Since educational attainment is referred to as a mark of social status, and thus believed to have a greater stake in conformity, poor academic performance is likely to result in greater stress for a white-collar offender than for the common criminal. The academic performance variable was recoded so that the defendant is given a one if academic performance in school is described as below average and zero if his or her performance is classified as average or above average.

Total asset and total liabilities were transformed into a single dichotomous variable. Both variables were originally coded on an interval scale ranging from 000,

corresponding to a monetary value of 0 to \$1,000, up to 996, a monetary value of \$996,000 or more. A dummy variable was created by re-coding the previous categories into one (1) if liabilities were greater than assets and a zero (0) if liabilities were less than assets. The greater liabilities than assets element of the strain index is reflective of the stress that Agnew (1992) identifies as resulting from the disjunction between aspirations and actual achievements, or more specifically, the unsuccessful pursuit of monetary success. Prior research has shown failure to achieve economic goals to be one of the types of strain most highly related to offending (Agnew, 2001a; Agnew et al., 1996; Sampson and Laub, 1993).

The final variable included on the strain index, “How would you describe D’s [defendant’s] employment history over the past five years,” can be interpreted as measuring both the tension that results from the removal of a positively valued stimuli and/or the failure to achieve positively valued goals. Again, the original variable, which ranged from 1=steady employment to 5=steady unemployment, was reconstructed as a dichotomous variable. A value of zero equates to steady employment and a value of one indicated that the defendant’s employment history over the five years prior to the PSI ranged from steady employment with periods of unemployment to steady unemployment. Any period of unemployment implies that at some point the individual encountered job-related problems, and under GST the presence of any unemployment or adverse conditions at work may be a source of strain (Agnew, 1992, 2001a; Sampson and Laub, 1993).

The inter-item correlations of the five factors in the strain index are presented in Table 2. Four of the items were significantly correlated at $p < .05$, and three of those were

correlated at $p < .01$. However, the significant associations are all weak to moderate, signifying that the statistical significance may be the result of the large sample size rather than a true relationship. The index is a cumulative scale ranging from 0, none of the strain factors, to 5, all of the strain factors, rather than an average of the factors.

Table 2 Strain Index Correlations

	Academics	Assets/ Liabilities	Employment	Marriage	Neighborhood
Academics	1				
Assets/Liabilities	-0.062	1			
Employment	.221**	0.039	1		
Marriage	0.012	0.013	.061*	1	
Neighborhood	.224**	0.028	.349**	-0.045	1

* = significant at $p < .05$

** = significant at $p < .01$

Motivation

The offenders' expressed motivations for committing the white-collar offenses, as derived from the PSIs, serve as a proxy for negative affect in the GST model. The motivations are essentially subjective, situationally-based measures of the offenders' reaction to strain. This is important because the motivations are measuring emotional reactions to a specific situation rather than a trait-based emotion. It is, thus, an improvement upon the extant literature which tends to rely upon trait-based measures of emotion. The motivations are divided into three general categories: financial motives, personal/non-financial motives, and business motives.

Offenders are coded as having financial motives if they made references during the pre-sentence investigation to either the presence or absence of monetary need and also to the reception of a financial gain. An example of a financial motive is the offender reporting a pecuniary need to pay off debts incurred from an addiction like gambling (Wheeler et al., 1979).

Personal motives refer to any reasons for committing the crime, beyond financial need or want, which originate with the offender. Examples of personal motivation include “personal distress, frustration with the system and an inability to control oneself” (Wheeler et al., 1979). These are differentiated from the business/environment type motivations “which act upon D [the defendant] and may be seen as systemic pressures or forces” (Wheeler et al., 1979). The business/non-personal/non-financial motivation category includes rationales such as being coerced by others, obeying orders from a superior, or just following the normal business practices of the profession (Wheeler et al., 1979).

Each of the three motivations are coded as separate dichotomous variables. The variable measuring financial motivations is quantified as (1) “financial motivation” or (0) “other motivations”. The variable measuring personal motivations reads (1) “personal motivation” or (0) “other motivations,” and the same coding system is also employed for the business motivation variable. Thirty-two percent of the offenders in the sample articulated business-related motives for their actions, 45% reported financial motivation, and 23% stated personal motives.

While motivation is not a pure measure of negative affect, it does reflect the spirit of negative emotion. Motivation is that element which has provoked the offender to react in a criminogenic manner. The personal motivations include measures of negative emotion, such as frustration and emotional distress, which Agnew directly articulates in GST, and the financial motives are indirect measures of the feelings of wanting or needing more than what one has. Additionally, the motivations touch on situational rather than dispositional negative affect, which other authors have recognized to be a

critical distinction in GST tests (see Capowich et al., 2001). Thus, it is anticipated that these two types of motivation will work in the GST model for white-collar offending in the same fashion as negative affect is predicted to. On the other hand, the business-type motivations do not directly relate to the self-interest of the offender, and therefore should fall in line with organizational theory explanations for offending and more organizational types of white-collar crime.

Offense Type

The outcome variables refer to the category of white-collar crime committed by the offender. There are eight types of white-collar offenses included in the analysis: antitrust, bribery, false claims, embezzlement, mail and wire fraud, securities violations, tax violations, and lending and credit institution fraud. These eight crimes form a hierarchical pattern in terms of their organizational complexity and the harm that they inflict (Weisburd et al., 1991). Antitrust and securities violations at the top of the pyramid tend to be highly organized and repetitive, involving multiple offenders in the same scheme (Weisburd et al., 1991; Geis, 1995; Szockyz, 1995). On the opposite end of the spectrum are embezzlement, tax offenses, and credit fraud which are substantially less complicated, cause comparably little damage, and tend to be committed by single individuals. Mail fraud, bribery and false claims are the middle ground between the two extremes (Weisburd et al., 1991).

The distinctions among the white-collar crime categories allow offense type to serve as an adequate outcome variable. Since GST is an individual theory suggesting that persons commit crime to relieve their own stress, it should be able to account for those lower and middle-level white-collar crimes that are more individual in nature and presumably motivated by self-interest. Conversely, highly organized offenses involving

multiple participants are expected to be beyond the realm of GST, better explained by organizational theories of offending.

Each crime type is coded as a separate dichotomous variable, such that in the case of the variable EMBEZZLE, for instance, all offenders charged with embezzlement are given a one while all other offenses are denoted by a zero. The distribution across offense types is fairly even (see Table 1).

Coping

In GST, coping is an essential element that helps to explain why some strained individuals commit crimes while others do not. Agnew (1992) acknowledges three categories of coping: cognitive, behavioral, and emotional. The coping tactics used in this study, specifically the use of stimulants and depressants, fall into the category of emotional coping (Agnew, 1992).

The coping variable is a cumulative scale comprised of three items: involvement with alcohol, involvement with marijuana, and involvement with barbiturates or narcotics. The scale ranges from zero (0) to six (6), increasing as the offender's use of coping strategies rises. Each of the three items composing the scale were separately divided into three categories. A zero (0) denotes no use, a one (1) any to occasional use and a two (2) heavy use. The correlations between involvement with alcohol, involvement with marijuana, and involvement with narcotics were all positive and statistically significant at the .01 level. The scale is highly skewed to the left with the largest proportion of offenders (40.2 percent) only occasionally using one of the substances (presumably alcohol).

Multiple tests of GST have focused on drinking and drug use as outcome variables as opposed to coping strategies (Agnew and White, 1992; Aseltine et al., 2000; Hoffman

and Su, 1997; Mazerolle et al., 2000), yet several points justify the use of these variables as the latter rather than former. For one, the use legal and illegal stimulants and depressants is specifically identified in conjunction with physical exercise, meditation, and relaxation techniques as a form of emotional coping (Agnew, 1992; Thoits, 1984). Secondly, research has shown that both adolescents and adults often use drugs and alcohol as a means of escape from the stresses of life (Armeli et al., 2000; Muncer et al., 1992). Finally, several tests of GST that have used illegal drinking and drug use as outcome variables have failed to provide support for such a model (Aseltine et al., 2000; Mazerolle et al., 2000).

Control Variables

To control for the possible influences of offenders' sex (male = 1, female = 0), age, race (white = 0, nonwhite = 1) and number of prior arrests this study includes those variables in the analysis. Descriptive information can be found in Table 1.

Analytic Plan

Four hypotheses, derived from the GST model, will be tested in a modest attempt to determine whether GST is applicable white-collar offending. Hypothesis one explores the association between strain and motivation. Given the dichotomous coding of the dependent variable, logistic regression is utilized to test the impact of strain on offenders' motivations for committing the crime. Next, hypothesis two investigates the relationship between strain and offending. Again, logistic regression is employed. The third hypothesis also uses logistic regression to examine at the additive effects of strain and motivation on offending. Finally, coping is added to the previous model in order to determine if coping mediates the effects of strain and motivation on offending.

CHAPTER 4
RESULTS

Hypothesis 1--Effects of Strain on Negative Emotion

To test GST's assertion that strain is positively related to negative emotions three logistic regressions were estimated with strain and control variables predicting each of the three motivations as dependent variables (see Table 3).

Table 3 - Effects of Strain on Motivation

	Business Motives			Personal Motives			Financial Motives		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.031	1.031	27.793**	-0.007	0.993	1.094	-0.024	0.976	18.254**
Race	0.012	1.1013	0.005	-0.426	0.653	5.553*	0.286	1.331	3.705
Sex	0.414	0.661	4.728*	-0.113	1.12	0.375	-0.208	1.232	1.679
Prior Arrests	-0.05	0.951	8.466**	0	1	0	0.035	1.036	7.236**
Strain	-0.161	0.851	5.167*	-0.066	0.936	0.765	0.196	1.216	9.105**

In line with GST, strain was positively and significantly related to financial motivations for offending ($p < .01$), indicating that individuals who experience greater strain also reported financial reasons for their crimes. The relationship between strain and personal motives did not attain significance, while the effect of strain on business motivation was negative and significant. Thus, counter to expectation, individuals experiencing more strain are less likely to report business-related reasons for their crimes. Since most white-collar crimes revolve around the quest for money (Coleman, 1995), it is not surprising that financial woes would be most highly related to strain in white-collar offenders. Additionally, due to the fact that the business motivations seem to be directed more towards the workplace environment, rather than outside stresses, it is possible that

these fit better in organizational theories for offending instead of GST. Age and prior arrests were also highly related to business and financial motivations, and interestingly, age was higher for those reporting business motivations and lower for those with financial motivations.

Hypothesis 2--Effects of Strain on Offending

The next GST assumption tested is the relationship between strain and offending outcomes. GST hypothesizes that this relationship should be positive and significant. Logistic regressions were estimated with strain and control variables predicting each of the eight offense types. These results can be found in Model 1 across Tables 4-11. Strain attained significance for the offenses of antitrust ($B = -1.324$), SEC violations ($B = .41$), bribery ($B = -.405$), false claims and statements ($B = .158$), and tax fraud ($B = -.217$). However, only for securities violations and false claims and statements was the relationship between strain and offense outcome in the GST-predicted direction. This suggests that individuals reporting higher levels of strain were more likely to engage in SEC violations and false claims and statements. Strain had a significant and negative effect on antitrust, bribery, and tax fraud suggesting that more strain was inversely related to these white-collar crimes. The relationships between strain and embezzlement, credit fraud, and mail and wire fraud were in the anticipated direction but were not significant.

Table 4 Antitrust

	Model 1			Model 2			Model 3			Model 4		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.072	1.075	48.187**	0.071	1.074	25.426**	0.076	1.079	28.249**	0.075	1.078	29.784**
Race	-2.431	0.088	5.617*	-1.651	0.192	2.417	-1.572	0.208	2.207	-1.49	0.225	2.02
Sex	1.976	0.139	3.615	1.623	0.197	2.143	1.472	0.229	1.747	1.663	0.189	2.428
Prior Arrests	-0.538	0.584	9.154**	-1.2	0.301	6.452**	-1.177	0.308	6.275**	-1.228	0.293	6.853**
Strain	-1.324	0.266	39.825**	-1.184	0.306	18.624**	-1.234	0.291	19.920**	-1.165	0.312	18.661**
Business Motives				1.306	3.69	17.326**						
Personal Motives							-8.456	0	0.39			
Financial Motives										-0.141	0.868	0.197

* = significant at p<.05

** = significant at p<.01

Table 5 SEC Violations

	Model 1			Model 2			Model 3			Model 4		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.014	1.014	4.088*	0.007	1.007	0.535	0.015	1.015	2.635	0.013	1.013	1.816
Race	-3.933	0.02	15.359**	-3.33	0.036	10.779**	-3.379	0.034	11.121**	-3.266	0.038	10.391**
Sex	1.925	0.146	16.979**	1.577	0.207	8.796**	1.762	0.172	11.130**	1.676	0.187	10.064**
Prior Arrests	-0.233	0.792	24.958**	-0.221	0.802	12.291**	-0.242	0.785	15.231**	-0.23	0.794	13.525**
Strain	0.41	1.507	24.214**	0.483	1.621	19.624**	0.435	1.545	16.954**	0.476	1.609	19.750**
Business Motives				1.431	4.183	44.241**						
Personal Motives							-0.706	0.494	6.664**			
Financial Motives										-1.101	0.332	20.084**

* = significant at p<.05

** = significant at p<.01

Table 6 Bribery

	Model 1			Model 2			Model 3			Model 4		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.024	1.025	6.918**	0.017	1.018	1.831	0.017	1.018	1.877	0.016	1.016	1.637
Race	0.438	1.55	2.175	0.179	1.196	0.175	0.193	1.213	0.204	0.18	1.197	0.177
Sex	0.661	1.937	2.449	0.806	0.447	2.08	0.812	0.444	2.117	0.791	0.454	2.009
Prior Arrests	-0.126	.882	6.308**	-0.163	0.849	3.979*	-0.163	0.85	3.962*	-0.16	0.852	3.841*
Strain	-0.405	.667	8.453**	-0.492	0.611	6.675**	-0.487	0.614	6.566**	-0.483	0.617	6.430**
Business Motives				-0.061	0.941	0.04						
Personal Motives							0.238	1.269	0.533			
Financial Motives										-0.141	0.868	0.204

* = significant at p<.05

** = significant at p<.01

Table 7 Mail and Wire Fraud

	Model 1			Model 2			Model 3			Model 4		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	-0.019	0.981	13.703**	-0.023	0.977	11.022**	-0.023	0.977	11.267**	-0.023	0.977	10.842**
Race	0.427	1.532	10.725**	0.586	1.797	13.252**	0.582	1.789	12.922**	0.583	1.791	13.063**
Sex	0.14	0.869	0.813	0.066	0.936	0.133	0.066	0.936	0.132	0.068	0.934	0.142
Prior Arrests	0.052	1.053	27.901**	0.058	1.059	18.441**	0.058	1.059	18.558**	0.057	1.059	18.239**
Strain	0.082	1.085	1.844	0.038	1.038	0.25	0.037	1.037	0.242	0.035	1.036	0.222
Business Motives				0.008	1.008	0.002						
Personal Motives							-0.06	0.942	0.127			
Financial Motives										0.038	1.039	0.07

* = significant at p<.05

** = significant at p<.01

Table 8 False Claims and Statements

	Model 1			Model 2			Model 3			Model 4		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	-0.026	0.975	17.705**	-0.018	0.983	5.381*	-0.016	0.984	4.385*	-0.016	0.984	4.673*
Race	0.645	1.906	20.705**	0.543	1.721	9.898**	0.529	1.697	9.350**	0.549	1.732	10.092**
Sex	-0.056	1.058	0.114	-0.199	1.22	1.073	-0.185	1.203	0.931	-0.188	1.207	0.963
Prior Arrests	0.049	1.05	23.964**	0.073	1.075	27.317**	0.07	1.073	25.943**	0.071	1.074	26.427**
Strain	0.158	1.172	5.424*	0.191	1.21	5.608*	0.178	1.195	4.906*	0.185	1.203	5.254*
Business Motives				0.292	1.339	2.908						
Personal Motives							-0.164	0.849	0.758			
Financial Motives										-0.126	0.882	0.626

* = significant at p<.05

** = significant at p<.01

Table 9 Embezzlement

	Model 1			Model 2			Model 3			Model 4		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	-0.083	0.92	87.977**	-0.077	0.926	50.982**	-0.08	0.923	57.718**	-0.078	0.925	54.201**
Race	-0.759	0.468	13.904**	-0.702	0.496	8.830**	-0.691	0.501	8.593**	-0.753	0.471	10.136**
Sex	-1.041	2.833	32.818**	-0.836	2.306	15.404**	-0.917	2.503	18.989**	-0.888	2.431	17.486**
Prior Arrests	-0.296	0.743	39.951**	-0.335	0.715	34.373**	-0.325	0.722	32.356**	-0.331	0.718	33.807**
Strain	0.136	1.145	2.452	0.063	1.065	0.393	0.097	1.102	0.96	0.063	1.065	0.398
Business Motives				-1.026	0.358	17.729**						
Personal Motives							0.217	1.242	1.102			
Financial Motives										0.556	1.744	8.861**

* = significant at p<.05

** = significant at p<.01

Table 10 Credit Fraud

	Model 1			Model 2			Model 3			Model 4		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	-0.014	0.986	3.233	-0.01	0.99	1.024	-0.012	0.988	1.484	-0.007	0.993	0.553
Race	0.056	1.058	0.076	0.051	1.052	0.044	0.003	1.003	0	0.002	1.002	0
Sex	0.254	0.776	1.102	0.305	0.737	1.222	0.286	0.751	1.069	0.33	0.719	1.423
Prior Arrests	-0.011	0.989	0.404	-0.009	0.991	0.177	-0.008	0.992	0.124	-0.013	0.987	0.356
Strain	0.147	1.158	2.724	0.142	1.152	1.853	0.141	1.151	1.838	0.119	1.127	1.291
Business Motives				-0.157	0.855	0.485						
Personal Motives							-0.825	0.438	7.838**			
Financial Motives										0.645	1.906	9.692**

* = significant at p<.05

** = significant at p<.01

Table 11 Tax Fraud

	Model 1			Model 2			Model 3			Model 4		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.048	1.049	60.253**	0.061	1.062	50.435**	0.056	1.058	44.374**	0.048	1.049	36.121**
Race	-0.29	0.748	1.866	-0.668	0.513	4.795*	-0.622	0.537	4.00*	-0.683	0.505	5.139*
Sex	0.543	0.581	3.765*	1.295	0.274	10.059**	1.322	0.267	10.242**	1.197	0.302	8.661**
Prior Arrests	-0.004	0.996	0.054	-0.022	0.978	0.882	-0.01	0.99	0.165	-0.007	0.993	0.106
Strain	-0.217	0.805	6.711**	-0.263	0.769	6.075*	-0.213	0.808	3.979*	-0.214	0.808	4.334*
Business Motives				-1.465	0.231	40.792**						
Personal Motives							1.52	4.57	62.807**			
Financial Motives										-0.14	0.87	0.555

* = significant at p<.05

** = significant at p<.01

Age attained significance in every model except when credit fraud was the dependent variable. For antitrust, SEC violations, bribery, and tax fraud, the relationship between age and offense was significant and positive but for mail and wire fraud, false claims and statements, and embezzlement the association was such that as age decreased there was a greater likelihood that the offense would be committed. Race achieved significance for every offense except bribery, credit fraud, and tax fraud. For antitrust, SEC violations and embezzlement the relationship was negative, suggesting that whites were more likely to engage in the offense. Sex was a significant predictor of SEC violations, embezzlement, and tax fraud, and interestingly, females were more likely to commit these crimes. Finally, number of prior arrests was a significant predictor of all offenses except credit fraud and tax fraud. However, the relationship between prior arrests and offense was significant and negative for antitrust, SEC violations, bribery and embezzlement, suggesting that fewer rather than more prior arrests are associated with these offenses.

Hypothesis 3--Effects of Strain and Motivation on Offending

Next, the additive effects of strain and motivation on each of the eight offending variables are examined. These results are presented in Models 2, 3, and 4 found in Tables 4-11. GST suggests that the relationship between strain and offending is mediated by negative emotion. Thus, it is expected that the effect of strain on offending outcomes will be reduced and motivation will be positively related to offending such that motivation and offending will have the strongest association. For each offense type, three separate logistic regressions were estimated, each one including a different motivation with strain and the control variables.

Antitrust

Table 4 presents the regression estimates for predicting antitrust offenses. Model 2 uses the business motivations as the measure of negative affect. Four significant effects are observed; age, prior arrests, strain, and business motives. Age ($B = .071$) is positively related to the offense while number of prior arrests ($B = -1.2$) is negatively associated. This suggests that older offenders tended to commit antitrust while those with more prior arrests were less likely to commit antitrust. Strain ($B = -1.154$) is negatively related to the offense, indicating that higher strain is associated with lower likelihood of an antitrust offense. Business motives ($B = 1.306$), on the other hand, are positively associated with antitrust offending such that increased reports of business-related pressures are related to increases in antitrust offenses.

Business motives are substituted with personal motivations and financial motivations respectively in Models 3 and 4. Neither of these attain significance. Therefore, negative emotion in the form of personal and financial motivations for offending does not appear to be a predictor of antitrust offending. The effects of the control variables mirror the effects from Model 2.

SEC Violations

Table 5 presents the results for securities violations. In Model 2, where business motivations are included as the proxy for negative emotion, five significant effects emerge. Race ($B = -3.33$) is negatively related to offending, indicating that whites in the sample tend to engage in securities violations more than nonwhites. Sex ($B = 1.577$) has a positive effect and number of prior arrests ($B = -.221$) has negative effect SEC violations, suggesting that this type of offense is most likely to be committed by men and those with few or no prior arrests. Strain ($B = .483$) and business motivations ($B = 1.431$) are

positively and significantly related SEC violations as expected by GST. Higher levels of strain are associated with SEC violations, and business motives have an even stronger positive relationship with the offense than strain does.

When personal motives replace business motives in Model 3, the control variables maintain similar effects as in Model 2. Strain ($B = .435$), as well, retains a positive, significant relationship with securities offenses. Personal motives ($B = -.706$), however, are negatively and significantly associated with the offense type suggesting that feelings of frustration and emotional distress measured by the personal motivation variable decrease the likelihood of a securities violation.

The results for Model 4, in which financial motivations serve as the proxy for negative emotion, reiterate the effects seen in Model 3. Like personal motives, the financial motivations ($B = 1.101$) also have a negative and significant association with SEC violations, suggesting that the offenders committing the offense are less likely to have reported financial motivations for their behavior.

Bribery

As seen in Table 6, the addition of each of the three motivations to the model does not have a significant impact on predicting bribery. Across Models 2, 3, and 4 only two variables attain significance; prior arrests and strain. In all three models, number of prior arrests has a negative relationship with the offense, suggesting that the offenders committing bribery had no or few prior arrests. Strain, as well, is negatively related to bribery across all three models, implying that offenders committing bribery also tended to have low levels of individual strain.

Mail and Wire Fraud

The additive effects of strain and motivation do not significantly predict mail and wire fraud (see Table 7, Models 2, 3, and 4). The only significant relationships resulting from this analysis are between mail and wire fraud and the control variables of age, race and prior arrests. For all three models, younger individuals, nonwhites, and those with a higher number of prior arrests have the greatest likelihood of committing mail and wire fraud.

False Claims and Statements

None of the regressions examining the additive effects of strain and motivation on false claims show strain to operate through negative emotion (See Table 8). In fact, each of the different motivation models (Models 2-4) reveal a positive and significant relationship between strain and the offense, but no significant relationship between motivation and the offense. In addition, across all models, significant effects are observed for age, race, and prior arrests. Age is negatively related to the offense indicating that the crime of false claims and statements tends to be committed by younger individuals in the sample. Race and prior arrests both have positive relationships with the offense, suggesting that nonwhites and those with a prior arrest record are more likely to engage in false claims and statements. As previously noted, strain is positively related to the crime of false claims and statements, which follows GST's hypothesis that higher levels of strain should be associated with offending.

Embezzlement

Table 9 reports the results for embezzlement. Across all models, age, race, sex and prior arrests are all negatively related to embezzlement. Essentially, younger white individuals, females, and those with few or no prior arrests are more likely to commit embezzlement.

Business motivations (Model 2) appear to have a stronger relationship to embezzlement than strain does, but the effect is negative. Business motives are inversely related to embezzlement, which is not difficult to perceive since embezzlement is typically construed as an individual offense rather than one occurring because of workplace pressures. Also not surprising, financial motivations (Model 4) exert a positive and significant effect on embezzlement. It appears, then, that strain does increase the likelihood of embezzlement, that the relationship is mediated by feelings of financial concerns.

Credit Fraud

Only two significant effects emerge in predicting credit fraud (see Table 10). Two of the motivation variables, personal and financial, are significant predictors of this offense. Personal motives ($B = -.825$) are negatively and significantly related to credit fraud. The negative relationship between personal motives and this crime type imply that emotional distress, frustration and similar such emotions do not appear to increase credit fraud offenses. On the other hand, financial motivations ($B = .645$) exert a positive effect on credit fraud. Since strain is positive but nonsignificant it seems that the relationship between strain and offending may be mediated by the negative affect measured by financial motivations. In other words, strain increases feelings of financial pressure which, in turn, increase the likelihood that an individual will engage in credit fraud.

Tax Fraud

Table 11 presents the results for predicting tax fraud. Across all models, four variables attained significance: age, race, sex, and strain. Age and sex are positively related to the offense, indicating that males and older offenders are more likely to commit tax fraud. In these models, race is negative suggesting that tax fraud is typically

committed by whites. Strain has a negative effect on predicting tax fraud, indicating that individuals reporting more strain are less likely to engage in tax fraud.

Two of the three motivations exert significant effects on tax fraud, business (Model 2) and personal (Model 3). Contrary to GST, both business motives and strain (though not significantly) are negatively related to the outcome. Personal motives work in the expected direction and actually reduce the effect of strain on tax fraud. In other words, the presence of personal, negative emotions is associated with increases in tax fraud offending and also appears to impact the relationship between strain and this offense type.

Hypothesis 4—Effects of Strain, Motivation, and Coping on Offense

A test of GST must also assess the role of coping, since GST specifies that coping mechanisms may serve to reduce or eliminate the relationship between strain and offending. Tables 12-19 present the results of the logistic regression when coping is added to the previous model estimations. GST expects that coping should be negatively associated with offending and should reduce the effects of strain and negative affect on offending. As the tables reveal, coping never attains significance regardless of the dependent variable. Also, the addition of the coping variable does very little to alter the previous effects. In fact, the results are fairly congruent to the findings observed in Hypothesis 3 (see Tables 4-11, Models 2, 3, and 4).

Table 12 Antitrust

	Model 1			Model 2			Model 3		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.088	1.091	11.055**	0.096	1.101	13.473**	0.097	1.101	14.228**
Race	-0.542	0.582	0.187	-0.787	0.455	0.405	-0.211	0.81	0.033
Sex	-0.881	2.413	0.497	-1.326	3.767	1.013	-0.395	1.484	0.112
Prior Arrests	-7.249	0.001	0.125	-6.924	0.001	0.12	-7.497	0.001	0.13
Strain	-1.936	0.144	10.145**	-2.139	0.118	11.767**	-1.889	0.151	10.015**
Coping	0.449	1.567	0.664	0.573	1.774	0.879	0.413	1.511	0.563
Business Motives	1.435	4.2	7.297**						
Personal Motives				-11.801	0	0.012			
Financial Motives							-0.165	0.848	0.096

* = significant at p<.05

** = significant at p<.01

Table 13 SEC Violations

	Model 1			Model 2			Model 3		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.009	1.009	0.603	0.017	1.017	2.336	0.018	1.018	2.387
Race	-2.876	0.056	7.930**	-3.014	0.049	8.729**	-2.863	0.057	7.882**
Sex	2.582	0.076	6.311*	2.882	0.056	7.916**	2.773	0.062	7.348**
Prior Arrests	-0.297	0.743	11.487**	-0.32	0.726	13.920**	-0.297	0.743	11.978**
Strain	0.478	1.612	13.548**	0.453	1.574	12.574**	0.491	1.643	14.953
Coping	0.056	1.058	0.086	0.053	1.055	0.078	-0.027	0.973	0.022
Business Motives	1.392	4.023	29.399**						
Personal Motives				-0.922	0.398	7.061**			
Financial Motives							-0.876	0.416	9.884**

* = significant at p<.05

** = significant at p<.01

Table 14 Bribery

	Model 1			Model 2			Model 3		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.007	1.007	0.175	0.011	1.011	0.397	0.008	1.008	0.225
Race	-0.402	0.669	0.476	-0.375	0.687	0.417	-0.355	0.701	0.374
Sex	0.108	0.898	0.031	0.219	0.804	0.131	0.165	0.848	0.075
Prior Arrests	-0.171	0.842	2.352	-0.18	0.836	2.617	-0.174	0.841	2.406
Strain	-0.486	0.615	4.550*	-0.5	0.607	4.745*	-0.466	0.627	4.183*
Coping	-0.244	0.783	0.67	-0.245	0.783	0.675	-0.244	0.783	0.687
Business Motives	0.551	1.736	2.175						
Personal Motives				-0.059	0.943	0.019			
Financial Motives							-0.545	0.58	1.767

* = significant at p<.05

** = significant at p<.01

Table 15 False Claims

	Model 1			Model 2			Model 3		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	-0.017	0.983	3.323	-0.016	0.984	2.835	-0.016	0.984	2.835
Race	0.416	1.516	4.249*	0.399	1.49	3.890*	0.416	1.515	4.224*
Sex	-0.055	1.056	0.056	-0.039	1.04	0.029	-0.041	1.042	0.032
Prior Arrests	0.077	1.08	20.580**	0.075	1.078	19.734**	0.076	1.079	19.925**
Strain	0.2	1.222	4.537*	0.191	1.211	4.147*	0.193	1.213	4.211*
Coping	0.083	1.087	0.68	0.087	1.09	0.736	0.081	1.084	0.641
Business Motives	0.24	1.272	1.348						
Personal Motives				-0.215	0.806	0.948			
Financial Motives							-0.032	0.969	0.03

* = significant at p<.05

** = significant at p<.01

Table 16 Mail and Wire Fraud

	Model 1			Model 2			Model 3		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	-0.025	0.975	8.849**	-0.025	0.975	8.953**	-0.025	0.975	8.829**
Race	0.646	1.908	12.399**	0.645	1.905	12.293**	0.646	1.908	12.343**
Sex	0.201	0.818	0.888	0.202	0.817	0.899	0.202	0.817	0.897
Prior Arrests	0.051	1.052	10.133**	0.051	1.052	10.145**	0.051	1.052	10.082**
Strain	0.02	1.02	0.055	0.02	1.02	0.052	0.02	1.02	0.053
Coping	0.05	1.051	0.284	0.05	1.051	0.285	0.05	1.051	0.282
Business Motives	0.015	1.015	0.006						
Personal Motives				-0.014	0.986	0.005			
Financial Motives							-0.001	0.999	0

* = significant at p<.05

** = significant at p<.01

Table 17 Embezzlement

	Model 1			Model 2			Model 3		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	-0.077	0.926	35.166**	-0.08	0.923	39.223**	-0.078	0.925	36.522**
Race	-0.601	0.548	5.190*	-0.614	0.541	5.372*	-0.665	0.514	6.294*
Sex	-0.756	2.13	9.455**	-0.859	2.36	12.387**	-0.814	2.257	10.919**
Prior Arrests	-0.362	0.696	27.202**	-0.352	0.703	25.845**	-0.362	0.697	27.084**
Strain	0.096	1.1	0.705	0.115	1.122	1.05	0.094	1.098	0.683
Coping	-0.04	0.961	0.08	-0.026	0.974	0.035	-0.018	0.982	0.016
Business Motives	-0.94	0.39	11.002**						
Personal Motives				0.116	1.123	0.237			
Financial Motives							0.544	1.723	6.426*

* = significant at p<.05

** = significant at p<.01

Table 18 Credit Fraud

	Model 1			Model 2			Model 3		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	-0.002	0.998	0.038	-0.005	0.985	0.186	0	1	0
Race	0.036	1.037	0.017	-0.005	0.995	0	-0.014	0.987	0.002
Sex	0.219	0.803	0.493	0.165	0.848	0.276	0.244	0.784	0.603
Prior Arrests	0	1	0	0.003	1.003	0.012	-0.004	0.996	0.024
Strain	0.033	1.033	0.076	0.032	1.032	0.073	0.005	1.005	0.002
Coping	-0.256	0.774	2.994	-0.244	0.784	2.657	-0.247	0.781	2.703
Business Motives	-0.382	0.683	2.006						
Personal Motives				-0.757	0.469	5.527*			
Financial Motives							0.799	2.224	11.207**

* = significant at p<.05

** = significant at p<.01

Table 19 Tax Fraud

	Model 1			Model 2			Model 3		
	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>	<u>B</u>	<u>Exp(B)</u>	<u>Wald</u>
Age	0.069	1.071	39.408**	0.066	1.069	36.350**	0.055	1.056	28.379**
Race	-0.878	0.416	5.161*	-0.841	0.431	4.391*	-0.844	0.43	4.878*
Sex	1.683	0.186	7.629**	1.747	0.174	7.936**	1.476	0.229	5.902*
Prior Arrests	-0.049	0.952	2.355	-0.033	0.958	1.028	-0.028	0.972	0.854
Strain	-0.268	0.765	4.424*	-0.185	0.831	2.114	-0.224	0.799	3.39
Coping	0.075	1.078	0.228	0.001	1.001	0	0.039	1.04	0.064
Business Motives	-1.428	0.24	26.411**						
Personal Motives				1.653	5.222	49.186**			
Financial Motives							-0.313	0.731	1.862

* = significant at p<.05

** = significant at p<.01

CHAPTER 5 DISCUSSION AND CONCLUSION

Discussion

Although strain theories and the notion of white-collar crime have historically been diametrically opposed at a fundamental level, Agnew's General Strain Theory provides the materials for potentially bridging the gap between the two ideas. Recognizing that extant research has not yet taken the next step to explore whether GST can effectively be applied to white-collar offending, this research set out with that very goal in mind.

Four major tenants of the theory were tested with a sample of convicted white-collar offenders. In hypothesis one, the focus was on the relationship between strain and negative emotion. Although the personal motivations for offending, which capture the negative emotions most commonly explored in GST studies, were not significantly related to strain, financial motivations did have a significant, positive effect on several crime types. Since the majority of white-collar crime are committed in pursuit of monetary gain (Coleman, 1995), it is not surprising that among white-collar offenders strain is associated with feelings of financial concern. It is also not surprising that individual strain was negatively related to business-type motivations for offending. The business motivations relate to the workplace environment rather than personal stressors, and more likely fall more into the realm of organizational, corporate theories. While GST should be able to explain individual, occupational crimes, it is much more of a

stretch to expect it to be able to account for corporate-type offending even with individuals rather than corporations as the unit of analysis. Thus, it seems that hypothesis one does provide limited support for GST's notion that strain relates to negative emotions, but that the negative emotions of white-collar offenders are distinct from those experienced by street criminals.

Hypothesis two tested the relationship between strain and white-collar offending. Although the analysis revealed mixed results, there is some support for the GST assumption that strain and offending should be positively related. The relationships between strain and securities violations and strain and false claims and statements were both positive and significant, providing endorsement for GST. Additionally, increases in strain were also associated with slight increases in embezzlement, credit fraud, and mail and wire fraud. In other words, for five of the eight white-collar offense types, the relationship between strain and offending operated in the GST-predicted direction.

The negative relationships between strain and the offenses of antitrust, bribery, and tax fraud, however, suggest that GST may not be applicable to white-collar offenders of the very highest social status or most complicated crimes. Antitrust, bribery, and tax offenses are all committed by white-collar offenders of higher social status than most of the other offenses in the sample (Weisburd et al., 1991 pp. 52-55). Thus, the offenders in these crime groups are not susceptible to the types of strain measured here and in most GST literature, indicating that the offenders from highest social status may be susceptible to different types of strains that have not yet been explored in the GST literature. Usually, securities violations would be lumped into the same category of high social status offenders. However, the difference here is that, compared to the other three

groups, securities violators tend to deal with substantially more periods of unemployment and significantly higher liabilities (Weisburd et al., 1991, pp.50-51). These differences in employment and debt could account for the strong positive rather than negative relationship between strain and securities violations.

The next step was to examine the additive effects of strain and motivation on offending. To the extent that GST applies to white-collar offending, both strain and motivation should be positive, and since strain is believed to operate through negative emotion, motivation should be the stronger of the two effects. Again, although several models served to substantiate GST's claims, overall the results were mixed.

The three offense outcomes that were consistent with GST are securities violations, embezzlement, and credit fraud. Strain was positively related to securities violations and its effect was not reduced when business-type motivation was included in the model. Based on the knowledge that securities violators are of high social status but appear to have more employment and liability strains than others in their social bracket, it is logical that they would feel what Wheeler (1992) calls a "fear of falling" in their professional careers. In other words, strain would cause them to feel pressure to excel in the workplace by any means necessary, including criminal behavior such as securities violation (e.g., insider trading), which would be a quick way to relieve the pressure and maintain their status and lifestyle.

Strain also appeared to operate through the negative emotion of financial concerns to increase the likelihood of embezzlement. Since embezzlement directly involves siphoning or stealing money, it is not surprising that strain would lead to financial concerns and embezzlement would serve as a means of alleviating these concerns.

Likewise, credit fraud also appeared to increase in response to financial concerns but not to strain. As in the case with bank embezzlement, it seems that credit fraud offenders would attempt to mollify financial concerns by lying to get loans. Both embezzlement and credit fraud are individual white-collar crimes, usually committed by one person against an institution. Therefore, both not only easily fall into the domain of GST, but also offer support for its assumptions.

On the other end of the spectrum, almost all of the individuals convicted of antitrust were indicted along with a corporation (Weisburd et al., 1991, p.24), and therefore, it is not surprising that business motivations were positively and significantly related to this form of offending. Strain, as seen previously, was negatively associated with antitrust offending suggesting perhaps that corporate-type offenses, committed by offenders of high social status, may be better explained by organizational theories rather than an individual, socio-psychological theory.

Mail and wire fraud and false claims and statements did not operate as GST would predict. Offenders charged with these crimes, however, have a much higher number of prior arrests than most of the other white-collar offenders (Weisburd et al., 1991, p.59), suggesting perhaps that they fall more into the category of career criminals whose offenses are less likely to be related to specific indicators of strain. In sum, the relationship between strain, negative emotion and white-collar offending is seemingly consistent with GST for select white-collar crimes but in this research GST predictions are not generalizable for career criminals and corporate-type offenders of higher social status.

The final portion of the analysis included the addition of coping to determine if, as Agnew suggests, coping reduces or eliminates the effects of strain and negative emotion on offending. In this research, coping was measured through drug and alcohol use and/or abuse. Unfortunately, the coping variable did not have any significant effect whatsoever on the relationship between strain, motivation, and offending. This does not mean, however, that the full GST model does not hold for white-collar offenders. There are several other possible explanations for why the variable did not work as expected. First, although Agnew identifies the use of stimulants and depressants as a form of emotional coping, other researchers view drug and alcohol abuse as an offense outcome (Agnew and White, 1992; Aseltine et al., 2000; Hoffman and Su, 1997; Mazerolle et al., 2000). Thus, drug and alcohol use may not serve to inhibit offending, but rather it could be viewed as another form of offending. Second, one of the personal motivations for offending was actually the emotional need for drugs or alcohol, suggesting that serious substance abuse can facilitate offending rather than reduce the effects of strain.² Finally, the vast majority of offenders were coded a one on the coping scale, suggesting that they occasionally consumed alcohol, an activity which serves a purely social function for many individuals.

Limitations and Future Research

As this was the first application of GST to white-collar offending, the use of secondary data precluded a more definitive test. Several limitations prevent generalizability at this time. The coping variable was only limited to alcohol/drug use.

² The offenders who reported the influence of drugs or alcohol as their motivation for offending were selected and regressions were estimated using just these individuals. For these individuals, strain did not have a significant effect on any of the offense outcomes.

Future research should incorporate additional measures of coping, such as religiosity (Jang and Johnson, 2003; Piquero and Sealock, 2000), in order to shed light on the factors that inhibit many individuals from committing white-collar crime when they feel strain. Other data limitations, include the use of only situational negative emotion rather than incorporating a measure of trait-based negative emotion such as anger or depression as well as a lack of control for social learning and self-efficacy measures. Future research endeavors should also consider exploring whether different strains, other than those commonly used in GST tests for street offenses, are more applicable to white-collar offenders, especially those of high social status. Another limitation to this test of GST is the potential disconnect between strain, negative emotion, and crime. Future research should attempt to collect strain measures that are more specific to the workplace and the resultant criminal activity.

The data are also limited by the fact that it is strictly an offending population and the information was gathered from official legal documents (e.g. PSI reports), which are subject to interpretation by an officer of the court. White-collar offenders who were not caught or were not convicted for their offenses are excluded from the sample, and these individuals could potentially have distinct strains and motivations from the offenders who did get caught and convicted. The problem of making assumptions about criminality based solely on individuals who have been caught has been of concern to criminologists for quite sometime (Biderman and Reiss, Jr., 1967; Weisburd et al., 1991). Additionally, when reports are gathered by court officials, there is always the potential for mistake, for biases and preconceived notions to affect the interpretation of information, or that offenders are not completely honest in what they report. Thus, future research should

rely on other sources of white-collar crime data, such as self-reports. Furthermore, future research could test GST on corporate offenses as well as with other types of individual white-collar offenses, such as conspiracy, perjury, environmental and health-related violations, and computer crimes, which as Weisburd and colleagues (1991) note, were omitted from the data collection effort.

Overall, while this research is a preliminary application of GST to white-collar offending, lays out the importance of--and foundation for--future tests of GST on white-collar crime. As noted previously, if GST is truly a general theory of crime, it should be able to explain white-collar offenses as well as street crimes. This research suggests that with slight adaptations to account for possible differences in social status and emotional reactions to strain, GST may be in fact be equipped to predict a wide range of offending behaviors than have been tested up to this point, including white-collar crime. Finally, this research also has important implications for the study of white-collar crime. The suggestion that the same theory may be able to predict both street crimes and white-collar crimes implies that the gap between the two forms of offending may not be as vast as once believed.

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BIOGRAPHICAL SKETCH

Lynn Langton is a native Missourian, spending her childhood in the small town of Fulton, MO. In 1998, Lynn enrolled at Centre College in Danville, Kentucky, and four years later received a B.A. degree from Centre in anthropology/sociology. Upon graduation she traveled south to ultimately pursue a Ph.D. from the University of Florida. Lynn will earn an M.A. degree in criminology and law in May of 2004, and continue at UF, working towards a Ph.D. degree in criminology and law beginning in the Fall of 2005.