



8-2018

# College Self-Funding Predicting Deviant Behaviors

Blake A. Darling

Western Michigan University, bad14@albion.edu

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COLLEGE SELF-FUNDING PREDICTING DEVIANT BEHAVIORS

by

Blake A. Darling

A thesis submitted to the Graduate College  
in partial fulfillment of the requirements  
for the degree of Master of Arts  
Sociology  
Western Michigan University  
August 2018

Thesis Committee:

Patrick Cundiff, Ph.D.,  
Chair Jesse Smith, Ph.D.  
Whitney Decamp, Ph.D.

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# COLLEGE SELF-FUNDING PREDICTING DEVIANT BEHAVIORS

Blake A. Darling, M.A.

Western Michigan University, 2018

This study examines the effects of the source of college funding on student participation in four deviant behaviors: monthly binge drinking, monthly marijuana use, illicit drug use, and academic cheating. Using secondary data from a self-reported online survey conducted at a midwestern University, competing hypotheses based in general strain theory and social bond theory, were tested. Logistic regression analyses of the four deviant behaviors suggest that the source of college funding has a very limited effect. Only in the cases of marijuana use and illicit drug use were significant relationships observed; where students whose funding came from their parents were more likely to have engaged in monthly marijuana use and more likely to have engaged in illicit drug use than students who were self-funded. Given the limited effect of college funding source neither theoretical perspective was found to be supported in their expected effect of self-funding.

## INTRODUCTION

Delinquency and deviance among college students has been studied for decades by social scientists, but there has been relatively little research on the effects of the source of college funding on a student's participation in deviant activities. As both college costs and the necessity of having a college degree increase, students and their families must decide how to fund their education. Some parents are able to pay the majority, or the entirety, of their child's college bills. Others must, or choose to, place the burden on the student themselves. These students may attain funding through loans in their name, scholarships/grants, or they may decide to obtain employment and pay out of pocket for their education.

According to a Sallie Mae report, "In 31 percent of families, the parent did not contribute any income or savings nor borrowed any money, leaving the student to provide any funds not covered by financial aid. In another 31 percent of families, parents paid enough of the costs such that the student paid nothing out-of-pocket nor borrowed" (2014: 9). This same report also found that differences in funding choices are linked to income. A trend was seen that an increase in family income was linked to a decrease in the financial obligation that is placed upon the student. This trend is highlighted by the fact that "low-income families are more likely to agree that the student is solely responsible in paying for college (31%) than middle-income (17%) or high-income families (9%)" (Sallie Mae, 2014: 10). Students coming from low-income families are more likely to have the financial burden of a college education placed solely on their shoulders. A college education requires a large amount of funding, and therefore the funding decision is important for students and their families. Combining that reality with the fact that funding is influenced by economic status, shows that research into the effects of the sources of college funding on a student's participation in deviant acts is important. If a family knows that putting

the financial burden on the student may drive them toward deviant acts, the family may be more willing to shoulder said burden. However, if the financial burden is found to decrease their engagement in deviance, the family may be more willing to place the burden on their child. If definitive results are found through multiple research studies, hopefully this information will be provided to families by the prospective universities to help said families determine the appropriate means for funding the student's education.

This study tests competing hypotheses derived from general strain theory and social bond theory; which attempt to explain a student's participation in deviant activities based upon being a self-funded student (a student whose primary source of funding is either personal savings or employment). General strain theory and social bond theory take two conflicting views of this relationship. As expanded upon below, general strain theory, as developed by Agnew (1992), suggests that as strain on an individual increases, so too will their participation in deviant activities as a way to either lessen the amount of strain or as a coping mechanism for dealing with said strain. As the costs of college continue to rise along with the necessity of attaining a college degree, students, specifically those who self-fund their education, may face increases in the amount of strain they experience as a result of the consequences of their immediate financial burdens (i.e., having to maintain employment while simultaneously completing school).

In contrast to general strain theory, social bond theory, as developed by Hirschi (1969), assumes that having more investment in society and in particular goals will lead individuals to lessen their participation in deviant acts because they have more to lose by going against society's norms or laws. Self-funded students have an increased investment in education and therefore, more to lose by participating in deviant acts. These students are expected to have lower levels of deviance due to this increase in potential loss.

In this study, data is used from an internet based survey randomly sent to the students of a mid-sized university in the American Midwest. The deviant actions being analyzed in this study include binge drinking, marijuana use, illicit drug use, and academic cheating. I begin by reviewing the theories that drive the two hypotheses.

### General Strain Theory

General strain theory was developed in response to the criticisms that were brought against classic strain theory (Agnew, 1992). Classic strain theory, as developed by Merton, argued that “social structures exert a definite pressure upon certain persons in the society to engage in nonconformist rather than conformist conduct” (1938:672). This quote speaks to the idea that society, and its accompanying goals, means, and structures, can push people toward going against the grain rather than with it, often leading to crime or some other act of creating social distance. Social and cultural structure can be broken down into two important parts for classic strain: culturally accepted goals and the acceptable means by which said goals can be achieved. Strain is said to occur and be present when the relationship between acceptable goals and acceptable means is no longer in equilibrium. One example of this is when goals become blocked by society or some other outside force, known as blocked opportunity structures. The blockage of one’s goals can often lead to the changing of means to try and attain the same goal. For example, if one’s goal is middle class wealth, and they are coming from a lower-class family, they will likely be lacking the same opportunities as compared to higher-class individuals. Lower-class schools typically lack funding and are therefore, not as effective; their area may lack employment opportunities and they may also lack the connections and role models that help their higher-class counterparts to succeed. The aforementioned blocked opportunity structures may make the goal of middle-class wealth unattainable through socially acceptable



pathways, requiring the use of criminal or illegitimate means. The criminal or illegitimate means may be more efficient and easier to accomplish, and can be induced by the feeling that legitimate means are not available to them.

Classic strain theory finds five potential paths for those in society: conformity, innovation, ritualism, retreatism, and rebellion. These five paths, created by Merton, were discussed in terms of their relation to the legitimate goals and the legitimate means relationship. Conformists are those who accept both the cultural goals and the institutionalized means that are acceptable in society. An example of this would be someone working a typical nine to five job to achieve their middle-class goals. Innovators accept the goals but reject the means through which these goals are obtained. Many innovators will find illegitimate means to obtain their goals such as crimes but, they can also find other means that are not criminal yet are still considered to be rejections of the institutionalized means. A typical example of an innovator is that of a drug dealer: someone who still aims to attain middle-class wealth but, their selling of drugs violates the institutionalized means. Ritualists accept the means but reject the goals while retreatists reject both the goals and the means. A ritualist may have simply given up on having culturally accepted goals and just works through their life with minimal aspirations. An example would be someone stuck in a “dead end” job who does not try for advancement or make changes to their career. A retreatist, on the other hand, has secluded themselves from society and have neither cultural goals nor are they practicing accepted means. Hermits, drug addicts, and some homeless people can be regarded as retreatists. The fifth category, rebellion, involves not only the rejection of the goals and means but they also substitute these with new goals and means of their own creation. Rebels are going completely outside of the system and may be trying to create a new system. A common example of a rebel is a gang member whose goals are status and respect within the gang

instead of the typical middle-class related goals mentioned above. Status and respect in gangs is usually found through violence and crime which also violate expected norms

Classic strain theory became the target of much criticism and was virtually pushed out of use and replaced by theorists and sociologists such as Hirschi (Agnew, 1992). Hirschi (1969) criticized classic strain theory due to what he saw as shortcomings. One of these shortcomings for Hirschi was that classic strain theory seemed to only try to explain lower class delinquency. He argued that classic strain theory had created a perfect relationship between social class and delinquency. Much of classic strain theory was based upon economic goals and shortcomings, many of which directly, or only, effect the lower-class, as they are the ones who often face obstacles when trying to use institutionalized means. Another shortcoming which Hirschi saw was that classic strain theory assumed that Americans all had high aspirations. Therefore, it was easy to infer that certain segments of the population would be unable to realize these aspirations and subsequently, would find strain. Hirschi tentatively rejected strain theory because, “it suggests that delinquency is a relatively permanent attribute of the person and/or a regularly occurring event; it suggests that delinquency is largely restricted to a single social class; and it suggests that persons accepting legitimated goals are, as a result of this acceptance, more likely to commit delinquent acts” (1969: 10). Hirschi proceeded to develop a different theory: social bond theory.

Kornhauser (1978) also criticized strain theories in general but, did focus on some of the shortcomings that she saw in Merton’s classic strain theory. Despite Merton’s claims that three variables, cultural imbalance, cultural universalism, and a stratified social structure, were all needed in order to produce strain, Kornhauser refuted these claims and argued that simply cultural imbalance could provide the necessary requirements for strain, anomie, and deviance.

Kornhauser's overall criticism of strain theory stemmed from the idea that, "although aspirations and, still more markedly, expectations are related to delinquency, the *discrepancy* between them is not consistently productive of the highest delinquency rates, as strain theory predicts" (1978: 180). Kornhauser stated that those with high expectations and high aspirations actually have lower rates of delinquency compared to those with both low aspirations and low expectations, which goes against strain theory's claims. According to Kornhauser, "when coupled with the theoretical objections to strain models reviewed earlier, these facts, plus the low degree and conditional nature of the relation of individual socioeconomic status to delinquency, compel the conclusion that criminologists should turn their attention to the development of alternative theories of delinquency" (Kornhauser, 1978: 180). Kornhauser goes on to state that strain models are disconfirmed and cultural deviance models are lacking foundation in facts. She argued that the study of delinquency would be better off turning toward the formulation and use of control models instead of the strain models she argued against.

For many years, strain theory was discarded after criticisms from Hirschi, Kornhauser, and others were voiced (Agnew, 1992). Agnew, however, responded to the criticisms of classic strain theory by developing general strain theory. As touched on above, classic strain theory was eventually seen as too narrow and only explained certain aspects of offending. Classic strain was not able to explain why only *some* strained people would commit crimes. Additionally, classic strain was unable to speak directly toward middle-class offending and focused too closely on only a small set of goals. Agnew broadened the scope of strain theory, expanded upon the definition of strain, and increased its ability to explain offending at different levels.

General strain theory proposes three major types of strain: others preventing the achievement of goals, others removing or threatening to remove positively valued stimuli, and

others presenting or threatening to present noxious or negative stimuli (Agnew, 1992). Agnew (1992) stated that strain theory first focuses upon the negative relationships people have with others, specifically when people are not treated how they would like to be treated. These negative relationships also include scenarios in which others are providing noxious or negative stimuli. The second focus of strain theory, according to Agnew (1992), is the argument that adolescents are pressured into delinquency by the “negative affective states” that can accompany negative relationships. These negative affective states are typically seen as anger and other similar negative emotions. Agnew (1992) goes on to state that these negative emotions may lead to adolescents using illegitimate channels to achieve goals, attack or escape the source of the negative stimuli, and/or try to manage their negative emotions through strategies such as illicit drug use. This last point is the most important for this study as Agnew (1992) writes that the presence of noxious/negative stimuli can lead to adolescent delinquency as they try to escape/avoid stimuli, terminate/alleviate stimuli, seek revenge against the source, or manage the resulting negative affects by using drugs.

According to Agnew and White (1992), the presentation of noxious or negative stimuli can take many forms, including criminal victimization, a wide assortment of stressful life events, and negative relationships with parents, teachers, and others that often include insults, verbal threats, and other negative behaviors. In their study to test general strain theory’s applicability, Agnew and White (1992) found that five of the strain variables they used had a significant effect on delinquency and/or drug use, with negative life events and life hassles being the most important of these variables. The life hassles variable, in Agnew and White’s (1992:482) study, is “a nine-item scale with high scorers stating that they are ‘very much bothered’ by such ‘concerns and difficulties’ as ‘not having enough time to do all the things I really want to do,’”

among other items. In their comprehensive test of general strain theory, Paternoster and Mazerolle (1994) found that four of the five measures of general strain in their study had a positive and significant effect on delinquency. These measures included neighborhood problems, negative life events, school/peer hassles, negative relations with adults, and traditional strain. These five measures show the breadth of factors that can cause strain and thus, effect delinquency. The two with the largest effects were traditional strain (frustrated goal attainment) and negative life events (divorce of a parent, death of a family member, parental unemployment, changing schools, etc.).

Multiple studies have tested general strain theory's ability to explain delinquency in both sexes due to the documented differences in male and female crime levels. Hoffmann and Su (1997) found that stressful life events among both female and male adolescents were similarly associated with delinquency and drug use. Broidy and Agnew (1997) found that general strain theory was applicable to both males and females because they both not only experienced the types of strain emphasized in general strain theory but both genders also reacted with anger and other negative emotions in similar ways. These two studies show that although there is a significant difference in the rate of crime between males and females this difference is not due to differing levels of strain nor male versus female emotional reaction to strain. However, as discussed by Steffensmeier and Allan (1996), there are differential pathways that drive men and women to crime. As Agnew stated, "the general strain theory, then, has the potential to explain a broad range of delinquency, including theft, aggression, and drug use" (1992:60).

General strain theory states that strain can lead to negative emotions and those negative emotions can lead to the use of coping mechanisms, not all of which are legitimate. Although there are many strategies used to cope with negative emotions, including meditation, physical

exercise, progressive relaxation, playacting, etc., many of these strategies are not available or known to individuals and therefore, coping through illicit drug use is a strategy often utilized to deal with strain (Agnew, 1992). Agnew (2001) reiterates this point when he stated that “individuals may employ behavioral coping strategies that are intended to terminate, reduce, or escape from the strainful events and conditions... And they may employ emotional coping strategies that are intended to alleviate the negative emotions that result from strain. Certain of these strategies involve conventional actions (e.g., listening to music), whereas others involve crime (e.g., illicit drug use)” (2001:326). In her study examining general strain theory through a lens focused upon emotions and coping, Broidy (2001) stated that strain triggers negative emotions which in turn require the use of coping strategies. When legitimate strategies are unavailable or ineffective, individuals can turn to illegitimate coping strategies, including delinquency and drug use.

In his expansion of general strain theory, Agnew (2001) stated that strain can be seen by the individual as “high in magnitude” and therefore, the effects of said strain can increase. The magnitude of strain can be influenced by duration, degree, the centrality of the strain, and how recent the strain occurred. If strain is ongoing, severe (or perceived this way), is effecting a central aspect of one’s life, and is recent, the magnitude of the strain is increased within that individual. With increased magnitude “it is more difficult to cognitively minimize the impact of severe strain, emotional coping techniques of a noncriminal nature may be less effective, and behavioral coping of a noncriminal nature may be more difficult” (Agnew, 2001:332). As Ford and Schroeder (2008) state, “adolescents who experience strain may try to manage the negative affect through substance use. Crime and violence are unlikely to be instrumental methods of achieving desired academic goals or avoiding losing positively valued stimuli within academic

settings, but the negative affect of academic strain can be easily remedied through the use of illicit drugs or even heavy alcohol use” (2008:32). There are life strains and arenas where criminal and violent coping mechanisms and strategies for correcting negative situations will not work or are not feasible. If legitimate ways are not effective or are unavailable, delinquency or drug use can be the path chosen by those feeling the negative emotions of strain. One of the arenas where coping through drug use may be the chosen path is in a college setting, where the strain is being caused by an increased workload, longer hours through school and/or work, and an immense financial burden due to the self-funding of one’s college education.

Many individuals are unaware of or incapable of practicing many of the legitimate ways in which people cope with their strain. Without knowledge of, or easy access to, legitimate strategies, one could turn to deviant strategies. Criminal deviant strategies are unlikely to have the sought-after effect of lessening one’s strain because working longer hours, both at school and at work, limits the time available to commit a crime. In addition, most feasible crimes are unlikely to lessen the financial burden of college costs. Burglary and theft typically do not net enough profits to pay for the increasing costs of college tuition, even if one is able to burgle or steal constantly. Most college students also do not possess the skills or knowledge to commit multiple burglaries successfully. Additionally, one could also argue that there would be increased strain on a student due to fear of being caught by the police. Therefore, other deviant avenues for coping with strain must be undertaken. On college campuses, alcohol and drugs can typically be accessed easily, making this coping mechanism a popular choice.

### Social Bond Theory

Social bond theory, as developed by Hirschi (1969), looks at delinquency and deviance in a way that previous theories did not. Hirschi (1969:10) looked at deviance through a lens in

which “the Hobbesian question has never been adequately answered.” Social control theory asks why people *do* follow society’s rules. Hobbes saw humanity as being in a perpetual state of nature, that we are simply animals that have chosen to create a society and follow the rules of that society. Hirschi (1969:10), following this idea, stated that “deviance is taken for granted; conformity must be explained.” Deviance and crime are the easy options; they are the options our animalistic nature drive us towards. However, conformity is the path that most walk. Social bond theory assumes that deviant acts are the result of an individual’s bonds to society either breaking or weakening. Toby (1957:12) stated that “an explanation of their youth and neighborhood of residence is that people are more prone to act upon their anti-social impulses when external controls over them are weak.” From this perspective, when someone is lacking the proper bond to society, they are more inclined to deviate from that society’s norms and values. Toby stated that “in short, youngsters vary in the extent to which they feel a stake in American society. For those with social honor, disgrace is a powerful sanction. For a boy disapproved of already, there is less incentive to resist the temptation to do what he wants when he wants to do it” (Toby, 1957:16). If someone is already on the fringes of society, and does not have a stake in that society, they have less to lose by acting upon their deviant impulses and therefore, they are more likely to take advantage of that freedom and commit deviant acts.

Conformity is achieved through the socialization of an individual, through the forming of bonds with society. Social bond theory has developed four major elements that comprise one’s bond to society: attachment, commitment, involvement, and belief. Hirschi (1969:83) stated that “control theory assumes that the bond of affection for conventional persons is a major deterrent to crime. The stronger this bond, the more likely the person is to take it into account when and if he contemplates a criminal act.” For Hirschi attachment can be to parents, families, friends, etc.,



as long as those relationships are positive and reinforce the values of society. If one has a negative relationship, or a relationship with deviant individuals, Hirschi would contend that their attachment is not as strong and therefore, they are more likely to become deviant. “Thus, one reason why adolescents are arrested more often than older or younger people is that adolescents are less likely to be under the influence of a family unit; they are becoming emancipated from the family into which they were born but have not yet married and got involved in a new family unit” (Toby, 1957:12). College students fit the description in this quote perfectly. Many of them are living away from their parents for the first time and have yet to establish a family of their own. This newfound freedom and independence from attachments lessens the “cost” for deviant acts as there are fewer people in one’s life to disappoint or to answer to. Commitment is having an investment into a higher goal, investment that can be lost through punishment for deviant acts. Having something valuable to lose helps to deter one from deviant behaviors. Hirschi (1969) found that the higher a student’s educational aspirations, the less likely they were to commit delinquent acts. This commitment to a higher education, and the higher status that typically follows, provides something that can be lost, something valuable enough to deter delinquent and deviant behavior among college students. It is important to note that Hirschi’s research took place during a time where college attendance was typically reserved for relatively few (approximately 50% of recent high school graduates went on to college in 1969) (Snyder and Dillow, 2012). The lower frequency of a college education during this time was likely part of the reason that it was so valuable and therefore, it was important to not deviate from an acceptable path. Over time, college attendance has become increasingly normative (70% of recent high school graduates in 2010 went on to college) (Snyder and Dillow, 2012). However, while attendance of college has become increasingly normative over time, the importance of a college

degree has also arguably increased as most careers are moving toward requiring at least a Bachelor's degree for entry. Therefore, despite the increase in overall college attendance, the value of a college degree has not been diminished and it is still seen as an investment that can be lost. Involvement can be activities such as sports, work, or time spent doing homework, but it goes further than simply occupying one's time. These activities must be meaningful and must add to one's ability to attain goals or help to increase their status. Belief is buying into the system and believing in the system. If one feels cast out, or wrongfully treated, they are more likely to deviate from society's value system and norms or even go so far as to create their own set of norms and values that are in contrast to society at large. If one feels their advancement is being hindered, they are likely to find ways to succeed outside of the conventional pathways. Mainstream goals (middle-class lifestyle) may still be an end goal, but those who are blocked will find deviant ways to attain these goals (theft, drug dealing, etc.).

Hirschi (1969) emphasized that for social control to be effective it needs people to value the rewards of conventional society as well as see the connection between engagement in deviance and the loss of these rewards. If an individual does not value the rewards and conventional goals of society, they have a freedom from social control to act as they please. They will not suffer the loss of rewards because they do not see the potential rewards as a positive, and therefore are not interested in following the path toward those rewards. Social bond theory sees goals and aspirations (specifically the pursuit of) as deterrents from deviant acts due to the potential loss of status/goal through societal punishment for deviant behavior. This is the opposite of strain theory where goals and aspirations are believed to be part of the cause of deviant acts due to the increased strain one feels while trying to attain these goals. If unable to attain them, or if enough strain is felt along the way, one may turn to deviant and delinquent

actions to further their progress toward attaining these goals or to dampen the effects of the strain as they continue toward their goals.

## PREVIOUS RESEARCH

College campuses have often been seen as locations with increased deviant acts and deviant behaviors as college students are introduced to more freedom and less supervision compared to their lives before college. Combining this with the large amount of stress many college students face (academic pressures and requirements, social pressures, school/work balance, etc.) can result in students acting in deviant ways, going against societal norms, and occasionally laws. Even when compared to their peers who are not attending college, college students have a higher prevalence of acts such as getting drunk, marijuana use, and prescription drug use in the past year (Ford & Blumenstein, 2012). The consumption of alcohol, and specifically binge drinking, is one of the more prevalent deviant acts that has been researched. Hittepole (2016), using National Institute of Alcohol Abuse and Alcoholism (NIAAA) study data, found that nearly 80% of all college students engage in drinking each year. There are a multitude of reasons why college students consume alcohol, including party atmospheres, fun, peer pressure, coping, etc. Russell and Arthur found that alcohol consumption was used as a method of coping and helped the student to “blow off steam” (2016). Due to drinking being such a normative behavior on college campuses, many researchers have focused on binge drinking as this entails a higher degree of risk and potential for negative consequences.

Binge drinking is typically classified as consuming five or more drinks in a row for men and four or more drinks in a row for women (Wechsler, Dowdall, Maenner, Gledhill-Hoyt, Lee, 1998). “At one third of the colleges, more than half of the student body were binge drinkers” (Wechsler et al., 1998:57). Multiple studies have found rates of self-reported binge drinkers

between 30%-50% (Chauvin 2012; Hingson, Zha, and White 2017; Johnston, O'malley, Bachman, Schulenberg, and Miech 2016; Pino, Tajalli, Smith, and DeSoto 2017; Wechler et al. 1998; Wechsler, Lee, Kuo, Seibring, Nelson, and Lee 2002; White, Kraus, and Swartzwelder 2006). As shown above, the percentage of students engaging in binge drinking can fluctuate depending on the sample. This same fluctuation can be seen when looking at binge drinking percentages for different subgroups. It has been found that men are much more likely than women to engage in binge drinking (Broman 2005; Johnston et al. 2016; Park and Levenson 2002; Sher and Rutledge 2007; White et al. 2006), white students are more likely to binge drink than black students (Johnston et al. 2016; Wechsler, Lee, Nelson and Lee 2003), members of Greek organizations are more likely than non-members to binge drink (Burek and Wright 2005; Chauvin 2012; Wechsler et al. 2003), and athletes are more likely to engage in binge drinking than non-athletes (Leichliteer, Meilman, Presley and Cashing 1998; Wechsler, Davenport, Dowdall, Grossman, and Zanakos 1997). As shown by Wechsler et al. (2003), white, male college students and members of Greek organizations were more likely to drive after drinking or to have ridden with a driver who was drunk or high. These designations coincide with those who are the higher percentage of, and most likely to be, binge drinkers. Other research has been conducted that looks at extreme binge drinking (twice the normal threshold of binge drinking, or 10 or more drinks in one sitting) because of the vast increase in risk it presents over normal levels of binge drinking. White et al. (2006) examined the prevalence of this phenomenon and found that 19.9% of college freshman males had engaged in extreme binge drinking during a two-week period. Binge drinking (whether examined at the extreme or normal threshold) is an important deviant act because of the potential for harm to oneself and to others. Drunkenness and being black out drunk, which binge drinking is often associated with, can create a situation

where risky behavior, health risks, deviant acts, and potential for violence all increase (Jennison, 2004; Wechsler, Lee, Kuo and Lee, 2000; Wechsler et al. 2002). For those extreme binge drinkers these behaviors and potentials can increase as the amount of alcohol consumed increases as well (Wechsler et al., 2002; White, 2006). General strain theory would argue that drunkenness would also increase one's sensitivity to strain, resulting in further increased potential for deviance.

Drug use, both marijuana and other illicit drugs, is also a common deviant act among college students. According to Ford and Blumenstein (2012), college students are slightly more likely to engage in marijuana use and the misuse of prescription stimulants as compared to their same age peers who are not attending college. In a similar study of college students, Pino et al. (2017) found that in their sample, 39% of students had smoked marijuana, 15% of students had used/misused prescription stimulants, and roughly 7% of students had used illicit street drugs that were not marijuana. A host of studies have found that levels of marijuana usage within the last year among students range between 30-50% (Arria, Caldeira, Allen, Bugbee, Vincent & O'Grady, 2017; Gergen, Gergen, & Morse, 1972; McCabe, Morales, Cranford, Delva, McPherson, & Boyd, 2007; Mohler-Kuo, Lee, & Wechsler, 2003; Schorling, Gutgesell, Klas, Smith, & Keller, 1994; Sumstine, Cruz, Schroeder, Takeda, & Bavarian, 2017). When the usage period was within the last 30 days, which can reduce the population to the more frequent of users, the rate fell between 13-25% (Gergen et al. 1972; Mohler-Kuo et al. 2003; O'Malley, 2002; Pearson, Liese, Dvorak & Marijuana outcomes study team, 2017). Mohler-Kuo et al. (2003) found that between 4% and 7% of their sample had used illicit drugs other than marijuana within the last 30 days. They also saw an increase in this use from 4% to 7% within the last 30 days and from 11% to 14% in past year use between 1993 and 2001, respectively. Sumstine et al.

(2017) found that 20% of students had used prescription stimulants, and 12% of students had used prescription painkillers within the last term. Watkins (2016) also found similar rates: 24.6% reported prescription drug misuse (PDM) within the last semester. Watkins (2016) also found that members of the Greek community in the sample had a 147% increase in the odds of PDM within the last semester when compared to their non-Greek counterparts. Johnston et al. (2016) discovered that illicit drug use was higher for college students than their non-college counterparts and saw that males were more likely to engage in illicit drug use, especially as the frequency of drug use increased. Comparing males and females, the higher rates of male use continued across both illicit drug use other than marijuana (22% vs. 17%) and marijuana use (35% vs. 30%) (Johnston et al. 2016).

Strain and stress is often seen as a precursor to negative behaviors, such as drug use and drinking (Agnew 2013; Brezina, 1996; Broman 2005; Ford, Reckdenwald and Marquardt 2014; Hudd, Dumalo, Ermann-Sager, Murray, Phan, and Soukas 2000; Park and Levenson 2002; Russell and Arthur 2016; Safron, Schulenberg, and Bachman 2001; Sharp, Terling-Watt, Atkins, Gilliam and Sanders 2001). One stressor for college students is balancing their academic requirements with other aspects of their life, such as work, socializing, and relationships. Pascarella and Terenzini (1998) found that in 1993 46% of full-time college students were employed and more than half of them worked 20+ hours a week. This finding is supported by Robotham and Julian (2006) who, using the Student Living Report of 2004, saw that 42% of students had a job to support themselves while they were enrolled in college. This large percentage of working full-time students could be due to the increase in not only the emphasis on obtaining a college degree, but also the increase in costs.

Research on the costs of higher education has found that inflation adjusted costs have more than tripled at four-year public universities, from roughly \$2,000 to over \$7,000 between 1980 and 2009, and have more than doubled at both two and four-year private institutions as well (Scott-Clayton, 2012). Scott-Clayton (2012), when grouping students by quartiles of family income, found that almost 50% of working students designated their main reason for employment was to pay for tuition and fees. Even in the top two quartiles, 47% and 35% of students made this designation. Among working students, Scott-Clayton (2012) also found that 47% could not afford school without working, even though almost 50% of those students had taken out the maximum federal student loan. Dundes and Marx (2006) found that 65% of students working indicated that they did so to pay for basic living expenses and 29% indicated they worked to pay for tuition. These two reasons were increasingly common for those who were working 20+ hours per week. This increase in hours per week had negative effects on students as they were twice as likely to have low GPAs compared to students working 10-19 hours per week (Dundes et al. 2006). Students who worked 20+ hours per week also claimed they spent less time on assignments and studied fewer hours for tests, both of which typically have a negative effect on one's academic performance. Stress was also a byproduct of working while being a full-time student. Of those working 10+ hours per week, 70-80% reported experiencing stress, whereas only 19% of those working fewer hours reported it. Regardless of hours worked, 64% of students who were employed while being a full-time student believed their employment was increasing their stress levels.

An increase in stress levels in an academic environment can lead one to find ways to decrease this stress or lessen the burden on themselves. One way this burden can be lessened is through academic cheating. By cheating on a test or plagiarizing a paper, a student may be able

to lower their stress levels through lowering their burden. If one is willing to and prepared to cheat, they can devote less time to studying for a test or spend less time writing a paper and therefore, decrease the strain they are experiencing. Another potential factor leading students toward cheating is the increasing credentialization of our academic system and our economy. Credentials are becoming necessary to navigate our country's economic prospects and are often used as "keys" to open doors for jobs or interviews. Without professional/academic credentials (e.g., college degree) many jobs and opportunities are inaccessible. Therefore, if the path toward a degree is becoming increasingly difficult for a student, they may resort to cheating to try to ensure their degree and, in turn, their "key" to otherwise restricted careers and employment. Smith, Langenbacher, Kudlac, & Fera (2013) found that males were not only significantly more likely to have ever cheated, but they were also significantly more likely to cheat more frequently than females. This study also found that the GPA of a student was a significant predictor for them having cheated on an exam. As one's GPA increased, their odds of cheating on an exam decreased. In addition, Smith et al. (2016) found that losing eligibility for participation in intercollegiate sports due to poor academic performance increased the likelihood of plagiarism for those threatened with loss of eligibility and those who have experienced the loss of eligibility. The study conducted by Smith et al. (2016) also found that the odds of plagiarism increased by 1.27 times for every one-unit increase in the cumulative stress index they used. Therefore, as a student's stress increases, their likelihood of plagiarism will increase as well. Haines, Diekhoff, LaBeff, & Clark (1986) found that students who admitted to cheating were less likely to have paid for their own education. They concluded that the reliance on their parents for financial support may lead cheaters to place less value on the formal aspects of education than students who have a greater personal financial investment in their own education. This finding by Haines



et al. (1986) reiterates the main ideas of social bond theory as those who have more invested and have more at stake are less willing to perform deviant acts than those who do not have as much to risk.

This study tests competing hypotheses that are derived from general strain theory and social bond theory.

*Hypothesis 1: Self-funded students will have significantly greater participation in the measured deviant acts as compared to students with other forms of funding.*

Hypothesis 1, is based upon general strain theory and the idea that a student who has to fund their college education themselves, through either employment or personal savings, will have increased stress and strain. This increase in strain can lead to negative emotions and in order to cope with those negative emotions, students will increase their participation in deviant acts such as binge drinking, marijuana use, illicit drug use, and academic cheating that may aid in coping with any negative emotions arising from the experience of strain.

*Hypothesis 2: Self-funded students will have significantly reduced participation in the measured deviant acts as compared to students with other forms of funding.*

Hypothesis 2 is based upon social bond theory and the idea that students who are self-funding their college education have more invested and therefore, have more to lose. Due to this increased investment, these students will have decreased levels of participation in deviant acts as they are hypothesized to avoid risking their investment in society (e.g., education).

*Hypothesis 3: Self-funded students will not differ from students with other forms of funding in their participation in the measured deviant acts*

Hypothesis 3 is the null hypothesis and allows for the possibility that there are no differences between self-funded students and students with other forms of funding in terms of their level of participation in deviant activities.

## DATA AND METHODS

These hypotheses were tested using data from an internet based student survey that was distributed to a random sample of students in the spring semester of 2013 to students at a medium sized university in the American Midwest. The total number of students to whom the survey was sent totaled 6,000 while 1,559 students responded. This resulted in roughly a 25% response rate. This survey was an emailed invitation with a link to the online survey. This survey was completed anonymously and was estimated to take 10-15 minutes to complete. The focus of this survey was to examine multiple topics including but not limited to: college behaviors, student attitudes, experiences such as drinking, drug use, gambling, sexual behaviors, and victimization.

### Measures

This thesis examines multiple acts of deviance including: binge drinking, marijuana use, illicit drug use, and academic cheating. These four measures are discussed below.

### Binge Drinking

As shown in the previous literature, the consumption of alcohol in and of itself is not widely considered to be a deviant act on college campuses. While alcohol consumption in general is accepted behavior, binge drinking and especially frequent binge drinking represents behavior that is less prevalent, more risky, and viewed as extreme in nature. Binge drinking, as defined by Wechsler et al. (1998), is the consumption of five or more drinks in one sitting.

Participants in this study were asked, “How often do you use the following: Alcohol to intoxication (5+ drinks in one sitting)?” Respondents had 6 response options to choose from: never, before but not in the past year, a few times in the past year, one or twice a month, once or twice a week, and almost every day. From these responses a measure of binge drinking was created where those who had reported binge drinking once or twice a month, once or twice a week, or almost every day were coded as “1” and all others were coded as “0.” This coding corresponds to those who engage in binge drinking at least monthly within the past year.

### Marijuana Use

Although changes are being made in different parts of the country regarding recreational marijuana use, colleges and universities largely continue to prohibit marijuana use on campus, thus regarding its use as deviant. In this survey, participants were asked “How often do you use the following: Marijuana/Hashish (pot, joints, blunts, weed)?” Six response options were offered for the respondent: never, before but not in the past year, a few times in the past year, once or twice a month, once or twice a week, almost every day. Similar to the binge drinking measure above, a measure of marijuana use was created where those using marijuana once or twice a month, once or twice a week or almost every day were coded as “1” and all others were coded as “0”. This coding corresponds to those who engage in marijuana use at least monthly within the past year.

### Illicit Drug Use

Illicit drug use in this study combines the responses that were given on a number of drugs including: hallucinogens/psychedelics, PCP, MDMA, LSD, mushrooms, methamphetamines, amphetamines, cocaine/crack, heroin, and other illegal drugs. Survey participants used the same

response options as outlined in the binge drinking and marijuana use questions. As these illicit drugs do not hold the same public support for legalization as marijuana, the threshold of illicit drug use to be considered deviant was deemed much lower. Respondents who indicated any use of any of the drugs listed above within the past year were coded as “1” while those who had never used or not used in the past year were coded as “0.” Dummy coding the variable in such a way was deemed necessary due to the lack of responses in the more specific response categories, especially the categories for more frequent use.

### Academic Cheating

For this study, academic cheating refers specifically to a student cheating on a test. Using a similar scale as the above predictors, respondents were asked how often they had cheated on a test in the past year: never, before but not in the past year, a few times in the past year, 1-3 times in the past month, 4-8 times in the past month, and 9 or more times in the past month. A dummy variable was created so that academic cheating was coded as “1” if a student indicated that they had cheated on a test within the past year and “0” if student indicated that they had not cheated on a test within the past year. The categories signaling the most frequent occurrences of academic cheating did not have enough responses to warrant keeping them as separate categories for this analysis.

### Predictor Variables

The key predictor variable this study focuses on is college funding source, specifically the impact of self-funding. Respondents were asked “What is your primary source of funding for college tuition and college related expenses?” and were given 6 options: parents (direct payments or parent’s loans), loans in your own name (not your parent’s), scholarships, personal savings,

employment, and other. Students were considered self-funding if they reported that their primary source of funding for college as either employment or personal savings. These two response options were combined because they are in line with the guiding theoretical paradigms and employment alone did not make up enough of the sample for a proper analysis. Both personal savings and employment funding sources involve upfront costs and immediate financial burden whereas a category such as personal loans typically pushes the burden until after graduation (thus potentially reducing its effects). From the five categories for college funding source a series of indicator or dummy variables was created. Each variable was created so that respondents were given a value of 1 if their reported funding source matched the dummy variable and a value of 0 for all other dummy variables.

### Controls

Based upon the previous literature and the guiding theoretical paradigms, this study uses gender, race, Greek (fraternity or sorority) organization affiliation, age, residence, GPA, work, measures of social bond, and measures of strain as controls. Previous studies have shown that whites, males, and those who are members of Greek organizations commit deviant acts at higher rates than other subgroups. Race was dummy coded “1” for whites and “0” for minority groups. Gender was coded “1” for females and “0” for males. Greek affiliation was coded “1” for being a member and “0” for not being a member. To account for opportunity effects the study also controlled for differences in location of residence as each could result in certain limits in regards to opportunity being placed upon a student. Residence was separated into “Off-Campus alone”, “On-Campus”, “Off-Campus with Parents”, and “Off-Campus with Others”. Age was treated as a continuous variable, but in the questionnaire the respondents’ possible inputs were capped at 25 and older to reflect the typical college student age range. Both GPA and work were left as

ordinal control variables. The GPA categories were “below 2.0”, “2.0 to 2.4”, “2.5 to 2.9”, “3.0 to 3.4”, “3.5 to 4.0”. For work, respondents were asked how many hours per week they spent at a job or work-study; “none”, “1-5”, “6-10”, “11-20”, “21-30”, “31-39”, or “40 or more”.

Variables indicating “bond to school”, “bond to parents”, “course related academic strain”, “mental academic strain” and “effort related academic strain” were created using factor analyses and used to control for the effects of the social bond and strain. School bond and parent bond were created by running a factor analysis on nine bond related questions that were all answered on the same scale: strongly disagree, disagree, agree, strongly agree. A factor analysis was run using STATA and principal components factors. The factors were then rotated using a varimax rotation. Three factors were identified after the factor analysis. The factor loadings were then used to determine which variables were to be used. An index was then created by averaging the scores of the selected variables. A higher value on this index correlates to a greater bond. A Cronbach’s alpha was then obtained for each new variable and only school bond (0.79) and Parent bond (0.75) were above the 0.70 recommended threshold that was used. School bond is a combination of five questions: “it is personally important to me that I get good grades”, “I enjoy taking classes”, “it is important to me that my teachers have a positive opinion about me”, “I spend a lot of time studying” and “I try hard in school”. Parental bond is a combination of two questions: “it is important to me that my parents have a positive opinion about me”, and “I stay in touch with my parents regularly”. The possible values on these two variables range from 1 to 4 and the higher the respondent’s score, the stronger the bond they have.

To create the three academic strain variables, a factor analysis was run on 16 academic strain related questions that were all answered on the same scale: strongly disagree, disagree, agree, strongly agree. A factor analysis was run using STATA and principal components factors.

The factors were then rotated using a varimax rotation. Three factors were identified after the factor analysis. The factor loadings were then used to determine which variables were to be used. An index was then created by averaging the scores of the selected variables. A higher value on this index correlates to a greater academic strain. A Cronbach's alpha was obtained for each new variable and they were all above the 0.70 recommended threshold: course related strain (0.83), mental related strain (0.83) and effort related strain (0.77). Course related academic strain is a combination of five questions: "I am distracted in class", "I am unable to study as required", "I have trouble concentrating in class", "I am not really interested in my readings", and "I feel restless during lectures". Mental related academic strain is a combination of eight questions: "I feel worried about keeping up with my studies", "I miss too many of my lectures", "I have trouble studying effectively", "I fear that I am getting poor grades", "I would like to stop going to school", "I have poor memory", "I have trouble making up my mind about academic work", and "I am too forgetful and easily discouraged about academic work". Effort related academic strain is a combination of three questions: "I am lazy when it comes to academic work", "I procrastinate on assignments", and "I don't spend enough time studying". The possible values on these three variables range from 1 to 4 and the higher a respondent scores, the more academic strain they are feeling.

In Table 1 below, the descriptive statistics for all of the variables in this study can be seen. The sample had a distribution between the sexes that favored female (57.68%) over male (42.32%). In terms of race, the sample was predominantly white (79.35%) while non-white (20.65%) was a much smaller piece of the sample. Overall the sample contained a significant overrepresentation of female students and a slight underrepresentation of minority students compared to the university's population as a whole based upon the enrollment of Fall 2016 (51%

and 22% respectively). Age options on the questionnaire ranged from 18 to 25 and older but the most frequent were 20 (19%) and 21 (21.31%) and the least frequent were 23 (5.34%) and 24 (3.09%). The respondents who were 25 or older made up 8.37% percent of the overall sample. GPA options ranged from “below 2.0” to “3.5 to 4.0”. Most of the students fell into either “3.0 to 3.4” (33.74%) or “3.5 to 4.0” (37.85%).



Table 1. Sample Descriptives (N=1,559)

Variable	N	Mean / %	SD	Min.	Max.
<i>Predictors</i>					
Self-Funded	109	7.00%			
Parent-Funded	618	39.69%			
Scholarship-Funded	221	14.19%			
Personal Loan-Funded	527	33.85%			
Other Funding	82	5.27%			
<i>Controls</i>					
<i>Age</i>					
18	207	13.33%			
19	258	16.61%			
20	295	19.00%			
21	331	21.31%			
22	201	12.94%			
23	83	5.34%			
24	48	3.09%			
25 or Older	130	8.37%			
<i>GPA</i>					
Below 2.0	27	1.74%			
2.0 to 2.4	96	6.17%			
2.5 to 2.9	319	20.50%			
3.0 to 3.4	525	33.74%			
3.5 to 4.0	589	37.85%			
<i>Race</i>					
White	1,237	79.35%			
Non-White	322	20.65%			
<i>Sex</i>					
Female	897	57.68%			
Male	658	42.32%			
<i>Greek Organization</i>					
Member	158	10.16%			
Non-Member	1,397	89.84%			
<i>Residence</i>					
Off-Campus Alone	99	6.37%			
On-Campus	559	35.97%			
Off-Campus with Parents	153	9.85%			
Off-Campus with Others	743	47.81%			

Table 1 - continued

Work Status					
<i>None</i>	577	37.15%			
<i>1 to 5</i>	76	4.89%			
<i>6 to 10</i>	153	9.85%			
<i>11 to 20</i>	381	24.53%			
<i>21 to 30</i>	252	16.23%			
<i>31 to 39</i>	60	3.86%			
<i>40 or more</i>	54	3.48%			
School Bond	1,494	3.26	0.49	1.00	4.00
Parental Bond	1,502	3.51	0.61	1.00	4.00
Academic Strain					
<i>Course Related</i>	1,493	2.29	0.61	1.00	4.00
<i>Mental Related</i>	1,493	2.06	0.55	1.00	3.88
<i>Effort Related</i>	1,498	2.47	0.68	1.00	4.00
<i>Dependents</i>					
Binge Drinking (monthly use)					
<i>Yes</i>	681	44.22%			
<i>No</i>	859	55.78%			
Marijuana Use (monthly use)					
<i>Yes</i>	306	19.82%			
<i>No</i>	1,238	80.18%			
Illicit Drug Use (past year)					
<i>Yes</i>	221	14.42%			
<i>No</i>	1,312	85.58%			
Academic Cheating (past year)					
<i>Yes</i>	169	11.16%			
<i>No</i>	1,345	88.84%			

## ANALYSES

The analyses for this study were conducted using binary logistic regression due to the use of binary dependent variables. Binary logistic regressions are used to predict the odds of an event happening given the predictor variables in the equation. The following equation is the typical binary logistic regression equation:  $Y=a+B_1X_1+B_2X_2+\dots+B_kX_k$ . This equation, and the binary logistic regression model, were used in the analysis of all of the dependent variables as each one had been coded into “0/1” variables. This study used list-wise deletion to handle the missing cases for each variable and model. List-wise deletion is when the statistical program deletes an entire case from the data if the respondent does not answer all of the questions that are involved for the specific variable or model. As noted in the footnotes of each table, the total number of deleted cases was relatively small meaning that this strategy is acceptable and should not skew the data in a significant way. A low number of deleted cases means that the loss of statistical power, which is one of the negatives of using list-wise deletion, is rather limited. As mentioned by Bennett (2001), a common threshold for using list-wise deletion and limiting the loss of statistical power is 10% or less of the data being lost through this method. Each model used in this study lost less than 10% of the cases when list-wise deletion was used.

### Results

Table 2 presents the binary logistic regression of college funding predicting at least monthly engagement in binge drinking. This regression had 1,435 cases and did not show any significant relationships between college funding source and monthly engagement in binge drinking. This model had a Nagelkerke’s pseudo  $R^2$  of 0.213 meaning it explained 21.3% of the observed variance. Coefficients presented were standardized through the STATA program to allow for comparison across control and predictor variables to see relative impact.

The control variables used in this analysis were found to have multiple significant relationships. Minority students' (OR=0.47) odds for monthly binge drinking were significantly lower ( $\beta = -.015$ ;  $p < .001$ ) than the odds for white students. Greek organization members (OR=1.58) were found to have significantly higher odds ( $\beta = 0.07$ ;  $p < .05$ ) of engaging in monthly binge drinking when compared to non-members. Compared to students who are living off campus by themselves, students who live off campus with others had a significant increase in their odds of binge drinking at least monthly. An OR value of 2.30 ( $\beta = 0.20$ ), which is significant at the  $p < .01$  level, means that the odds for these students increases by 130%. Students who lived off-campus with their parents had decreased odds of having engaged in binge drinking at least monthly (OR= 0.42;  $\beta = -0.13$ ;  $p < .05$ ) when compared to students living alone off-campus. Students with stronger parental bonds had decreased odds (OR= 0.74;  $\beta = -.09$ ;  $p < .01$ ) of engaging in binge drinking at least monthly when compared to those with weaker parental bonds. A higher score on the course related (OR= 1.52;  $\beta = 0.21$ ;  $p < .01$ ) academic strain variable resulted in increased odds for at least monthly binge drinking. Students scoring higher on the effort related strain variable (OR= 1.36;  $\beta = 0.15$ ;  $p < .05$ ) had significantly increased odds of having engaged in binge drinking at least monthly. There were no significant relationships observed for the other control variables including work, GPA, school bond, and other academic related strains.

Table 2. Logistic Regression of College Funding Predicting Monthly Binge Drinking (N=1,435)

Variable	$\beta$	<i>b</i>	<i>SE b</i>	<b>OR</b>
<i>College Funding</i> (Reference Self-Funded)				
Parent-Funded	0.10	0.43	0.25	<b>1.55</b>
Scholarship-Funded	-0.03	-0.19	0.28	<b>0.83</b>
Personal Loan-Funded	0.02	0.10	0.25	<b>1.10</b>
Other Funding	0.01	0.12	0.35	<b>1.12</b>
Age	-0.03	-0.03	0.04	<b>0.97</b>
GPA	-0.01	-0.01	0.07	<b>0.99</b>
Minority	-0.15 ***	-0.75	0.16	<b>0.47</b>
Male	0.02	0.09	0.13	<b>1.09</b>
Member of Greek Organization	0.07 *	0.45	0.19	<b>1.58</b>
<i>Residence</i> (Reference Off-Campus Alone)				
On-Campus	-0.03	-0.12	0.29	<b>0.89</b>
Off-Campus with Parents	-0.13 *	-0.87	0.34	<b>0.42</b>
Off-Campus with Others	0.20 **	0.84	0.27	<b>2.30</b>
Work	-0.01	-0.01	0.04	<b>0.99</b>
School Bond	-0.03	-0.13	0.16	<b>0.88</b>
Parental Bond	-0.09 **	-0.30	0.11	<b>0.74</b>
<i>Academic Strain</i>				
Course Related	0.21 **	0.42	0.15	<b>1.52</b>
Mental Related	0.02	0.03	0.17	<b>1.03</b>
Effort Related	0.15 *	0.31	0.12	<b>1.36</b>
Constant		-0.83	0.87	<b>0.44</b>

† \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$

†† Missing cases (listwise deletion): 124

$\beta$ : standardized; *b*: unstandardized

Table 3 presents the binary logistic regression of college funding predicting marijuana use at least once per month. This regression model had a Nagelkerke's pseudo  $R^2$  of 0.139, meaning that it explains 13.9% of the observed variance. The model had 1,438 cases and found a significant relationship between parent-funded students and using marijuana at least once per month. When compared to self-funded students, those funded by parents had significantly increased odds of using marijuana at least once per month. Their OR value of 2.00 ( $\beta = 0.17$ ;  $p < .05$ ), corresponds with an increase in the odds of engagement of 100%. Multiple significant relationships were observed regarding the control variables. As students got older, their odds of engagement for monthly marijuana use significantly decreased (OR= 0.89;  $\beta = -0.12$ ;  $p < .01$ ). Higher GPAs also resulted in decreased odds of marijuana use at least monthly within the past year (OR= 0.84;  $\beta = -0.09$ ;  $p < .05$ ). Compared to students who live off-campus alone, students living off-campus with their parents (OR= 0.36;  $\beta = -0.15$ ;  $p < .05$ ) had decreased odds of using marijuana at least once per month. Living on-campus, compared to living off-campus alone, also resulted in a significant decrease in the odds of using marijuana at least once per month (OR= 0.49;  $\beta = -0.17$ ;  $p < .05$ ). Students who had a stronger parental bond had significantly decreased odds of engaging in marijuana use at least once a month (OR= 0.60;  $\beta = -0.16$ ;  $p < .001$ ). Higher scores on either the mental related (OR= 1.57;  $\beta = 0.13$ ;  $p < .05$ ), or effort related (OR= 1.49;  $\beta = 0.14$ ;  $p < .01$ ), academic strain variables corresponded with increased odds of using marijuana at least once per month. None of the other control variables showed any significant relationships regarding at least monthly marijuana use.

Table 3. Logistic Regression of College Funding Predicting Monthly Marijuana Use (N=1,438)<sup>†</sup>

Variable	$\beta$	<i>b</i>	<i>SE b</i>	<b>OR</b>
<i>College Funding</i> (Reference Self-Funded)				
Parent-Funded	0.17 *	0.70	0.33	<b>2.00</b>
Scholarship-Funded	-0.01	-0.06	0.39	<b>0.94</b>
Personal Loan-Funded	0.10	0.40	0.33	<b>1.49</b>
Other Funding	0.05	0.47	0.45	<b>1.59</b>
Age	-0.12 **	-0.12	0.05	<b>0.89</b>
GPA	-0.09 *	-0.17	0.08	<b>0.84</b>
Minority	-0.05	-0.27	0.19	<b>0.76</b>
Male	-0.01	-0.06	0.15	<b>0.95</b>
Member of Greek Organization	-0.02	-0.13	0.23	<b>0.88</b>
<i>Residence</i> (Reference Off-Campus Alone)				
On-Campus	-0.17 *	-0.71	0.34	<b>0.49</b>
Off-Campus with Parents	-0.15 *	-1.02	0.44	<b>0.36</b>
Off-Campus with Others	0.07	0.26	0.31	<b>1.30</b>
Work	0.06	0.07	0.04	<b>1.07</b>
School Bond	0.04	0.17	0.18	<b>1.18</b>
Parental Bond	-0.16 ***	-0.52	0.12	<b>0.60</b>
<i>Academic Strain</i>				
Course Related	-0.06	-0.21	0.18	<b>0.81</b>
Mental Related	0.13 *	0.45	0.20	<b>1.57</b>
Effort Related	0.14 **	0.40	0.15	<b>1.49</b>
Constant		-0.81	1.03	<b>0.45</b>

† \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

†† Missing cases (listwise deletion): 121

β: standardized; b: unstandardized

Table 4 shows the binary logistic regression of college funding predicting illicit drug use within the past year. A Nagelkerke's pseudo  $R^2$  of 0.132 for this model means that it explains 13.2% of the observed variance. Parent-funded students had an OR value of 2.57, which is significant at the  $p < .05$  level ( $\beta = 0.23$ ), meaning that the odds for these students to have used illicit drugs within the past year are 157% greater than the odds for the reference group, self-funded students. This was the only group of students, as separated by funding source, that showed a significant relationship as compared to the reference group. As seen below in Table 4, students living off-campus with others had increased odds for illicit drug use, with an odds ratio of 2.3, which is significant at the  $p < .05$  level ( $\beta = 0.21$ ) as compared to the students living off campus by themselves. Students who scored higher on the parental bond variable had decreased odds (OR= 0.58;  $\beta = -0.17$ ;  $p < .001$ ) of illicit drug use within the past year while students who scored higher for effort related academic strain had increased odds (OR= 1.69;  $\beta = 0.18$ ;  $p < .01$ ) of past year illicit drug use. No other control variables revealed a significant relationship for illicit drug use within the past year.



Table 4. Logistic Regression of College Funding Predicting Illicit Drug Use within Past Year (N=1,431)

Variable	$\beta$	<i>b</i>	<i>SE b</i>	<b>OR</b>
<i>College Funding</i> (Reference Self-Funded)				
Parent-Funded	0.23 *	0.95	0.40	<b>2.57</b>
Scholarship-Funded	0.08	0.47	0.45	<b>1.61</b>
Personal Loan-Funded	0.11	0.46	0.40	<b>1.58</b>
Other Funding	-0.05	-0.49	0.65	<b>0.61</b>
Age	-0.05	-0.05	0.05	<b>0.96</b>
GPA	-0.07	-0.13	0.09	<b>0.88</b>
Minority	-0.06	-0.32	0.22	<b>0.72</b>
Male	0.02	0.10	0.17	<b>1.10</b>
Member of Greek Organization	-0.02	-0.10	0.26	<b>0.91</b>
<i>Residence</i> (Reference Off-Campus Alone)				
On-Campus	0.01	0.02	0.44	<b>1.02</b>
Off-Campus with Parents	-0.10	-0.67	0.58	<b>0.51</b>
Off-Campus with Others	0.21 *	0.83	0.41	<b>2.30</b>
Work	0.01	0.01	0.05	<b>1.01</b>
School Bond	0.04	0.16	0.21	<b>1.17</b>
Parental Bond	-0.17 ***	-0.55	0.14	<b>0.58</b>
<i>Academic Strain</i>				
Course Related	-0.04	-0.14	0.20	<b>0.87</b>
Mental Related	0.09	0.32	0.22	<b>1.38</b>
Effort Related	0.18 **	0.52	0.17	<b>1.69</b>
Constant		-2.40	1.20	<b>0.09</b>

† \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

†† Missing cases (listwise deletion): 128

β: standardized; b: unstandardized

Table 5, presented below, represents the binary logistic regression model of college funding predicting academic cheating within the past year. This table shows that there were no significant relationships between college funding source and academic cheating. This means that being a self-funded student did not have any significant effect on the engagement in academic cheating within the past year. This model had a Nagelkerke's pseudo  $R^2$  of 0.129, indicating it was able to explain 12.9% of the observed variance. Looking at the control variables in Table 5 we see that an increase in age led to a decrease in academic cheating. An OR value of 0.89, which is significant at the  $p < .05$  level ( $\beta = -0.12$ ), shows a significant decrease in the odds of academic cheating within the past year. Neither gender nor race showed any effect on academic cheating. However, members of Greek organizations had significantly increased odds of academic cheating within the past year as compared to those who are not Greek organization members. The OR value of 2.17, which was significant at the  $p < .01$  level ( $\beta = 0.11$ ), showed an increase in the group's odds of 117%. No residential designations showed any significant relationship in academic cheating within the past year. A higher score on either course related academic strain (OR= 1.57;  $\beta = 0.14$ ;  $p < .05$ ) or effort related academic strain (OR= 1.46;  $\beta = 0.13$ ;  $p < .05$ ) resulted in increased odds of academic cheating within the past year. No other control variables show significant relationships regarding past year academic cheating.

Table 5. Logistic Regression of College Funding Predicting Academic Cheating within Past Year (N=1,450)

Variable	$\beta$	<i>b</i>	<i>SE b</i>	<b>OR</b>
<i>College Funding</i> (Reference Self-Funded)				
Parent-Funded	0.14	0.57	0.42	<b>1.76</b>
Scholarship-Funded	0.12	0.71	0.47	<b>2.03</b>
Personal Loan-Funded	0.08	0.34	0.44	<b>1.40</b>
Other Funding	0.04	0.33	0.60	<b>1.40</b>
Age	-0.12 *	-0.12	0.06	<b>0.89</b>
GPA	0.01	0.02	0.09	<b>1.02</b>
Minority	0.05	0.27	0.22	<b>1.31</b>
Male	0.07	0.78	0.19	<b>1.31</b>
Member of Greek Organization	0.11 **	0.77	0.24	<b>2.17</b>
<i>Residence</i> (Reference Off-Campus Alone)				
On-Campus	0.20	0.87	0.57	<b>2.39</b>
Off-Campus with Parents	0.00	-0.02	0.69	<b>0.99</b>
Off-Campus with Others	0.22	0.91	0.55	<b>2.48</b>
Work	0.04	0.05	0.05	<b>1.05</b>
School Bond	-0.07	-0.28	0.23	<b>0.75</b>
Parental Bond	0.08	0.26	0.17	<b>1.30</b>
<i>Academic Strain</i>				
Course Related	0.14 *	0.45	0.22	<b>1.57</b>
Mental Related	0.09	0.35	0.24	<b>1.42</b>
Effort Related	0.13 *	0.38	0.19	<b>1.46</b>
Constant		-6.18	1.36	<b>0.00</b>

† \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

†† Missing cases (listwise deletion): 109

β: standardized; b: unstandardized

Table 6, presented below, represents the supplementary ordinary least squares regression of college funding predicting the different measures of strain and bond. These regressions were run as supplementary models to test if the college funding variable has any effect on any of the strain or bond proxy measures. Overall, college funding had a limited ability to predict any of the three measures of strain or the two bond measures. The low  $R^2$  values (course = .0053; mental = .0017; effort = .0018; school = .0069; parent = .0281) show that the greatest amount of variance that is explained in any of the models is only 2.8%. Using self-funded students as the reference category, students who were “other-funded” was the only group to have any effect. Other-funded students can be predicted to have a significantly lower ( $\beta = -0.11$ ;  $p < 0.001$ ) parental bond than self-funded students. It is important to note that the total number of students in the “other” funded category is only about 5% of the total sample. In addition, with roughly twenty models being run for the OLS regression, an alpha level of .05 one would expect to potentially see at least one test showing significant effects due to random chance. These two factors lead me to believe that the effect seen for other funded students and parental bond is not truly significant and is due to random chance.

Table 6. Supplementary Ordinary Least Squares Regression of College Funding Predicting Measures of Strain and Bonds

Variable	<u>Course Related Strain</u>			<u>Mental Related Strain</u>			<u>Effort Related Strain</u>			<u>School Bond</u>			<u>Parent Bond</u>		
	$\beta$	<i>b</i>	<i>SE b</i>	$\beta$	<i>b</i>	<i>SE b</i>	$\beta$	<i>b</i>	<i>SE b</i>	$\beta$	<i>b</i>	<i>SE b</i>	$\beta$	<i>b</i>	<i>SE b</i>
<i>College Funding</i> (Reference Self-Funded)															
Parent-Funded	0.08	0.11	0.07	0.06	0.07	0.06	0.04	0.06	0.07	0.01	0.01	0.05	0.07	0.08	0.06
Scholarship-Funded	0.00	0.00	0.07	0.01	0.02	0.07	-0.01	-0.03	0.08	0.08	0.11	0.06	-0.07	-0.11	0.07
Personal Loan-Funded	0.07	0.09	0.07	0.06	0.07	0.06	0.02	0.03	0.07	0.01	0.01	0.05	-0.06	-0.07	0.07
Other Funding	-0.01	-0.01	0.09	0.03	0.07	0.08	0.00	0.01	0.10	-0.04	-0.08	0.07	-0.11 ***	-0.29	0.09
Constant		2.21	0.06		2.00	0.05		2.44	0.07		3.24	0.05		3.50	0.06

† \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

N: Course 1491; Mental 1491; Effort 1496; School 1492; Parent 1500

$\beta$ : standardized; *b*: unstandardized

## DISCUSSION

The goal of this study was to examine the relationship between college funding sources for students and their engagement in four deviant activities: monthly binge drinking, monthly marijuana use, illicit drug use, and academic cheating. Competing hypotheses were derived from strain and social bond theories to provide potential explanations for increased participation in deviant acts, decreased participation in deviant acts, or no effect. An increase in delinquency could be explained using Agnew's general strain theory which would argue that the burden of self-funding, whether it be financial, time constraints, etc..., would lead to the experience of strain and negative emotions. The strain and negative emotions would need to be dealt or coped with and engagement in deviant acts represent a potential coping method. On the other hand, a decrease in delinquency could be explained using Hirschi's social bond theory. This theory argues that as bonds to society increase, the cost of delinquency increases as well and therefore one's engagement in delinquency decreases. Due to self-funded students having a larger up front and immediate cost, social bond theory would argue this increases their potential costs for engaging in deviant acts and therefore ultimately leads to a decrease in deviant engagement. There was also the possibility of no effect being observed between college funding and the measured deviant actions in that any bond weakness or strain students have due to college funding is not strong enough to change their levels of deviant engagement.

Overall, this study concludes that there is no relationship between college funding and deviant acts as hypothesized. The supplementary analysis showed that there was no relationship between college funding source and the strain and bond measures used. The two competing hypotheses and theoretical frameworks were arguing that strain would cause an increase in

deviance for self-funded students or that bond would cause a decrease in deviance for self-funded students. Despite increases being seen for parent funded students regarding monthly marijuana use and illicit drug use within the past year as compared to self-funded students, these increases do not appear to be due to a lack of bond for these students, as was argued by social bond theory, as college funding was shown to have no effect on either bond variable.

The lack of observed effects in the supplementary OLS regression points toward the fact that college funding has no impact or relationship with strain and bond as measured in this study. The two main hypotheses and theoretical frameworks for this study focused upon strain and bond being the driving factors to explain any increase or decrease in the measured deviant behaviors. Therefore, it can be concluded that the theoretical frameworks and subsequent hypothesis used in this study are not supported and the study was unable to reject the null hypothesis. Although there are effects being seen for both marijuana use and illicit drug use for parent funded students, the supplementary analysis shows that these effects are not due to the presence of strain and/or bond and therefore do not coincide with the hypothesized expectations. The effects seen are likely due to other variables and factors.

While neither theoretical hypothesis was supported, the study did find college funding source to have some limited effects on deviant acts. On the one hand, significant relationships for college funding source and deviance were observed for monthly marijuana use and for illicit drug use. On the other hand, college funding source did not show significant relationships for either monthly binge drinking, or academic cheating. Parent-funded students had significantly increased odds for monthly marijuana use and for illicit drug use within the past year as compared to self-funded students, which falls in line with what would be expected using Hypothesis 2 (social bond theory). Social bond theory would focus upon the fact that these

students have less personal immediate investment in their education and therefore are more willing to risk their investment into conventional society by engaging in deviant acts such as illicit drug use. Significant increases in odds of monthly marijuana use were observed as respondents scored higher on effort related and mental related academic strain. There was also a significant increase in the odds of past year engagement in illicit drug use for students who had academic strain due to a lack of effort. It could be argued that a lack of personal investment could be influencing a student's willingness to give less effort and the accompanying strain could lead to marijuana use or illicit drug use.

Students who are parent-funded also potentially have more time to spend on deviant activities as they are likely not working as many hours, if any at all, as compared to students who are self-funded. The availability of money to finance marijuana use and illicit drug use could also come into play as students who have their costs postponed, or covered by another party, potentially have more money to spend on activities and goods beyond their college costs. This access to spending money also coincides with the connection between parental funding and socioeconomic status (Sallie Mae, 2014). One could also argue that if a student's parents are able to fund college they are also likely to be in a higher social class, meaning that said students would likely have greater financial means than other students and have an ability to purchase drugs. This social class aspect could help explain why students who are funded by personal loans or scholarships do not have a statistically significant increase in their odds of illicit drug use as compared to self-funded students while parent funded students do. It is important to note that students who have a stronger parental bond were also significantly less likely to have used marijuana monthly or to have used illicit drugs within the past year.



No effects were seen when using college funding to predict at least monthly engagement in binge drinking. The lack of effects being shown could be due to high rates of engagement in this activity. As shown above, previous research has found that drinking in general, and more specifically binge drinking, has become an increasingly normative behavior on college campuses (Chauvin 2012; Hingson, Zha, and White 2017; Johnston, O'Malley, Bachman, Schulenberg, and Miech 2016; Pino, Tajalli, Smith, and DeSoto 2017; Wechler et al. 1998; Wechsler, Lee, Kuo, Seibring, Nelson, and Lee 2002; White, Kraus, and Swartzwelder 2006). This is also shown by the fact that an increase in parental bond had no effect on binge drinking at least monthly whereas the odds of engagement for both frequent marijuana use at least monthly and illicit drug use within the past year decreased significantly as parental bond increased; potentially meaning that marijuana use at least monthly and illicit drug use are seen as more deviant than binge drinking. The party culture of college campuses is not dominated or frequented by one group of funded students over another. As expected, minorities are less likely to engage in binge drinking monthly while members of Greek organizations are more likely to engage in monthly binge drinking as are those who are experience course related academic strain. This academic strain may be driving some students to cope with or combat said strain through increased levels of binge drinking but college funding is not an effective way of sorting these students.

Using college funding to predict academic cheating within the past year also resulted in no observed effects. One possible explanation for the lack of significant relationships could be a simple lack of reported engagement in the activity overall (only 11.16% of the sample reported cheating in the past year). This lack of reporting may be due to limited opportunities to engage in the behavior, or the social desirability of reporting this behavior, or it may be that funding has little impact on the decision to cheat. There are often not many chances for students to commit

academic cheating, as defined by this study, as there are typically only between two and four tests/exams per course per semester. Beyond just the number of opportunities to cheat being limited by course schedules, opportunities likely vary course to course depending upon factors such as test type (essay vs. multiple choice), proctor (professor vs. teaching assistant), the physical characteristics of the classroom, and others outside the control of the student. Considering that cheating in college is an offense that can result in serious sanctions being placed on the student, including course failure, academic probation, or even expulsion, it is also logical to assume that certain level of social desirability is present in the answers given by the respondents. Students may not feel comfortable admitting to an action that could have serious ramifications on their academic standing, especially if the survey is coming from a faculty member or the university itself. Although the survey is anonymous, this may not fully rid the respondents' feelings of risk for this specific topic. Another explanation could be that funding simply has no effect on a student's engagement in academic cheating. Combining the low rate of engagement in academic cheating with the fact that higher scores on course related academic strain and effort related academic strain increased the odds of past year engagement leads me to think that academic cheating may be based more in necessity which is not due to college funding but other factors.

Increased odds of engagement in academic cheating were seen for both course related and effort related academic strain, meaning that students who were struggling or were lazy were more willing to, or perhaps felt a need to, engage in academic cheating. The increased odds of academic cheating for members of Greek organizations potentially speaks to the culture that often is linked to fraternities and sororities (party culture, extreme schedules, etc.) which may result in the need to cheat academically to maintain a certain academic standing.

Residence was the most influential variable of the model regarding monthly marijuana use as students who lived off-campus with their parents or on-campus both had significantly decreased odds of engagement as compared to those living off campus alone. This finding reinforces the idea that most colleges/universities and parents treat marijuana use as deviant while college students may see it as less so. The residential findings also coincided with expected behaviors regarding monthly binge drinking. Students living at home with their parents may have less access to alcohol, more strict rules, and less direct interactions with other college students in party atmospheres. On the other hand, students living off campus with other students most likely have fewer rules, greater access to alcohol, and more interaction in party atmospheres. Despite having no significant effect on academic cheating, residence was arguably the most influential variable for this study as both monthly binge drinking and monthly marijuana use were significantly affected by two aspects of residence and illicit drug use was effected by one. Compared to living off-campus alone, living off-campus with parents resulted in significant decreases in the odds of engagement in both monthly binge drinking and monthly marijuana use while living off-campus with others resulted in significant increases in odds of engagement for both monthly binge drinking and illicit drug use. This shows that residential location and status is an important variable to consider if worried about a student's participation in deviant acts.

### Limitations

Although the findings in this study found limited support for the competing theoretical paradigms, it is still important to discuss potential limitations that could have affected the observed results. The first is regarding measurement limitations and issues. The survey being used classified binge drinking as five or more drinks in one sitting. More recent research into binge drinking has begun to use different numbers of drinks for men and women to establish

thresholds of binge drinking (Hittepole, 2016). A more updated survey should use gendered drink thresholds for defining binge drinking (four or more drinks for women and five or more drinks for men). Examining extreme binge drinking (10 or more drinks in one sitting) in addition to or instead of normal binge drinking may also be needed for future research as the null findings observed in the analysis of binge drinking may be due to this behavior becoming increasingly normative in college culture and more extreme measures may need to be chosen for analysis to truly tap into deviant behavior. This survey relied upon self-reported and time-ordered data which each have some negative aspects. Self-reported data can be misleading or incorrect if respondents are unwilling to provide accurate and honest answers regarding potentially sensitive topics (i.e. academic cheating). Using time-order questions that used the past year as a benchmark can also lead to increased inaccuracies as respondents may struggle to recall their actions from that far back in time or mis-estimate the frequency in which they engaged in behaviors.

Secondly, with the pseudo  $R^2$  values from the models being so low, and the corresponding explained variance being no greater than 22%, more or different variables should be included if another study looks at college funding in this way in order to strengthen and improve the models. The sample used in this study also had a significant overrepresentation of female students, as compared to the university's population, but the data was not weighted to counteract this significant difference. Due to this study being focused upon examining effects and not proportions, it is unlikely that weighting the data would make a significance difference. Therefore, it can be argued that weighting the data is less critical for this study. A similar limitation was this study's inability to control for opportunity effects on the deviant acts. There are aspects of the models (residence, work, etc...) which may speak to opportunity but not

enough to truly look at the effect of opportunity. This study's low response rate (25%) also may have contributed to the null findings. Additionally, because the response rate was on the low end, the results could change if a higher proportion of students responded. However, this response rate is not far from the average response rate found by Nulty (2008) in his study looking at response rates for class surveys. This study also lacks generalizability due to the data used coming from one university in one region of the country. Different regions, states, and schools may have different levels of deviance, different rates of funding, and getting more data from more sources would have strengthened this study's ability to be generalized across a much broader population. The total number of students who fell into the self-funded category was also a fairly small portion of the sample (7%) and therefore although this study found some potentially useful results, the percentage of students affected is rather small. According to the Sallie Mae report from 2014, roughly 12% of the total college costs for an average family are covered solely through a student's personal income or savings. Now while this number does not match this study's category, it does shed some light on the overall trend of student personal contributions toward college costs.

### Future Research

Given that this study found limited effects, any future research to expand upon this study would need to make changes. It is likely that this particular study, college funding predicting deviant behaviors, is not in need of further expansion due to the general lack of effects observed. Future research using college funding to predict deviance may need to examine other deviant actions and/or include other variables to increase the strength of the models being used. This survey was given in 2013, a time that is already different in terms of the overall feeling towards marijuana use. With more states and cities legalizing or decriminalizing marijuana use,

especially use for medicinal purposes, their stigmas may be lessening and potentially fewer penalties are being placed upon marijuana use. As mentioned above in the limitations section, future research may need to include differentiation between men's and women's definitions of binge drinking and to analyze extreme binge drinking as a variable instead of the level being used (monthly). Alcohol consumption has become normalized on college campuses and binge drinking seems to be following the same trend and is becoming increasingly normative. Overall using college funding to predict deviant behaviors, at least the four measured in this study, does not result in an observed effect and therefore other predictors should be used instead.

## CONCLUSION

Overall, although this study found limited results regarding college funding and engagement in deviant behaviors, two of the four acts being measured were not affected by college funding. Therefore, the conclusion is that college funding does not typically have an effect on participation in deviant acts. Moreover, the competing theoretical paradigms were found to be largely unrelated to college funding sources as shown in the supplementary analyses. This study did find that self-funded students had decreased participation in both monthly marijuana use and illicit drug use within the past year as compared to parent-funded students. With the upfront costs, both financially and in time commitments, self-funded students may have much more personally invested in their education and therefore they may have more at risk when it comes to engaging in deviant acts. While social bond theory would support this finding and offer a theoretical explanation, supplementary analyses revealed little connection between the measures of parent and school bond to college funding source. There were no significant findings observed for binge drinking, nor for academic cheating. This study also reaffirmed many of the results found in previous studies looking at the different deviant acts: minority

students engaging in binge drinking significantly less often, members of Greek organizations drinking more and cheating more, and the importance of residence on deviant activities.

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