



# Young Pandas Cheat and Smoke: A Social Control Theory Explanation of Chinese University Students' Exam Cheating and Smoking

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## Abstract

*This study tested a social control theory model in an attempt to partially explain exam cheating and smoking utilizing data collected from Chinese university students in two separate provinces. Measures included indicators of attachment, commitment, belief, and demographic controls. Generally, students that were attached and committed to their schools were associated with lower odds of exam cheating. Further, males who were attached to their parents were associated with lower odds of initiating smoking. However, delinquent peer attachment increased the odds that males would smoke. Implications of these results are discussed.*

**Keywords:** Social Control Theory, Social Bond Theory, Smoking, Exam Cheating, Academic Dishonesty, China.

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## Introduction

Despite the redefinition of the social bond (Hirschi, 2004), research continues to treat both self-control and social control theories as separate and distinct (Cretacci, 2009b; Turanovich & Pratt, 2013). On the other hand, investigators have recently sought to include items in their measures of the concept that include constructs from both the traditional and redefined scales (Mears, Cochran, & Beaver, 2013). While domestic and international tests of these two perspectives exist, additional study is needed for several reasons: First, two of the more common behaviors that university students engage in are exam cheating and smoking. A gap in the literature exists because most international tests of social control theory and its ability to explain these behaviors, neglect the Asian context (Fang, Li, Stanton, & Dong, 2003; Stipek, Weiner, & Li, 1989; Yu et al., 2015). Of those international studies that do test the perspective's ability to explain these activities, the focus is on Korea, Singapore, and Malaysia.

To provide context in terms of the seriousness of academic cheating, it is thought among legal experts and courts that engaging in such behavior is tantamount to a violation of administrative law (Tibbetts & Myers, 1999). In terms of criminological explanation, studies are also beginning to pinpoint whether high levels of self-control result in less cheating (Bichler-Robertson, Potchak, & Tibbetts, 2003; Mathes et al., 2017). Even with the current popularity of self-control as a potential explanation of exam cheating and smoking, a gap in the literature still remains regarding the impact of other theories and their ability to explain the problem (Jones & Quisenberry, 2004).

Among college and university students, smoking is a difficult problem to address as some have made the claim that smoking is a behavior that is related to both a lack of informal social controls in an individual's life and also that it is related to various neighborhood level characteristics (Cheung, Liu, & Lee, 2005). As a result, the solution to the problem must occur at both the micro and macro sociological levels. Making the issue even more resistant to a resolution is the fact that having friends that smoke is one of the most consistent predictors of smoking initiation (Tucker et al., 2011), suggesting that smoking may be partially learned. Similarly, some scholars have also found that smoking may also be learned from an individual's parents (Foshee & Bauman, 1992).

To address these matters, data was collected from Chinese university students, from two different universities, in two separate provinces. Since China is a country with one of the highest populations in the world, it makes sense to utilize one of the most frequently tested and popular criminological perspectives to explain deviant behavior in that society. Additionally, while some international tests utilize peer measures as part of control theory investigations, few test Hirschi's assertion that peer attachment will constrain deviance regardless of whether the tie is to a delinquent or conventional peer (Foshee & Bauman, 1992; Hirschi, 1969). As an additional contribution, this study also seeks to clarify what types of peers, if any, influence exam cheating and smoking, within the context of Hirschi's original social control theory.

## Literature Review

### *Social Control Theory*

Travis Hirschi published his social control perspective in *Causes of Delinquency*, his first foray into criminological inquiry, in 1969. In utilizing high school students in California as

his sample, he borrowed from some of the most renowned sociologists of his time to craft his theory. In retrospect, Hirschi's ideas regarding delinquency were really not all that new, what was interesting was how he took those ideas and created a theory that most criminologists now widely recognize. More specifically, Hirschi synthesized Durkheim's work on familial relationships and suicide prevention (Durkheim, 1951), the influence of teachers and peers on the passing along of culture to students (Durkheim, 1961), and the impact that religiosity has on individual and group identification (Durkheim, 1915). While Hirschi did not include a measure of religiosity in his theory, others have done so in the intervening years, mostly in response to the fact that the importance of the relationship has reached a point of consensus among scholars (Benda, 1995). In addition, Hirschi also utilized Ivan Nye's (1958) research regarding the role of the family in preventing delinquency and Walter Reckless' (1961) notion that potential offenders operated on a wellspring of "internal containment" or more commonly, they responded to the direction of their conscience. One of the enduring aspects of social control theory is the nature of its parsimony and the simplicity required to test it (Greenberg, 1999).

More to the point, Hirschi incorporated Durkheim's and Nye's thoughts regarding family and school bonds, Reckless' work regarding the influence of the conscience and Sykes and Matza's (1957) presentation of a "bind to society" and posited the existence of the social bond. In Hirschi's mind, the bond was comprised of four separate arenas that were the repositories of various indicators of each. Taken together, Hirschi referred to the four arenas represented as attachment, commitment, involvement, and belief. Generally speaking, Hirschi also argued that the arenas of the bond varied and did so with one another. Another way of putting that would be to say that as one aspect of the bond strengthened or weakened, the other elements of the bond would follow suit. As one might expect, as the bond strengthened, the potential for delinquency decreased. Conversely, as the impact of the bond waned, involvement in delinquency would become more likely. Most importantly, Hirschi argued that attachment was the most influential aspect of the bond and more specifically, parental attachment at that.

The first and most important element of the bond is attachment and its various types. Hirschi also asserted that attachment was the "affectional" part of the bond, which was rooted in the feelings that individuals had for others in their lives. For Hirschi, essentially three types or forms of attachment existed: parental, school and peer. Hirschi felt that the parental tie was the most important for the attachment bond but it was also the foundation upon which the functioning of the rest of the bond was laid. In other words, if the parental relationship with a given adolescent is poor, that individual is more susceptible to involvement in delinquency (Chuang, Ennett, Bauman, & Foshee, 2009; Han, Kim, & Ma, 2015). An additional, critical aspect of this concept is something Hirschi referred to as "virtual supervision." That is, if an adolescent was presented with the opportunity to engage in delinquency, they would likely not do so if they thought about how engaging in the behavior would make their parents feel. Similarly, school attachment was a reference to the relationships that adolescents had with their teachers and once again, positive feelings for one's teachers in Hirschi's mind translated to a lesser likelihood of involvement in delinquency. Finally, Hirschi argued that peer attachment was also important but interestingly, he argued that the positive feelings could be for either a non-delinquent or delinquent friend.

Two additional elements of the bond are commitment and involvement and scholarship has found that these two concepts are very similar and difficult to disentangle (Krohn & Massey, 1980). Essentially, commitment for Hirschi is an indicator of the desire to engage in conventional activities and prepare for conventional life. As examples of conventional commitment, working hard in school, studying, and hoping for good grades (Özbay & Özcan, 2006), were important in Hirschi's mind since he was working with data collected from adolescents. However, Hirschi also recognized an important flaw in stating that conventional commitment would constrain delinquency. More exactly, he argued that an individual could be highly committed to a conventional life and yet, still engage in delinquency either on a rare occasion or more readily. To deal with this apparent gap in the perspective, Hirschi argued that involvement (time spent in pursuing conventional goals), must be related to commitment. Therefore, if desiring good grades, a college education, and a well-paying job are typical commitments, then appropriate involvement would include studying hard, making good grades, and maybe networking with teachers, in an attempt to secure that job. By way of hypothesis, adolescents that are close to their parents, teachers, and friends are more likely to desire conventional goals (Han, Kim, & Lee, 2016; Hwang & Akers, 2007).

The final element of the bond pertains to the element of belief and here, Hirschi again discusses the importance of the parental tie. Hirschi argued that belief is basically the view "that the general rules of society are fair and just." The perspective does not call for strict adherence to all of societal rules but Hirschi did stress that the individual should believe that the rule of law was important to follow. This particular element is in stark contrast to Sykes and Matza's (1957) "bind to the law", which in their view was somewhat nebulous and ever-changing. In essence, the argument was the more that an individual believed in the fairness of societal rules, the less likely that that same person would act to violate them (Entner-Wright, Caspi, Moffitt, & Silva, 1999).

While interest in social control theory remains energetic (Schaefer, Vito, Marcum, Higgins, & Ricketts, 2015), it is incontrovertible that most of the literature focuses on tests grounded in data collected in the United States (Özbay & Özcan, 2006). Of those international tests that do exist, only a handful utilizes data collected in China (Yun, Kim, & Kwon, 2016). In addition, many of the studies focus on a limited range of topics (Chan & Wong, 2015; Chan & Chui, 2013), such as the understanding of addictive internet use (Li et al., 2013) and offender relationships (Smångs, 2010). However, some investigators have also reported findings for more traditional crimes such as assault (Özbay & Özcan, 2006) and serious crime (Entner-Wright et al., 1999). More germane to the current study are the inconsistent results reported regarding the influence of peer variables.

Since different types of friends are included in this examination, it is also important to point out that international investigations that utilize social control theory, report that the influence of peer attachment is minimal or non-existent for theft (Chui & Chan, 2012) and school bullying in Hong Kong (Chan & Chui, 2013; Chan & Wong, 2015). Additionally, disappointing results regarding peer variables have also been reported for runaway behavior in Hong Kong (Cheung, Liu, & Lee, 2005) and truancy (Veenstra, Lindenberg, Tinga, & Ormel, 2010). However, peer attachments seem to be important in the lives of mental-health patients that seek to adjust to life after institutionalization (Nidjam-Jones, Livingston, Verdun-Jones, & Brink, 2014). Given the counter-intuitive results regarding this important indicator of the bond in the international literature, it

makes sense for scholars to address this matter by including different types of peers in their research.

### **Exam Cheating**

College students engage in a number of behaviors that have invited scrutiny from investigators (Alvarez-Rivera & Fox, 2010; Azeem, Hasaan, & Masroor, 2014; Hollin, Marsh, & Bloxson, 2011; Kroska, Lee, & Carr, 2017) and exam cheating and smoking are among the most common. It has been reported that academic dishonesty is endemic to higher education both in the United States and around the world (Williams & Williams, 2012). In fact, some studies report that academic cheating is such a serious matter that those that engage in it may also be susceptible to involvement in crime (Bichler-Robertson et al., 2003). Moreover, some researchers utilize measures of exam cheating as proxy indicators of attenuated social morality, criminal propensity (Paternoster & Brame, 1995) or lack of belief in institutional rules (Stewart, 2003). In attempting to gauge its prevalence, some have found that up to 67% of college students have committed some form of academic dishonesty and that criminal justice majors do not fare much better than non-majors (Lambert & Hogan, 2004).

Studies dealing with academic cheating generally tend to be focused on samples collected in the United States (Cochran, 2016; Teixeira & Rocha, 2006) and given the seriousness of the problem, some investigators categorize the behavior as a unique form of fraud (Cochran, Wood, Sellers, Wilkerson, & Chamlin, 1998). Similarly, most of the literature addressing exam cheating and social control theory has been conducted using American data (Liu, 2004; Mustaine & Tewksbury, 2005; Payne & Salotti, 2007; Smith-Adcock, Lee, Kerpelman, Majuta, & Young, 2011; Unnever, Cullen, & Barnes, 2016). More specifically, higher levels of school attachment, commitment, and belief in school rules seem to constrain various forms of school misbehavior, which includes cheating (Jenkins, 1995, 1997; Mazerolle, Burton, Cullen, Evans, & Payne, 2000).

While it has also been argued that macro school-level constructs can be important in modeling disruptive academic behavior (Stewart, 2003), others have pointed out that beliefs and involvement in sporting activities are more potent determinants of male academic misbehavior (Hart & Mueller, 2013). Interestingly, Mustaine and Tewksbury (2005) found that cheating may be part of a constellation of problem behaviors for males. Further, others have determined that those who cheat on exams and academic work are also immature (Haines, Diekhoff, LaBeff, & Clark, 1986). In the end, domestic studies utilizing some aspect of Hirschi's theory to explain these behaviors outnumber those conducted in the international setting, by about two-to-one.

International prevalence of exam cheating also appears to be quite high (Bernardi, Baca, Landers, & Witek, 2008; Genereux & McCloud, 1995). Some findings suggest that like domestic investigations, there may be a link between exam cheating and other more severe forms of behavior (Williams & Williams, 2012). Specific studies indicate that social control theory is an important explanation of Turkish school delinquency, which includes cheating on exams (Özbay & Özcan, 2006). Follow-up investigation of Turkish adolescents also reported that social control variables have a greater impact for males than females (Özbay & Özcan, 2008). Relatedly, a study of both French and Chinese teens indicated that for French youth, peer involvement increased cheating behavior while moral beliefs constrained it. For the Chinese, generally all four measures of the social bond were associated with lower levels of cheating on exams. However, when controlling for

gender, only parental attachment failed to attain significance for the males. For females, parental attachment decreased involvement in exam cheating while peer involvement increased it (Gentina, Tang, & Gu, 2015).

Interestingly, some studies that utilize social control theory as an explanation of cheating on exams report that students are ambivalent towards the practice and while students see cheating on exams and lack of participation in group assignments as serious, most have also engaged in such activity (Lim & See, 2001). Additionally, researchers have found that only specific social control variables, such as family relationships and peer sanctions were only somewhat important in explaining exam cheating among Chinese American, European, Taiwanese, and Mainland Chinese youth (Chen et al., 1998). Conversely, investigators from Japan reported little support for social control theory as an explanation of exam cheating, even when differentiating results by gender (Kobayashi & Fukushima, 2012).

### ***Smoking***

For those that are impacted by their peers' smoking, friendship networks are important to the initiation and continuation of the behavior (Lakon & Hipp, 2014; Lakon et al., 2015). It may also be the case that the earlier that smoking is initiated, the more likely that it will continue into adulthood (Stylianou, 2002). Perhaps surprisingly, smoking has also been found to be related to involvement in the criminal justice system and marijuana use but more significantly so for males than females (Savage, King, Clark, & Cropsey, 2017). In one investigation, results showed that females were more prevalent in a Stop Smoking Services e-cigarette program and were also more likely to be current or former e-cigarette smokers (Sherratt, Marcus, Robinson, Newson, & Field, 2015). Asbridge, Tanner, and Wortley (2004) also reported that European adolescents were less likely to smoke, while Chinese and Indian adolescents were more likely to. However, some contradicting evidence regarding smoking prevalence in European youth does exist (Steptoe et al., 2002). However, an investigation in Iran appears to buttress the notion that smoking is in part, driven by social networks (Kabir, Mohammadpoorasl, Esmaeelpour, Aghazamani, & Rostami, 2016). To some extent, smoking as a learned behavior also has some support in the Netherlands and China (Engels, Knibbe, & Drop, 1999; Fang et al., 2003).

While it is true that investigations of smoking and social control theory in the international setting have occurred, only a handful exist (Bhattacharya, 1998; Chuang & Chuang, 2008; Han et al., 2016; Han et al., 2015; Jung & Chung, 2012; Juon, Shin, & Nam, 1995). However, the literature does report significant findings. For example, the pattern of peer smoking influencing smoking initiation in others continues with Korean adolescents (Juon et al., 1995). Reporting from the same investigation, it may also be the case that Korean parental smoking, like parental smoking in the United States, also has an effect on smoking initiation (Juon et al., 1995: p. 631). In addition, while not studying social control directly, Chuang and Chuang (2008) related that various forms of social closeness and trust worked to constrain smoking, especially for women.

Further, it may also be the case that regarding school bonds, Korean adolescent attachment to their teachers, rule internalization, and high career aspirations, serve to delay smoking onset. Somewhat surprisingly, participation in extracurricular activities with peers was not associated with smoking (Han et al., 2015). However, other studies are more in-line with the customary expectation that parental attachment reduces smoking onset while peer attachment spurs it on (Han et al., 2016). Underscoring this point is the additional

finding that school commitment, as measured by poor grades, and peer smoking, are both related to smoking initiation (Jung & Chung, 2012). Additionally, Singaporean Muslims attending university who smoke offered that addiction to smoking was the greatest inhibitor to giving it up (Elkalmi, Alkoudmani, Elsayed, Ahmad, & Khan, 2016). Similarly, students at other religious schools also appear to be influenced by smoking patterns. More specifically, males, hampered by low self-esteem, are most susceptible to begin smoking (Lo, Salmiah, & Azuhairi, 2016). In other studies investigating Asians who smoke, Korean females may have more difficulty adjusting to American life as university students and may respond to the stress that they experience by taking up the habit (Sa, Seo, Nelson, & Lohrmann, 2013).

Within the domestic context, Social Control theory has been one of the more commonly utilized perspectives to illuminate smoking behavior (Forster, Grigsby, Bunyan, Unger, & Valente, 2015). Specifically, some have found that combining both social control and learning constructs is an important explanation of smoking initiation (Ennett et al., 2010). Similarly, some scholars have also pointed out that smoking onset can be influenced by both peer (Conrad, Flay, & Hill, 1992; Kobus, 2003) and parental smoking (Foshee & Bauman, 1992). Further, some research has indicated that adolescents that have work commitments, beliefs regarding the inappropriateness of drug use, conventional beliefs in social rules, and strong parental ties are somewhat immune to smoking initiation (Krohn, Massey, Skinner, & Lauer, 1983). Moreover, domestic research utilizing the bond in explaining smoking has also given rise to the notion that parental support and various types of friendship ties and methods of friend selection, are also important to smoking onset (Lakon et al., 2015). While scholarship has confirmed results regarding beliefs and smoking, commitment, defined as satisfaction with economic status, acts as an additional constraint on smoking while the impact of childhood trauma, serves as a precursor (DeFronzo & Pawlak, 1993). While these findings regarding both the international and domestic explanation of smoking collectively indicate that smoking is a behavior that may be difficult to stop, research has also indicated that adolescents that elect to keep their babies rather than abort them, have dramatic reductions in both smoking and marijuana use (Hope, Wilder, & Watt, 2003).

While substantial study continues regarding exam cheating and smoking, this study also makes important contributions to the literature. First, many studies of cheating and smoking among university students ignore important learning indicators (Kobus, 2003). Peer constructs are included in this investigation in an attempt to clarify not only how these variables perform within the context of social control theory but also how they impact exam cheating and smoking. In addition, much of the focus regarding exam cheating and smoking is trained on samples collected in the United States. While exam cheating and smoking are certainly common in America, the problems in large measure, also occur in other countries. As a result, this study contributes to the expanding literature base regarding international criminology. An additional contribution and perhaps more important than the others, is that this examination of exam cheating and smoking addresses the lack of attention given to one of the largest societies on earth that has significant problems with both of these behaviors, that being China.

## Methodology

### *Data Collection and Sample*

Given the limited time frame to collect the data, the sample is comprised of Chinese university students from two mainland Chinese institutions. The Institutional Review Board (IRB) process was initiated after a conversation occurred with a colleague at one of the Chinese host institutions. The author then underwent IRB training, after which IRB communication continued and the author was provided guidance in constructing a proposal that would require data collection from respondents in another country. The protocol required by the IRB included provision of the survey instrument, consent, and proposal forms. Once these documents were completed to the satisfaction of the IRB, the proposal was reviewed and approved by the IRB Committee. In terms of survey development, the author and host university contacts managed changes to it as it was translated into Chinese and back into English. Once the instrument was finalized, the host university contacts asked a group of roughly 20-30 Chinese students at each university to provide commentary. The modifications that were provided to one of the host contacts by the “pre-test” group were forwarded to the author. Further revision occurred for approximately two months when final approval was obtained both from the host university contacts and the U.S. IRB.

In identifying the potential respondent pool, a number of procedures were undertaken to ensure anonymity. Potential respondents were students that were enrolled in classes offered by the law schools of the two Chinese universities that participated, during their spring 2015 semester. Class titles and content would be recognizable by many familiar with law school offerings in the West. For example, Criminal Law, Criminal Procedure Law, Civil Law, International Law, and Administrative Law are some of the classes that were utilized for sample selection. These courses dealt specifically with Chinese practices regarding prosecution, evidence collection, and admission of the same in court. Anyone enrolled in these classes was eligible to take the survey, which allowed for both law majors and non-majors to participate. The research design was only deployed in law classes, offered by the law schools.

Procedures were also utilized that fostered participation and ensured that those that were targeted for participation were notified. Once the survey was finalized and posted online, faculty announced in early June 2015 that students could participate by completing the questionnaire anonymously via whatever device they chose at whatever venue they chose. Potential respondents were also told that they could choose not to participate at all or discontinue their participation at any time. About two-weeks after the initial announcement, faculty again reminded the students about the study opportunity. Generally, about 800 potential respondents existed from University A and about 400 from University B. This process resulted in the collection of 701 cases, 511 cases from University A and 190 from University B. In terms of response rates,  $511/800$  from University A equals a rate of 63.87%, while  $190/400$  from University B equals a rate of 47.5%. For the two institutions combined,  $511 + 190 = 701/1,200$  or a total response rate of 58.41%.

Each of the two universities is located in a large Chinese city in separate provinces. Each institution also houses a law school which offers Baccalaureate to Doctoral level law degrees. Both institutions also offer degrees in traditional Western majors. Further, both

institutions have approximately 20,000–30,000 students overall. The academic calendar in China differs from the West in that the major “break” is Chinese New Year, which falls somewhere between mid-January to mid-February, and runs the equivalent of one month.

The demographic characteristics of the sample also do not reflect what one might expect in a Western university. Approximately 73% of the respondents indicated that they were enrolled at University A. In addition, roughly 67% of the sample is female. The overall age range of the respondents is approximately 17–28, with a few as high as 39, likely due to the fact that both institutions offer the Ph.D. Interestingly, about 50% of the sample hails from urban areas, with an additional 15% from the suburbs and the remainder from rural outposts. Concerning income, approximately 25% of the respondents indicated that their families earned 20,000 yuan or less per year but about 50% of the sample reported that their families earned more than 95,000.

Since the research question was whether or not Hirschi's social bond would constrain exam cheating and smoking, controlling for various peer variables, the questionnaire was developed with the future construction of variables indicating parental, peer, and school attachments and commitments in mind. In keeping with Hirschi's original model, a measure of belief was also included. However, unlike most tests of social control theory, both conventional and delinquent peer attachments were employed here. Standard controls included age, sex, and residential location. The measures and their coding are provided below. Alphas for indices are provided where appropriate.

### ***Dependent Variables***

Two outcome variables were constructed to indicate smoking and exam cheating. The traditional bond items, the peer measures, and the controls, were all regressed on each of the dependent variables separately. Two dichotomous items were utilized as dependent variables and they were: “Have you ever cheated on an exam or test?” and “Do you smoke cigarettes?” Each of these items were coded: “1” = “no”, “2” = “yes.”

### ***Parental and School Attachment***

There are four types of attachment created for this study (parental, school, peer, and delinquent peer), but since the research question deals directly with the impacts of peer variables within the context of the bond, peer and delinquent peer attachment will be presented separately. Following Hirschi's model, both parental and school attachment indicators are reflections of the feelings that the respondents had towards their parents and in this case, their university.

The items utilized for the “parental attachment” ( $\alpha = .85$ ) index are: “Most of the time, your parents are warm and loving to you?”, “You are satisfied with the way your parents and you communicate with each other?” and “Overall, you are satisfied with your relationship with your parents?” These items are coded: “1” = strongly disagree, “2” = disagree, “3” = neither agree nor disagree, “4” = agree, “5” = strongly agree. “How much do you think your parents care about you?” and “How close do you feel to your parents?” are coded: “1” = not at all, “2” = very little, “3” = somewhat, “4” = quite a bit, “5” = very much. The “school attachment” ( $\alpha = .79$ ), items include: “I feel like I am part of this school?”, “You are happy at this school?”, “I feel close to people at school?”, “Teachers at your school treat students fairly?” and “How much do you feel that your

teachers care about you?” These items are also coded: “1” = strongly disagree, “2” = disagree, “3” = neither agree nor disagree, “4” = agree, “5” = strongly agree.

### ***School and Peer Commitment***

Given Hirschi’s model, we include school commitment. Although, peer commitment is not something that Hirschi discussed, it certainly fits within the context of the bond and scholarship does indicate that activities engaged in with one’s peers can also lead to learning both delinquent and non-delinquent behavior. School commitment ( $\alpha = .77$ ), is measured by summing the following three items into an index: “What grade did you most recently receive in a Math class?”, “What grade did you most recently receive in a Science class?” and “What grade did you most recently receive in a History class?” The items are each coded: “1” = Did not take it, “2” = F [below 60], “3” = D [60-69], “4” = C [70 – 79], “5” = B [80-89], “6” = A [90 – 100].

Seven items comprise “peer commitment” ( $\alpha = .72$ ) and they refer to the 30 days prior to when the respondent was asked the question. The items are: “Have you gone shopping with one of your friends?”, “Have you played a sport with one of your friends?”, “Have you talked about life with one of your friends?”, “Have you gone to a movie with one of your friends?”, “Have you discussed a problem with one of your friends?”, “Have you talked about grades with one of your friends?” and “Have you worked on a school project with one of your friends?” Each item had a range of responses from: “0” = 0, “1” to “5” = 5 or more times.

### ***Peer Attachment***

Conventional peer attachment, the number of religious friends that a respondent has, and delinquent peer attachment were included. We include the number of religious friends as a measure of conventional attachment. Specifically, if exam cheating and smoking are partially learned and religious people engage in lower amounts of them, then people with religious friends should also be engaging in lower amounts of exam cheating and smoking. Finally, there is a great deal of literature pointing to the fact that delinquent peers have a profound influence on both deviant and non-deviant behavior. Delinquent peers are included to also test for their influence on exam cheating and smoking in the Chinese setting.

Conventional “peer attachment” is an item that asks, “How much do you feel that your friends care about you?” and it is coded: “1” = not at all, “2” = very little, “3” = somewhat, “4” = quite a bit, “5” = very much. Similarly, the number of religious friends that a respondent has is exactly that, a single item that asks how many religious friends the respondent has and it is coded with a range of: “0” = 0 friends to “5” = 5+ friends. “Delinquent peer attachment” ( $\alpha = .70$ ) is an index of two items that ask how many of the respondent’s three best friends smoke cigarettes or drink alcohol. Both of the items utilized are coded: “0” = 0, “1” = 1, “2” = 2, “3” = 3.

### ***Belief***

In keeping with Hirschi’s original formulation, the questionnaire included one item that asked to what extent respondents agreed or disagreed with the statement, “You feel that the rules you have to follow in life are fair.” The item was coded: “1” = strongly

disagree, “2” = disagree, “3” = neither agree nor disagree, “4” = agree, “5” = strongly agree.

### **Control Variables**

Several demographic controls were included. “Age” was an item that asked, “How old are you?” with respondents entering a number corresponding to their age. “Gender” was an item that asked, “What is your gender” which was coded: “1” = female or “2” = male. Respondents were also asked, “What type of residential area are you originally from?” with the item coded the following way: “1” = rural, “2” = suburban, “3” = urban.

### **Results**

**Table 1. Social Control Model Descriptive Statistics**

Variables	Mean	SD	Min.	Max	N
Dependent variables					
Exam Cheating (2=yes)	.46	.50	0	1	669
Ever Smoke Cigarettes (2=yes)	.07	.26	0	1	669
Social Control variables					
Parental Attachment	20.79	3.66	5	25	669
School Attachment	17.51	3.52	5	25	669
Peer Attachment	3.81	0.81	1	5	669
Delinquent Peer Attachment	1.47	1.80	0	6	669
Number of Religious Friends	1.31	1.59	0	5	669
School Commitment	8.69	4.85	3	18	669
Peer Commitment	15.69	7.05	0	35	669
General Belief	3.26	1.01	1	5	669
Control variables					
Gender (2=Male)	1.67	.47	1	2	669
Age	20.25	1.91	17	39	669
Residential Area	2.10	.91	1	3	669

Table 1 presents descriptive statistics for the model while Table 2 portrays their impact in explaining the outcome variables. Due to the dichotomous coding, two logistic

regressions were estimated using the bond variables and the controls to predict the odds of engaging in both exam cheating and smoking.

In the first model, the only bond variables that were significant were school attachment (.945), and commitment (.963). Essentially, stronger school attachment and commitment were associated with lower odds of engaging in exam cheating. Another way of interpreting these findings would be to say that school attachment and commitment respectively accounted for a roughly 5% and 4% drop in the likelihood that exam cheating would occur. The social bond explained about 6% of the variance in exam cheating.

**Table 2. Social Control Logistic Regression Models predicting Exam Cheating and Smoking**

Variables	Model 1: Exam Cheating	Model 2: Smoking
Parental Attachment	.953	.906*
School Attachment	.945*	1.003
Peer Attachment	1.166	1.455
Delinquent Peer Attachment	1.073	1.544***
Number Religious Friends	1.036	.975
School Commitment	.963*	.977
Peer Commitment	1.011	1.021
General Belief	.880	.831
Gender	1.215	7.641***
Age	1.040	1.070
Residential Area	1.146	.941
<u>N</u>	669	669
Model Chi-Square	30.099** (df = 11)	106.299*** (df = 11)
Nagelkerke R-Square	.059	.344

In the second model, predicting smoking prevalence, three variables were significant. Specifically, stronger parental attachment (.906) was associated with lower odds of engaging in smoking generally. That is, the impact of parental attachment was roughly a 10% drop in the likelihood that future smoking would occur. Conversely, delinquent peer attachment (1.544) was associated with greater odds of engaging in smoking. In other words, the influence of delinquent peers was such that it accounted for a 54% greater chance that smoking would occur. In addition, males (7.641) were associated with greater odds of engaging in smoking. In fact, being male resulted in roughly a 750% greater chance of future involvement in smoking. Overall, the social bond explained about 34% of the variance in smoking prevalence.

## Discussion and Conclusion

Overall, there is some evidence that the social bond is potentially useful in explaining exam cheating and smoking in China. Interestingly, the explanation for each of the dependent variables is different. More specifically, the findings suggest that strong, positive

ties on the part of Chinese university students for the educational institution, for their teachers, and involvement in school-related activities, could prevent future involvement in exam cheating. As a result, programs emphasizing the importance of the university environment and beneficial relationships with professors and other students, could be helpful. Such programs might involve student activities designed to initiate and maintain relationships with other students within departments and across university units. Students might also be encouraged to seek out their favorite teachers to develop long-lasting, professional relationships with them.

The findings paint a different picture for the explanation of smoking among Chinese university students. Programs and activities that seek to strengthen relationships between parents and their children may serve to prevent smoking. Of particular interest would be strategies that highlight Chinese filial ties. An additional area of possibility rests with addressing ties to delinquent friends. These results suggest that delinquent peers have some influence as things pertain to smoking. Therefore, initiatives and programs that stress avoiding others that smoke regularly or who are otherwise engaged in misbehavior, may result in a lowering of smoking on campus. It may be that avoiding delinquent contacts and other smokers creates some type of disincentive to learn how to smoke in the first place. This finding underscores the possibility that at least some aspect of smoking is learned.

While these results regarding the impact of the social bond were somewhat expected and provide an important contribution to the international literature testing social control theory, several limitations constrain their overall interpretation. First, given that this study utilized a cross-sectional design, results should not be thought to represent causation. Cross-sectional designs allow for statements regarding correlation and therefore, caution should be observed when interpreting the meaning of such results. Second, the data came from only two universities in two different regions of the country. Correspondingly, the generalizability of these results is also suspect. Additionally, future investigators should attempt to collect more detailed information regarding how parents, teachers, and peer interact with one another. Moreover, more detailed demographic data concerning income, residence, education levels, and migration patterns would also be helpful in future studies of these topics in China. Further, since the study relied strictly upon self-reported data, social desirability and underreporting could have also both been present in the responses.

A final limitation is related to the findings themselves. As was reported earlier, approximately 67% of the sample was female, while at the same time being male was significant for the smoking equation. These results raise an important question regarding the ability of social control theory to explain these behaviors. More specifically, it may be that an entirely different set of concepts or a different theory altogether is needed to explain these behaviors for females. In other words, social control theory may only be able to partially explain these behaviors for Chinese males. In the end, future research should address these shortcomings so that scholars and policy makers can have a clearer understanding of how to deal with these behaviors.

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