The Interplay of Self-Control and Peer Influence in Filipino Delinquency

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ABSTRACT

Gottfredson and Hirschi (1990) argued that self-control is the individual level cause of crime and delinquency and that it will render the relationship between differential association and delinquency spurious. Contrary to these claims, previous research reveals that self-control cannot diminish the effects of differential association on delinquency as both have comparable effects and are even found complementary. These issues, however, are still unexamined in the Philippines. Thus, this study explores the relationships of self-control, differential association, and delinquency in a sample of Filipino college students in Dumaguete City, Philippines. Results reveal that self-control and differential association have direct effects on delinquency, but self-control does not render differential association-delinquency relationship spurious. In fact, differential association mediates the effects of self-control on delinquency. These results suggest that self-control and differential association are complementary, thus indicating that integration of these concepts might be a better way of modeling Filipino delinquency.

Keywords: Self-control, differential association, delinquency, college students, Dumaguete City, Philippines.

INTRODUCTION

Do individuals who have flocked with delinquents become deviants, or do they flock with delinquents because they are already deviants themselves? Two of the theories that have competing answers to these questions are social learning (Akers, 2009) and self-control theories of delinquency (Gottfredson & Hirschi, 1990). Social learning theory posits that criminal behavior is learned through peer networks. On the other hand, self-control theory argues that self-control is the cause of both crime and gravitation to delinquent peers. Thus, the relationship between having delinquent peers and delinquency is likely spurious as both are deemed to be the results of low self-control (Gottfredson & Hirschi, 1990).

These and other tangential issues are important in criminology that they have been the subject of debate between social learning and self-control theory camps (Akers, 1996; Akers, 2008; Gottfredson & Hirschi, 1990; Hirschi, 1996; Hirschi & Gottfredson, 2008). Aside from this, these propositions have been empirically tested by researchers. Some writers (e.g. Evans et al., 1997) found support for the propositions of self-control theory that individuals who have low self-control and are already delinquents tend to self-select delinquent peers, while some did not (e.g. Huang & Akers, 2003; Young, 2011). However, some
researchers found that both theories are correct – persons with low self-control tend to flock with those who have low self-control and delinquent, but self-control could not account for all of the criminogenic effects of delinquent peers on delinquency (Chapple, 2005; McGloin & Shermer, 2009; Wright, Caspi, Moffitt & Silva, 1999; Wright, Caspi & Moffitt, 2001).

However, these studies were conducted in Western countries, mostly in the US. The issue is still unexamined in the Philippines. The Philippines provides a unique context in testing the competing propositions of the two theories. Unlike Westerners, most Filipinos are known to manifest self-control, resilience (katatagang-loob), non-violence (kawalang-karahasan), prudence (kahinahunan), calmness (kakalmahan) than anger and violence (Tiangco, 2005). Self-control play a significant role in Filipinos’ personal and social life. Thus, the interplay of self-control and peer influence might be different in the Philippine setting.

In filling this gap, the current study examines the relationship of self-control, differential association, and delinquency among Filipino college students in Dumaguete City, Philippines. In particular, we speculate that the effect of self-control on differential association-delinquency relationship can be modeled in three ways. First, the relationship between differential association and delinquency is spurious since both are caused by low self-control. In effect, when self-control is entered simultaneously with differential association into the model, the effect of the latter will disappear. Second, the relationship between self-control and delinquency is mediated by peer deviance. That is, the effect of self-control on delinquency is eliminated or attenuated once the differential association is entered into the model. Finally, the effect of self-control on delinquency is moderated by differential association. Persons with low self-control tend to commit more crimes when they are with delinquent peers. The rest of the paper discusses the literature on social learning and self-control theories of delinquency and the results of the current study.

Social learning theory of delinquency

Social learning theory is an elaboration of Sutherland’s (1947) differential association theory, which argues that criminal behavior is learned. Akers (2009) elaborated the theory by adding concepts on operant conditioning which posits that behavior is a function of differential reinforcements – rewards and punishments. However, the concept of differential association together with definition and imitation remains the core of the theory. Akers (2009) summarizes his theory into the following:

The probability that persons will engage in criminal and deviant behavior is increased and the probability of their conforming to the norm in decreased when they differentially associate with others who commit criminal behavior and espouse definitions favorable to it, are relatively more exposed in-person or symbolically to salient criminal/deviant models, define it as desirable or justified in a situation discriminative for the behavior, and have received in the past and anticipate in the current or future situation relatively greater reward than punishment for the behavior. (p. 50)

Thus, the differential association is the context in which other criminogenic learning processes – imitations, definition, and reinforcement – occur. It pertains to the “individual’s direct interaction with others who engage in certain kinds of behavior (criminal/deviant or conforming) and exposes the individual to the norms, values, and attitudes supportive of these behaviors” (Akers & Jennings, 2009:325).
It can occur with “intimate personal groups” or primary groups and secondary groups (Akers, 2009:60). Primary groups include family and friends while secondary groups and reference groups include neighbors, schools, churches, and the media. The family is acknowledged as most influential during childhood; however, during adolescence and adulthood, peers and secondary or reference groups become more important in influencing individuals in conforming and nonconforming behavior.

These groups can influence an individual to commit delinquent acts through “what they do” and “what they think” — the behavioral/interactional and normative dimensions of differential association (Akers, 2009; Warr & Stafford, 1991). Regarding the behavioral dimension, individuals are provided with models of which delinquents acts may be modeled. These models also encourage delinquent behaviors through punishments and rewards toward conforming and nonconforming behavior. As to the normative dimension, individuals are exposed to models with delinquent definitions or views, thereby further encouraging them to commit delinquent acts and altering their normative definitions. In short, differential association facilitates the mechanisms through which an individual learn and commit crimes.

Empirically, the theory has been tested over a hundred of times and generated overwhelming support from most studies (Akers & Jensen, 2006; Pratt et al., 2010). Pratt et al. (2010) analyzed the results of 133 studies that tested the theory on a total of 118,403 individuals from 1973 to 2003 and found considerable support for the theory. However, they found that its four central concepts did not perform equally in predicting crime/delinquency. In general, differential association and definitions outperform imitation and differential reinforcement. The differential association was significant in 90% of the statistical models examined while imitation was significant in 73% of the models. Moreover, these two predictors had the largest effects on delinquency among the four concepts. In sum, Pratt et al. (2010) noted that the strong effect size of differential association and definitions to delinquency/crimes was stronger than that of deterrence (Pratt et al., 2006) but comparable to that of self-control, thereby confirming the results of a previous meta-analysis of the effect of self-control on crime and delinquency (see Pratt & Cullen, 2000).

**Self-control theory’s self-selection thesis**

Self-control is perhaps one of the most popular and most cited theories in criminology (Google citations as of November 4, 2015 = 7998), not to mention it being the most controversial theory in recent decades (Goode, 2008). It has caught this much attention because of its bold claims in crime causation, methodology, and policy.

One source of much controversy is the claim of its theorists on the role of self-control in crime causation. Gottfredson and Hirschi (1990: 232) boldly claimed that self-control is “the individual-level cause of crime” that can explain crime at all places and all times. People who have low self-control are “impulsive, insensitive, physical (as opposed to mental), risk-taking, short-sighted, and non-verbal, and they will, therefore, tend to criminal and analogous behavior”. They further claimed that self-control could explain not only variations in crime and analogous behaviors but also those in accidents, bad health, and negative marriages, work, and friendship ties. With this, they implied that social factors believed to be correlates of crime are just social consequences of having low self-control. These views are largely at a variance of the conventional thinking about crime, and if proven, “most sociological theories can be relegated to the criminological dustbin”
In line with this thinking, Gottfredson and Hirschi (1990) explicitly attacked Sutherland’s differential association theory and Aker’s social learning theory, labeling these theories as cultural deviance theory. For them, these learning theories are “redundant or superfluous” (p.71) and “thus clearly false” (p.156). Their claims are based on this premise:

People who lack self-control tend to dislike settings that require discipline, supervision, or other constraints on their behavior; such settings include school, work, and for that matter, home. These people, therefore, tend to gravitate to “the street” or, at least in adolescence, with the same-sex peer group (Gottfredson & Hirschi, 1990: 157).

They concluded that self-control is the primary determinant of membership in delinquent peer groups, and thus the relationship between peer deviance and delinquency is spurious since both are caused by low self-control. Individuals who are impulsive and possess other elements of low self-control tend to have difficulty in making and maintaining conforming friends and will end up befriending low-self-controlled individuals, thereby forming a group of individuals who have low self-control and who commit crimes (Gottfredson & Hirschi, 1990).

The interplay of self-control and social learning variables

Gottfredson and Hirschi’s (1990) argued that self-control would render social learning variables-delinquency relationship spurious. In their view, birds of the same feather flock together. On the other hand, Aker’s (2008: 85) countered this by quoting Benjamin Franklin, “If you lie down with dogs, you get up with fleas,” implying that peer deviance has direct effects on delinquency and that self-control is not the only cause of crime. As pointed above, this claim is empirically supported - self-control and differential association have comparable strong effects on delinquency (see Pratt & Cullen, 2000 and Pratt et al., 2010 for meta-analyses). Differential association retains its effects on delinquency even after controlling for self-control and vice-versa. Little research work shows, however, that differential association variables have stronger effects than self-control (e.g. Beaver et al., 2015; Hwang & Akers, 2003).

However, most of these studies employed perceptual measures of peer deviance, which have been found to be misperceived by respondents, especially by persons with low self-control (Boman, Stogner, Miller, Griffin & Krohn, 2011; Meldrum & Boman, 2013; Rebellon & Modecki, 2014; Young, Barnes, Meldrum & Weerman, 2011). Consequently, direct peer delinquency measures appear to be better than perceptual measures in measuring peer delinquency (Meldrum & Boman, 2013) and the effect of self-control on delinquency is greater than peer deviance if it is assessed through direct measures (Meldrum et al., 2009; Rebellon & Modecki, 2014).

To reduce bias associated with perceptual measures, some researchers proposed the error correlation method using latent variable modeling (Matsueda & Anderson, 1998; Rebellon, 2012). However, subsequent research comparing the effects of perceptual measures adjusted using this method and direct peer delinquency measures revealed that error correlation strategy fails to eliminate the bias associated with perceptual measures (Boman, Rebellon & Meldrum, 2016; Rebellon & Modecki, 2014). Also, an alternative operationalization of perceptual measure by asking respondents for individual peer’s involvement in delinquency failed to reduce the said bias (Meldrum & Flexon, 2015). Nevertheless, within the perspective of situational action theory (SAT), the use of perceptual measures of peer
delinquency along with self-control has been suggested to be acceptable. As Hirtenlechner, Pauwels and Mesko (2015: 541) note, “… according to SAT it is the subjectively perceived moral context and the perceived provocation or temptation in a setting that renders the exercise of self-control relevant.”

However, instead of pitting head-to-head, some researchers treated these rival theories as complementary. Gottfredson and Hirschi (1990) argued that persons with low self-control tend to self-select delinquent peers. And based on the prediction of social learning theory, differential association provides a context where an individual is presented with models who are delinquents, provide rewards to delinquent behaviors, and espouse attitude favorable to delinquency (Akers, 2009). It is likely possible then that differential association mediates the effects of self-control on delinquency. In this model, low self-control leads to “flocking” with deviant peers which later turns to delinquency. Indeed, previous research found that differential association mediated the low self-control-delinquency link (see e.g. Chapple, 2005; Malouf, Stuewig & Tangney, 2012; McGloin & Shermer, 2009; Wright et al., 1998). Self-control indirectly affects delinquency through association of delinquent peers.

Also, the interplay of self-control and differential association might follow an interaction model. Wright et al. (2001) proposed a life-course interdependence model to describe this complementary role between self-control and differential association. It could be that the effects of self-control on delinquency vary by levels of peer influence, and vice versa. Previous research supports this model: differential association aggravates the effects of self-control on delinquency and vice versa (Cochran, Jones, Jones & Sellers, 2016; Ford & Blumenstein, 2012; Higgins & Makin, 2004; Hirtenlehner et al., 2015; Meldrum, Young, & Weerman, 2009; Ousey & Wilcox, 2007; Wright, Caspi & Moffitt, 2001). The effects of low self-control on delinquency are stronger when individuals have peers who commit delinquent acts and espouse delinquent definitions.

Thus, we attempt to model the relationship of self-control, differential association, and delinquency among Filipino college students in three ways:

1. The relationship between differential association and delinquency is spurious since both are determined by low self-control. When self-control is included into the model of differential association-delinquency relationship, the latter relationship is diminished.

2. The relationship between self-control and delinquency is mediated by differential association. When the differential association is included into the model of self-control-delinquency relationship, the latter relationship is diminished.

3. The relationship between self-control and delinquency is moderated by differential association. In particular, the effects of self-control on delinquency are increased by having peers who commit crimes and espouse delinquent norms.

**METHODOLOGY**

**Data Gathering**

Data used in this study were the results of a self-report survey of Filipino college students (n = 211) at four universities (1 state and 3 private) in Dumaguete City, Philippines. The current sample size possesses the necessary power to test the models built in this study because the study requires a minimum of 184 respondents to achieve a power of 0.95 with 0.15 (medium) effect size, 0.05 significance level, and 12 independent
The respondents were identified conveniently from the social science classes which were selected before the survey. Initially, necessary consent from each of the universities was sought. Three social science classes were then selected at the state university and one class from each of the three private universities. These social science classes comprise students from different degree programs and year levels. Respondents were asked to participate in the self-report survey and were informed that their participation in the survey was voluntary in nature. The survey period started in July and ended in August 2016.

The majority of the respondents were female (56%), and most of them were about 18 years (Table 1); more than half of them came from families/households with monthly income of P10,000 and below. Although there are concerns on the non-representativeness of the current sample, self-control, and the social learning theories were proposed as general theories of crime to explain all crimes, at all places and times, and in all types of samples, including the convenient sample of this study. Thus, the randomness of the current sample is not a primary concern in testing the theories. However, caution should be taken in generalizing the results to a larger population of Filipino students.

**Measures**

**Delinquency.** Delinquency was measured using a modified form of the normative deviance scale developed by Vazsonyi et al. (2001). The normative deviance scale was developed to measure delinquency with the aim of overcoming cultural differences in measuring delinquency. It measures both serious and non-serious forms of delinquency. However, since the target

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<th>Table 1. Descriptive statistics of the variables in this study</th>
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<td>Variable</td>
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<td>Gender (Female = 1)</td>
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<td>Household/Family Monthly Income</td>
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<td>Below P1,000 (1)</td>
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<td>P1,001-P5,000 (2)</td>
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<td>P5,001-P10,000 (3)</td>
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<td>P30,001-P50,000 (6)</td>
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<td>Above P50,000 (7)</td>
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<td>Religiosity</td>
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<td>Self-control Attitudinal Scale</td>
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<td>Self-control Social Bond Scale</td>
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<td>Delinquency</td>
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respondents of this study were college students of which some were young adults, the scale was modified by excluding some items that would not be considered as deviant when committed by adults. Acts that were excluded include lying about one’s age to get into a bar and stayed out all night without informing parents. Consequently, the modified normative deviance scale comprised of 39 items such as “Have you ever:” avoided paying for something (e.g. movies, bus, food, etc.), sold any drugs, used drugs (e.g. cocaine, marijuana, etc.), and hit or threaten to hit a person. Responses to the items were “Yes = 1” or “No = 0”. All items were summed to create the delinquency index of which higher scores indicate a higher number of delinquent acts committed. However, caution is given in interpreting the results, because the deviance scale asked for lifetime deviance. The order of the causal linkages may be in reverse as it is most likely that delinquency affects the key variables in the study (Akers, 2009; Thornberry et al., 1994).

Independent variables

Self-control theory

Self-control attitudinal scale. Gottfredson and Hirschi (1990) proposed that the individual-level cause of crime is self-control. Over the years, self-control has been measured using two types of scales – attitudinal and behavioral. However, the behavioral scales (e.g. Keane et al., 1993) received criticisms saying that they contribute to the tautology of the theory (see Akers, 1991) for using acts analogous to crime (e.g. failure to wear a seatbelt) to predict crime. Therefore, to overcome the tautology criticism, the use of attitudinal scales is preferred. In this study, we used the attitudinal self-control scale of Grasmick et al. (1993). Their self-control measure has six components – impulsivity, simple tasks, risk seeking, physical activities, self-centered, and temper. Each of these components is composed of four items such as “I often act on the spur of the moments without stopping to think.”; “I frequently try to avoid projects that I know will be difficult.”; “I like to test myself now and then by doing something a little risky.”; “If I had a choice, I would almost always rather do something physical than something mental.”; “I try to look out for myself first, even if it means making things difficult for other people.”; and “Often, when I’m angry at people, I feel more like hurting them than talking to them about why I am angry.” Responses to these items range from “Somewhat agree = 1” to “Strongly disagree = 4.” In the current sample, the scale is highly reliable with Cronbach alpha = 0.90. All responses were summed of which higher scores indicate high self-control.

Self-control social bond scale. Self-control was also measured using a social bond scale for two reasons. First, several studies have shown that attitudinal scales tend to underestimate the effects of self-control on crime (see Engel, 2012 for a meta-analysis). Second, Hirschi (2004: 543) re-defined self-control as “the tendency to consider the full range of potential costs of a particular act,” arguing that self-control and social control are in fact the same. With this, Hirschi rejected his and Gottfredson’s original trait-based conceptualization of self-control and favored a wider set of internal set of inhibitions – mainly composed of four elements of the social bond, namely: attachment, commitment, involvement, and belief. Hirschi admitted that they borrowed their original conceptualization of self-control from psychology and this move created several problems. First, the original self-control suggests specialization in criminal behaviors which is contrary to their theoretical propositions. Second, theirs was a personality approach which also contradicts their argument that personality traits are less important in explaining delinquency.
Third, they suggested that “offenders act as they do” and “they are what they are because of their original conceptualization” (Hirschi, 2004: 542). Finally, the individual self-control traits have a comparable predictive ability as that of when all are combined.

With this, the study employed a modified form of the self-control social bond measure used by Dodson (2009) which she modified from the work of Gibbs et al. (2008). The Attachment component comprised of 17 items, for example: “I care a lot about what my parents think of me.” The Commitment component was composed of 17 items which included “Grades are important to me.” The Belief component also comprised of 14 items, for example: “Rules restricting alcohol use on campus should not be strictly enforced” (reverse coded). Finally, the Involvement component was made up of 3 items which included “Join campus activities in clubs, associations, societies or other organizations that focus on career interest and/or academic discipline.” Responses to the first three components ranged from “Strongly agree = 4” to “Strongly disagree = 4,” while the involvement component’s responses ranged from “Always = 4” to “Never = 1.” The scale’s Cronbach alpha is 0.876. All items were summed into a scale of which higher scores indicate higher self-control.

Social learning theory

Peer deviance. Akers (2009) proposed that four elements of the social learning process increase delinquency. These are differential association, definitions, imitation, and differential reinforcement. However, these components do not have a similar magnitude of effect on delinquency, with differential association having the strongest effect comparable to that of self-control (Pratt et al., 2010). Thus, this study used differential association scales (i.e. peer deviance and peer norm qualities) from Rochester Youth Development Study measures reported by Thornberry et al. (1994). For peer deviance, the respondents were asked how many of their friends in the past six months committed the eight delinquency items which included “Hit someone with the idea of hurting them” and “Damaged or destroyed someone else’s property on purpose.” Response categories for these items were “Most of them = 2,” “Some of them = 1,” and “None of them = 0.” Cronbach alpha for this scale is 0.944. All items were summed to create a scale with higher scores indicating bigger proportion of delinquent friends.

Peer norms. This variable reflects the respondents’ perception about their peer’s reaction if they (the respondents) would commit delinquent acts. In measuring peer norms, the respondents were asked, “What would your friends say if they know that you have committed the following acts?” This question was followed by six delinquency items, such as “Attacked someone with a weapon or with the idea of seriously hurting them” and “Stole something worth more than Php 100.” Response categories for these items were “Say it was wrong = 1,” “Say nothing = 2,” and “Say it was okay = 3.” The scale’s Cronbach alpha is 0.944. Higher scores indicate higher delinquent peer norms.

Interaction terms

Four interaction terms were created to measure the interaction between self-control and differential association. These interaction terms were used to test whether measures of differential association alleviate or aggravate the effects of self-control on delinquency. Self-control (attitudinal and social bond) and differential association (peer deviance and peer norms) variables were centered before creating multiplicative terms (e.g. self-control X peer deviance). Thus, four interaction terms were created: (1) Self-control
attitudinal scale X Peer Deviance, (2) Self-control attitudinal scale X Peer norms, (3) Self-control social bond X Peer deviance, and (4) Self-control social bond X Peer norms.

Control variables

Four known individual and social correlates of delinquency were included in the models as control variables. The variables were sex (Male = 0, Female = 1), Age (in years), monthly family/household income (Below P1,000 = 1; P1,001-P5,000 = 2; P5,001-P10,000 = 3; P10,001-P20,000 = 4; P20,001-P30,000 = 5; P30,001-P50,000 = 6; and Above P50,000 = 7), and religiosity. Religiosity was measured using a scale comprising of five items (Cronbach alpha = 0.673). Items include “My ideas about religion are one of the most important parts of my philosophy of life” and “Believing as I do about religion is very important to being the kind of person I want to be” taken from Cannon (2005). Responses ranged from “Strongly agree = 4” to “Strongly disagree = 1.”

RESULTS

Negative binomial regression was used to model delinquency because the dependent variable is basically a count data which exhibits over-dispersion. Over-dispersed count data are best modeled by count regression models such as negative binomial regression (Gardner, Mulvey & Shaw, 1995). In all models, the data have an over-dispersion parameter of not less than 1.7. Thus, negative binomial regression best fits the current data.

Recall that using self-control and differential association, we speculated that delinquency can be modeled in three ways: (1) self-control diminishes the effects of differential association on delinquency; (2) differential association mediates the relationship between self-control and delinquency; (3) differential association moderates the relationship between self-control and delinquency. Table 3 presents the negative binomial regression models of delinquency using self-control, differential association, interaction terms, and control variables as predictors.

In general, the results suggest that there is no current evidence supporting Gottfredson and Hirschi’s (1990) contention that the relationship between differential association and delinquency is spurious. In fact, it appears that self-control theory and social learning theory are complementary: differential association mediates the effects of self-control on delinquency.

The spuriousness of the differential association-delinquency relationship

Model 4 provides evidence refuting Gottfredson and Hirshi’s (1990) speculation that self-control will diminish the effects of differential association on delinquency. As shown, the effects of differential association variables continue to exert significant effects on delinquency despite including self-control measures simultaneously in the model. Thus, current evidence suggests that the relationship between differential association and delinquency is not spurious.

Mediating effects of differential association in the self-control-delinquency relationship

Model 4 shows that it is the differential association that diminishes the effects of self-control on delinquency. Differential association, however, does not negate the relationship between self-control and delinquency. The model implies that differential association mediates such relationship because of a prior significant direct effect of self-control measures on delinquency.
Table 2. Negative binomial regression models of delinquency among Filipino college students. The 95% Wald confidence interval of the coefficients are reported in parentheses

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Model 1</th>
<th>Model 2</th>
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<td>Key Independent Variables</td>
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<td>-.004</td>
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<td>Scale</td>
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<td>Peer Deviance</td>
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<td>.177**</td>
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<td></td>
<td>[-.033, -.005]</td>
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<td>[.096, .258]</td>
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<td>Peer Norms</td>
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<td>Interaction Terms</td>
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<td>SC Attitudinal x Peer Deviance</td>
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<td>SC Attitudinal x Peer Norms</td>
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<td>SC Social Bond x Peer Norms</td>
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<td>Control Variables</td>
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<td>.022</td>
<td>.044</td>
</tr>
<tr>
<td>Sex</td>
<td>-.293</td>
<td>-.132</td>
<td>.156</td>
<td>.128</td>
<td>.192</td>
</tr>
<tr>
<td>Monthly Household/Family Income</td>
<td>.215**</td>
<td>.203*</td>
<td>.150*</td>
<td>.151*</td>
<td>.134</td>
</tr>
<tr>
<td>Religiosity</td>
<td>-.065</td>
<td>.004</td>
<td>.065</td>
<td>-.072</td>
<td>-.038</td>
</tr>
<tr>
<td>Constant</td>
<td>3.398</td>
<td>3.932*</td>
<td>.400</td>
<td>.032</td>
<td>.142</td>
</tr>
<tr>
<td>Likelihood ration X2</td>
<td>14.583*</td>
<td>16.328**</td>
<td>61.50**</td>
<td>61.736**</td>
<td>70.622**</td>
</tr>
</tbody>
</table>

Legend:*p<0.05, **p<0.01

Moderating effects of differential association in the self-control-delinquency relationship

Model 5 shows the interaction effects of self-control and differential association measures on delinquency. As shown, all interaction terms have no significant effect on delinquency. That is, differential association does not moderate the relationship between self-control and delinquency. Thus, the complementary roles of self-control and differential association in only through the mediating effect of differential
DISCUSSION

In this study, we examined the relationships between self-control, differential association, and delinquency among Filipino college students in Dumaguete City. Based on self-control and social learning theories and previous research, we speculated that such relationships can be modelled in three ways: (1) the relationship between differential association and delinquency is spurious; (2) the relationship between self-control and delinquency is mediated by differential association; and (3) the relationship between self-control and delinquency is moderated by differential association. In general, both self-control and differential association have direct effects on delinquency. The spuriousness thesis of Gottfredson and Hirschi’s (1990), however, is not supported by current evidence. In fact, self-control and social learning are complementary – differential association mediates the effects of self-control on delinquency. In spite of this, Filipinos are known to possess high self-control and value prudence, calmness, and non-violence in personal and social settings (Tiangco, 2005).

Both self-control and differential association have direct effects on delinquency. Specifically, self-control (attitudinal and bond) measures are negatively related to delinquency even after controlling for socio-demographic variables, thereby supporting the predictions of Gottfredson and Hirschi (1990), Hirschi (2004), and previous research (Pratt et al., 2000). This means to say, respondents who lacked self-control tended to commit more delinquent acts. On the other hand, differential association (peer deviance and peer norms) measures are positively related to delinquency. Those who had delinquent peers who espoused deviance tended to commit more delinquency. This finding supports social learning theory (Akers, 2009; Akers & Jennings, 2009) and its previous tests (Pratt et al., 2010). Overall, these direct effects echo previous findings that both self-control and differential association are strong predictors of delinquency.

Although commonly seen as competing theories and tested head-to-head, the theories are in fact complementary based on the current evidence. Self-control did not extinguish the effects of differential association on delinquency, thereby negating the arguments of Gottfredson and Hirschi (1990). In fact, differential association mediates the relationship between self-control and delinquency, supporting previous research (e.g. Chapple, 2005; Wright et al., 1998). That is, those who have low self-control tend to self-select delinquent peers who hold favorable attitudes toward deviance and who in turn increase the probability of committing delinquent acts. These results suggest that self-control and social learning theories are complementary, thereby supporting claims by some scholars (e.g. Akers, 2008; Evan et al., 1997; Meldrum, Young & Weerman, 2009). Thus, as pointed out by Meldrum, Young and Weerman (2009: 368), “theoretical integration of self-control theory and social learning theory may lead to a more precise understanding of the contours of criminal offending.”

These findings also point out important practical implications in the Philippine setting. It is important to develop high self-control among Filipino children through, say, proper parenting (e.g. parental supervision, prompt identification of wrongs, and non-violent discipline; Gottfredson & Hirschi, 1990). However, developing high self-control is not enough in turning adolescents from delinquency. Delinquent peers and beliefs that encourage it still affect them in spite of being able to control themselves. Thus, not only do Filipino adolescents need high self-control; they also need training on selecting non-deviant peers.
Although the current study fills a significant gap in the literature, caution is given to readers in interpreting the results. Since the sample was not randomly generated, the results cannot be generalized to a larger population. It is, therefore, interesting to examine whether the relationships found in this study hold true among a more representative sample of Filipinos. Nevertheless, the current study might serve as a seed for further theory-building in the country. Gottfredson and Hirschi (1990) also speculated that there is a measurement overlap between the respondents' reported delinquency and their reported delinquency of peers. In reporting their peers' delinquency, it is possible that they are reporting theirs. Several possibilities may give rise to this event:

1. The respondent may have been at the scene, himself engaging in the activity; 2. the respondent may impute his own qualities to his friends; 3. the respondent may impute friendship to people like himself; 4. the respondent's friends may have told him about delinquencies he did not himself witness; or (5) the respondent may have heard about his friend's delinquencies from people who witnessed or heard about them.”(Gottfredson & Hirschi, 1990: 157)

In supporting these speculations, studies found that respondents misperceived peer deviance (Boman, Stogner, Miller, Griffin & Krohn, 2011; Meldrum & Boman, 2013; Rebellon & Modecki, 2014; Young, Barnes, Meldrum & Weerman, 2011). Also, some researchers found that such indirect peer deviance measures underestimate the effects of self-control. For example, Meldrum, Young, and Weerman (2009) found that self-control had stronger effects than peer deviance when the latter was assessed using direct measures (i.e. using the self-reported delinquency by peers of the respondents). The same findings were found by (Rebellon & Modecki, 2014). Examining this line of inquiry in the Philippines will shed more light on the relationships investigated.

**CONCLUSION**

The current findings imply that self-control and differential association have direct effects on delinquency among a sample of Filipino college students in Dumaguete City. In addition, differential association mediates the effects of self-control on delinquency. That is, those who have low self-control will self-select delinquent peers who can encourage and facilitate offending. Further, the current findings are contrary to spuriousness thesis of self-control theory, thereby suggesting that self-control and social learning theory are complementary. Theoretical integration hinged on the life-course perspective (e.g. Wright et al., 2001) might be a profitable way of explaining Filipino delinquency.

**ACKNOWLEDGMENT**

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**Notes**

1. This estimation was done using GPower 3.1.9.2 software.
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use and moderation by age. *Addictive Behaviors, 37*(11), 1198-1204.


