Hirschi’s Social Bonding Theory Nearly 45 Years Later: A comparison of a traditional, contemporary and hybrid model

Peter P. Cassino and William S. Rogers

The present study investigates the following aspects of Hirschi’s (1969) social bonding theory: attachment to parents, attachment to school, involvement in conventional activities, and the belief bond. Specifically, a goal is to fill a gap in the literature by comparing Hirschi’s traditional measures to contemporary measure using a single independent national sample of American high school students. Results indicated that the Hybrid Model was the strongest and the Contemporary Model was the weakest. Thus, it is argued that Hirschi’s traditional measures predict the largest amount of self-report general deviance. [Article copies available for a fee from The Transformative Studies Institute. E-mail address: journal@transformativestudies.org Website: http://www.transformativestudies.org ©2016 by The Transformative Studies Institute. All rights reserved.]

KEYWORDS: Hirschi, Deviance, Delinquency, Juvenile, Youth.

Travis Hirschi (1969) developed social bonding theory. The main premise of his argument was that conformity, not deviance, is what needs explaining. The present study further investigated the following aspects of Hirschi’s social bonding theory: attachment to parents, attachment to school, involvement in conventional activities, and belief in the law/legal system. The goal of the present study is to fill a gap in the literature by

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conducting an analysis that compares Hirschi’s traditional measures to contemporary measures using a single independent national sample. The present study built three models: the Traditional Hirschi Model utilizes the measures indicated by Hirschi’s 1969 book, *Causes of Delinquency*; the Contemporary Model utilizes contemporary scales gathered from a literature review; and the Hybrid Model is an amalgamation that combines the strongest components of the two prior models.

**HIRSCHI’S SOCIAL BONDING THEORY**

Hirschi writes that attachment to conventional parents is a central component of control theory. Indirect parental control is theorized to be the primary mechanism that prevents delinquency. Attachment to school is also central to control theory. He defines attachment to school as how much a student likes school and has positive feelings about his/her teacher. Regarding the involvement bond, Hirschi emphasizes the importance of involvement in school-based activities such as studying. Moreover, Hirschi argues that the youth at highest risk of delinquency are those involved in the activities of working class adults. Hirschi makes the case that the belief bond is a belief in and respect for the rules of society. Thus, a weak or broken belief bond increases a person’s likelihood of deviance.

**RESEARCH USING HIRSCHI’S ORIGINAL MEASURES**

This section will review the literature that uses the same or slightly altered measures and questions that Hirschi used. Research on the attachment to parents bond shows that youth with weak bonds with parents have higher rates of delinquency (Hirschi, 1969). Research has confirmed that a strong family attachment is associated with lower levels of delinquency (Kim, Kwak, and Yun, 2010; Krohn, Massey, Skinner, and Lauer, 1983; Ozbay, and Ozcan, 2006), and criminal offences (Chui and Chan 2012; Ozbay, and Ozcan, 2006). Hirschi found that weak attachment to school is associated with a higher risk of deviance. Researchers have also found that there is a negative relationship between school attachment and deviance (Ozbay, and Ozcan, 2006), and violent and property crime (Chui and Chan 2012). Research on the involvement bond found that the more time students spend on homework, the less likely they are to partake in deviant acts (Hirschi 1969). Research also found that if adolescents rushed into adulthood by becoming involved in leisure activities typically favored by working class adults, they were
more likely to commit delinquent acts (Hirschi 1969). Research on the belief bond found that the more people believe in society’s rules, the less likely they are to partake in deviance (Chapple, McQuillan, and Berdahl 2005; Costello and Vowell, 1999; Herschi 1969; Öxbay and Özcan 2009; Ozbay, and Ozcan, 2006).

RESEARCH THAT USES CONTEMPORARY MEASURES OF HIRSCHI’S THEORY

This section will review the studies that have stayed true to Hirschi’s theory and his conceptualizations, but have measured said concepts using contemporary scales. Contemporary research finds that as family bonds get stronger, the risk of delinquency gets weaker (Chen, Thrane, and Adams, 2012; Hay, Meldrum, and Piquero, 2013; HeavyRunner-Rioux, and Hollist, 2010; Junger and Marshall, 1997; Menard, and Grotpeter, 2011; Orcutt and Schwabe, 2012). Research found that a weak attachment to school is associated with a higher risk of deviance (Haines and Case 2004; Hay et al, 2013; Li, 2004), and crime (Chen, 2009). Research on the involvement bond and extracurricular activities found that partaking in extracurricular activities reduces the chances of partaking in deviant behavior (Booth et al 2008; Huebner and Betts 2002). Research that uses contemporary measures supports the premise that a strong belief bond is related to a lower risk of deviant behavior (Junger, and Marshall, 1997; Li, 2004; Wiatrowski, Griswol, and Roberts 1981).

THE PRESENT STUDY

Researchers who have tested Hirschi’s social bonding theory can be divided into two categories: those who use his original measures and those who use contemporary measure. The literature review also revealed that no research has been done to compare Hirschi’s traditional measures with contemporary measure using a single independent national sample. It is the purpose of the present study to fill this gap. The present study uses data from an original single independent sample of American high school students to build three models: the Traditional Hirschi Model, the Contemporary Model, and the Hybrid Model. The first utilized the same measures indicated by Hirschi (1969). The second utilized contemporary scales gathered from a literature review. The third utilizes the strongest variables from the first two models to create a Hybrid Model. In order for these models to be compared, they need to be built from a single
independent representative sample of American high school students. Acquiring such a sample is imperative to filling the gap in the literature as discussed above.

HYPOTHESES

Hypothesis 1: the Traditional Hirschi Model that utilizes Hirschi’s original variables will explain the least amount of shared variance.
Hypothesis 2: the Contemporary Model that utilizes the contemporary measures will explain more shared variance than the Traditional Hirschi Model that uses Hirschi’s original measures.
Hypothesis 3: the Hybrid Model that combines the strongest elements from Hirschi’s Traditional Model and the Contemporary Model will explain the highest amount of shared variance.

METHODS

Data and Procedures

The data for this study came from a representative sample (N=196) of American high school students. This data was collected via a questionnaire that was composed by the study’s authors and consisted of preexisting and well established measures of the following concepts from Hirschi’s social bonding theory: attachment to parents, attachment to school, involvement, and belief. Furthermore, the questionnaire consisted of a measure of self-report general deviance, and demographic questions. The finalized questionnaire received approval from the first author’s Institutional Review Board.

Considering that a single sample that allows for the comparison between Hirschi’s traditional measures and the contemporary measures does not exist, an original sample had to be obtained and surveyed. In order to accomplish this as efficiently as possible, the authors partnered with a survey research firm that had a proven track record of securing nationally representative samples and getting high return rates on email-delivered questionnaires. The total number of emailed questionnaires was 300. This number was derived via the following reasoning: since the analysis was to consist of a maximum number of twelve covariates, it would take 120 or more participants to conduct a regression that would show reasonably sized effects with reasonable power (10 observations for each covariate) (Harrell, 2001). Since research indicates that internet-based surveys have a response rate of between 42% - 52% (Braithwaite,
Emery, De Lusignan, and Sutton, 2003; Cobanoglu, Warde, and Moreo, 2001; Couper, Traugott, and Lamias, 2001) 300 was determined to be the number of potential respondents to contact since the goal was to obtain a minimum sample size of 120 (40% of 300).

An invitation to participate was emailed to 300 hundred parents who have volunteered to allow their high school aged children the option of participating in surveys. Of the 300 emailed questionnaires, 196 were completed. Since the participants were minors, all parents had to provide their consent via the informed consent form, and all participants had to provide their assent via a minor assent form. The informed consent document stated to the parents that their child’s privacy would be protected, that no identifiable information would be collected, that their child’s participation was 100% voluntary and that they could terminate their participation at any point without penalty. The same information was mirrored in the minor assent form. All parents were told to discuss the survey with their child before deciding to participate. As part of the informed consent procedure, parents agreed to provide adequate privacy so that their child felt free to answer honestly.

The study had a 65% response rate. In comparison to expectations, this is relatively high. This response rate is likely due to the parents of the minor respondents being volunteers who receive nominal compensation for participating. Each parent whose child was invited to participate was sent a daily reminder email for one week. The high response rate meant that the analysis was more robust than anticipated, as there are 15 observations for each covariate.

Participants

The age range of the participants was 13-19 with a median age of 15.32 (sd =1.52). There were slightly more females, 53.5%, than males, 46.5%. 68.9% of the participants were white, 10.2% were black, 11.2% were Hispanic, 7.1% were Asian, and 2.6% identified themselves as other.

MEASURES

Dependent Variable

The dependent variable was general deviance. This study used the general deviance subscale of the Normative Deviance Scale. The scale was designed to capture norm violating behavior in a general population
of youth (Vazsonyi, Pickering, Junger, and Hessing, 2001). It consists of 11 questions and responses were captured via a Likert scale where low scores indicated low levels of deviance and high scores indicated high levels of deviance. The scale was calculated by summing the responses to each of the questions. Vazsonyi et al (2011) reported $\alpha=.87$.

**Hirschi’s Bonds**

Attachment to parents was measured by eight questions from Hirschi’s (1969) study. Each question was rated on a Likert scale where low scores indicated weaker attachments and high scores indicated stronger attachments. The scale was calculated by summing the responses to each of the questions. Hirschi did not report an alpha reliability.

Attachment to school was measured with four questions from Hirschi’s study. Each question was rated on a Likert scale where low scores indicated weaker attachments and high scores indicated stronger attachments. The scale was then constructed by summing the responses to the questions. Hirschi did not report an alpha reliability.

Hirschi emphasized school involvement in homework. He measured school involvement as time spent on homework. He claimed that the leisure activities that should be measured are the activities of working class adults. Thus, involvement was not measured by the use of a scale. Rather, it was measured using the four indicators from Hirschi’s original study. Involvement in school was measured by the question, “Time spent on homework per day” and responses were given on a Likert scale where lower scores indicated less time was spent on homework and higher scores meant more time was spent. Boredom was measured by the question: “Do you ever feel that there’s nothing to do? Responses were measured on a Likert scale where low scores meant low levels of boredom and high scores indicated higher levels of boredom. Involvement in the activities of working class adults were measured by two separate questions. “How many hours a week do you spend riding around in an automobile?” and “How many hours per week do you spend sitting around talking with friends?” Responses were recorded via a Likert scale where low scores indicated lower levels of participation and higher scores meant higher levels of participation in the activities of working class adults.

Hirschi stated that a strong belief bond exists in youth who view the law and its agents of enforcement as legitimate and worthy of respect. He explains that the most prominent indicator of a strong belief bond is respect for the police. The belief bond was measured with four questions.
from Hirschi’s study. Responses were indicated via a Likert scale where low scores mean less of the construct and high scores mean more of the construct. The following questions were reverse coded: “Suckers deserve to be taken advantage of”, “To get ahead, you have to do some things which are not right”, and “It is alright to get around the law if you can get away with it”. The scale was constructed by summing the responses. Hirschi did not report an alpha reliability.

The Contemporary Measures of Hirschi’s Concepts

Hirschi’s measure of family attachment is one of many that has been used in criminology, sociology, and psychology. One of the most reliable and valid scales of parent attachment that measures the same concepts as Hirschi is The Inventory of Parent and Peer Attachment (IPPA) (Armsden, and Greenberg, 1987; Costa and Weems, 2005; Lyddon, Bradford, and Nelson, J. P. 1993; O’Koon, 1997; Papini, Roggman, and Anderson, 1991; Sanders, and Szymanski, 2013; Sund, and Wichstrom, 2002; Wampler, and Downs, 2010). We follow the lead of Gullone and Robinson (2005) and use their slightly modified version of (IPPA), The Inventory of Parent and Peer Attachment- Revised (IPPA-R).

The IPPA-R consists of three subscales: trust, communication, and alienation. The trust subscale measures the degree to which children and parents share points of view and have respect for one another. The communication subscale measures how well parents and their children communicate. The alienation subscale measures feelings of anger and alienation that children have towards their parents. The trust subscale consists of ten questions. Two questions were reverse coded: “I wish I had different parents” and “My parents expect too much from me”. The communication subscale consists of ten questions. Three were reversed coded: “I can’t depend on my parents to help me solve a problem”; “It does not help to show my feelings when I am upset”; and “My parents have their own problems, so I don’t bother them with mine”. The alienation subscale consists of eight questions. Responses to all questions were provided via a Likert scale where low scores mean less of the construct and high scores mean more of the construct. The total score was calculated by summing the trust and communication subscales and then subtracting the alienation subscale score from the trust and communication sum. High scores indicated a strong parental attachment. Due to how the scale was calculated, alpha reliabilities were calculated for each subscale but not for the combined scale (Armsden, and Greenberg, 1987; Gullone and Robinson 2005). Gullone and Robinson
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(2005) reported that the trust subscale had an $\alpha=.85$, the communication subscale had an $\alpha=.79$, and the alienation subscale had an $\alpha=.81$.

There has been a lot of scholarship on ideas central to Hirschi’s attachment to school bond. Over the last several decades there has been considerable development of the concept known as school climate (Center for Social and Emotional Education, 2010), which evolved from research on school effectiveness (Anderson, 1982; Kreft, 1993; Miller and Fredericks, 1990; Purkey and Smith, 1983). Quality school climate is described as an environment where students are connected to caring teachers, feel connected to meaningful learning and have an overall positive attitude about their school (National School Climate Center 2014). There are several measures that have been used to study school climate (Gottfredson, 1991; Haynes, Emmons, Ben-Avie, and Comer, 1996; Karatzias, Power, and Swanson, 2001). This study used the school climate measure known as the connection/climate subscale of The Safe and Responsive Schools Survey. The Safe and Responsive Schools Survey has a track record of validity and reliability (Booren, Handy, and Power, 2011; Skiba, Simmons, Peterson, R., and Forde, 2006; Skiba, Simmons, Peterson, McKelvey, Forde, and Gallini, 2004). This study followed the lead of Booren et al (2011) by using the refined version of the connection/climate subscale. The scale consisted of nine questions. All responses were given by a Likert scale where low scores mean less of the construct and high scores mean more of the construct. The scale was calculated by summing the responses to each of the questions. In Booren et al’s (2011) study the $\alpha=.87$.

Contemporary scholars have found support for the hypothesis that high levels of time spent in extracurricular activities are negatively related with delinquency (Alarid et al 2000; Booth et al 2008; Huebner and Betts 2002). For this reason, this study included a measure of time spent in extracurricular activities. This study followed the lead of White, and Gager (2007). Participants were asked to report how much time they spent each week in seven school activity categories and five non-school activity categories. Since this was a collection of individual indicators, the alpha reliability was not reported by White and Gager (2007), nor was it calculated for this study.

Hirschi stated that the key to measuring the belief bond is how much respect a person has for the police. For this reason, the present study followed the previous research by Chow (2012) by using the Perceptions of the Police scale. The Perceptions of the Police scale is designed to measure if people respect and value the police (Chow 2012; Chow 2011; Chow 1996). The original scale consists of eight questions; however, the
following question was removed as it did not apply to the current sample: “The police are more likely to use physical force against Aboriginal people than Whites.” The following questions were revers coded: “The police spend most of their time going after people who commit petty crimes and ignore most of the bad things going on”; and “The police are more likely to use physical force against minority people than Whites.” All responses were recorded by a Likert scale where low scores mean less of the construct and high scores mean more of the construct. The scale was calculated by summing the responses. Chow (2012) reported the \( \alpha = .79 \).

**Analytical Strategy**

In order to test the hypothesis stated above, three hierarchical linear regressions models were built. This analysis will indicate if adding new variables or sets of variables with each consecutive block will lead to a change in the \( R^2 \) (Petrocelli, 2003; Wampold and Freund, 1987). The variables were entered into the blocks based on a close reading of Hirschi (1969). The first step was creating dummy variables for the race and gender indicators. Second, the scales were constructed and alpha reliabilities were calculated. Third, the descriptive statistics for the scales were generated. Fourth, the variables had to be tested for normality. This process indicated that the dependent variable general deviance scale was skewed. As a means of correction, a log10 transformation was conducted. The general deviance scale log10 was more linear than the original general deviance scale. Thus, the logged version of the scale is used as the dependent variable. Fifth, before each model was built, partial correlations between the dependent variables and the independent variables that accounted for the control variables were run. The final aspect of the analytical strategy was to build the models.

The Traditional Hirschi Model is based on Hirshi’s original measures and consists of six blocks. Block 1 consists of the control variables of age, gender, and race/ethnicity, block 2 adds attachment to parent scale, block 3 adds Hirschi’s attachment to school scale, block 4 adds Hirschi’s school involvement measure, block 5 adds Hirschi’s involvement in leisure activity measures, and block 6 adds Hirschi’s belief bond scale. The Contemporary Model, is based on the contemporary scales that measure Hirschi’s concepts. Block 1 enters the same control variables into the equation, block 2 adds the IPPA-R Scale, block 3 adds the School Connection/Climate Scale, block 4 adds the Involvement in School and out of School Activities measure, and block 5 adds the
Perceptions of the Police (belief bond) scale. The third model combines the independent variables that are the best predictors of the theoretical expectations from the Traditional Hirschi Model and the Contemporary Model. Block 1 enters the control variables, block 2 enters the IPPA-R Scale, block 3 enters Hirschi’s school attachment scale, block 4 enters Hirschi’s school involvement measure, block 5 enters Hirschi’s involvement in leisure activities measures, and block 6 enters Hirschi’s belief bond scale. Block 7 shows the optimized model and is created by removing Hirschi’s “there is nothing to do” leisure activity variable and Hirschi’s school attachment scale.

RESULTS

Table 1. Descriptive Statistics for the Scales

<table>
<thead>
<tr>
<th>Variable</th>
<th>Min.</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Deviance log10</td>
<td>1.04</td>
<td>2.74</td>
<td>1.13</td>
<td>.16</td>
<td>.95</td>
</tr>
<tr>
<td>Hirschi’s Parent Attachment</td>
<td>11.00</td>
<td>26.00</td>
<td>21.74</td>
<td>3.19</td>
<td>.82</td>
</tr>
<tr>
<td>Hirschi’s School Attachment</td>
<td>4</td>
<td>15</td>
<td>11.64</td>
<td>2.3</td>
<td>.52</td>
</tr>
<tr>
<td>Hirschi’s School Involvement</td>
<td>1.00</td>
<td>4.00</td>
<td>2.95</td>
<td>1.04</td>
<td></td>
</tr>
<tr>
<td>Hirschi’s Involvement in Leisure Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Do you ever feel that “there’s nothing to do?”</em></td>
<td>1.00</td>
<td>4.00</td>
<td>2.59</td>
<td>.82</td>
<td></td>
</tr>
<tr>
<td><em>How many hours a week do you spend riding around in an automobile with friends?</em></td>
<td>1.00</td>
<td>5.00</td>
<td>1.89</td>
<td>1.08</td>
<td></td>
</tr>
<tr>
<td><em>How many hours per week do you spend sitting around talking with friends?</em></td>
<td>1.00</td>
<td>5.00</td>
<td>2.67</td>
<td>1.11</td>
<td></td>
</tr>
<tr>
<td>Hirschi’s Belief Bond</td>
<td>7.00</td>
<td>20.00</td>
<td>15.35</td>
<td>3.18</td>
<td>.73</td>
</tr>
<tr>
<td>IPPA-R Scale</td>
<td>-1.00</td>
<td>49.00</td>
<td>39.01</td>
<td>9.50</td>
<td></td>
</tr>
<tr>
<td>IPPA-R Trust Subscale</td>
<td>11.00</td>
<td>27.00</td>
<td>23.21</td>
<td>3.52</td>
<td>.88</td>
</tr>
<tr>
<td>IPPA-R Communication Subscale</td>
<td>20.00</td>
<td>30.00</td>
<td>24.17</td>
<td>3.97</td>
<td>.84</td>
</tr>
<tr>
<td>IPPA-R Alienation Subscale</td>
<td>8.00</td>
<td>24.00</td>
<td>12.88</td>
<td>3.58</td>
<td>.86</td>
</tr>
<tr>
<td>School Connection/Climate Scale</td>
<td>14.00</td>
<td>45.00</td>
<td>35.93</td>
<td>6.90</td>
<td>.95</td>
</tr>
<tr>
<td>Involvement in School and out of School Activities</td>
<td>.00</td>
<td>72.00</td>
<td>13.23</td>
<td>11.91</td>
<td></td>
</tr>
<tr>
<td>Perceptions of the Police (belief bond)</td>
<td>11.00</td>
<td>35.00</td>
<td>23.81</td>
<td>4.17</td>
<td>.72</td>
</tr>
</tbody>
</table>
The descriptive statistics for this study are presented in Table 1. Zero order correlations were analyzed between the predictor variables for the Traditional Hirschi Model and the contemporary measures to establish that these are related. Hirschi’s parental attachment measure correlated significantly with the IPPA-R Measure ($r = 0.75, p = 0.000$). Hirschi’s school attachment scale correlated significantly with the School Connection/Climate Scale ($r = 0.574, p = 0.000$). Hirschi’s belief bond scale correlated significantly with the Perceptions of the Police Scale, ($r = 0.311, p = 0.000$). All of Hirschi’s scales were related in the correct direction with their counterparts in the set of contemporary measures.

Partial correlations were performed between the dependent variable general deviance log10 and the predictor variables controlling for age, gender and race/ethnicity. Except for Hirschi’s school involvement question, all of Hirschi’s predictor variables were significantly correlated at or below the 0.05 level in the Traditional Hirschi Model. The contemporary measures of Hirschi’s constructs were significantly correlated with general deviance log10 except for the School Connection/Climate scale and the Perceptions of Police Scale. Only Hirschi’s school involvement question did not correlate significantly with general deviance in the Hybrid Model. With only a few exceptions, the predictor variables in each model were correlated with general deviance log10 scores.

**Traditional Hirschi Model**

The data for the Traditional Hirschi Model were analyzed using hierarchical regression. The Traditional Hirschi Model overall significantly predicted general deviance, $F(3, 182) = 17.618, p = 0.000$. The overall model accounted for 52.6% of the variance in general deviance. Age significantly predicted general deviance, $t(1) = -2.057, p = 0.041, \beta = -0.112$. Younger participants tended to score higher for general deviance than older participants. Not being Asian significantly predicted general deviance, $t(1) = -3.156, p = 0.002, \beta = -0.196$. These two demographics variables accounted for 7.7% of the variance. The questions about riding around with friends and sitting around talking with friends both significantly predicted general deviance ($t(1) = 4.763, p = 0.000, \beta = 0.298$; and $t(1) = 2.256, p = 0.025, \beta = 0.129$ respectively). This means that participants who spent more time riding around in automobiles with friends and more time sitting around talking with friends tended to score higher for general deviance. These variables accounted for 23.4% of the variance. Finally, Hirschi’s belief bond scale significantly predicted
general deviance, $t(1) = -7.451$, $p = 0.000$, $\beta = -0.476$. Participants who scored higher for Hirschi’s belief bond scored lower for general deviance. Hirschi’s belief bond scale accounted for 13.5% of the variance. The remaining small amounts of variance are attributed to the non-significant predictor variables. Though not all of Hirschi’s traditional measures were significant predictors, the traditional model did a good job of predicting general deviance.

### Contemporary Measures Model

The data for the Contemporary Model were also analyzed using hierarchical regression. Overall the Contemporary Model was significant, $F_{(10, 185)} = 6.837$, $p = 0.000$. The overall model accounted for 23% of the variance. Gender significantly predicted general deviance, $t(1) = 2.009$, $p = 0.046$, $\beta = 0.130$. Males tended to score higher for general deviance than females. As in the Traditional Hirschi Model, not being Asian significantly predicted general deviance, $t(1) = -2.600$, $p = 0.010$, $\beta = 0.207$. The IPPS-R scale significantly predicted general deviance, $t(1) = -5.421$, $p = 0.000$, $\beta = 0.405$. Participants who scored higher for the IPPS-R tended to score lower for general deviance. The contemporary school bond scale significantly predicted general deviance, $t(1) = 2.169$, $p = 0.031$, $\beta = 0.178$. Contrary to Hirschi’s theory, this means that higher scores for school bonds indicate higher general deviance scores. Similarly, the contemporary involvement measure significantly predicted general deviance, $t(1) = 2.564$, $p = 0.011$, $\beta = 0.172$. Higher involvement in activities indicates higher general deviance scores. Though this seems to contradict much contemporary thinking in delinquency prevention programming and conventional wisdom, this does fit with Hirschi’s theory. This will be discussed later in this work. Even though the overall model predicts general deviance, it accounted for a relatively small amount of the variance and has two scales predicting in the opposite direction than was expected.

### Hybrid Model

The third model combined Hirschi’s traditional measures with the best results from the Contemporary Model. The contemporary school connections/climate measure and the involvement in and out of school measures were not included because they predicted the opposite of the theoretical expectation. The Perceptions of Police Scale was not included because it did not significantly predict general deviance. Hirschi’s school
bond scale was dropped from the analysis because it had become a non-significant predictor and dropping it improved the model. The question about feeling that there was nothing to do was also dropped for the same reason.

The overall Hybrid Model was significant; $F_{(11, 184)} = 21.759, p = 0.000$. This model accounted for 53.9% of the variance. Age significantly predicted general deviance, $t_{(1)} = -2.212, p = 0.028, \beta=-0.114$. Younger participants tended to have higher general deviance scores than older participants. As in the previous two models, not being Asian significantly predicted general deviance, $t_{(1)} = -3.500, p = 0.001, \beta=-0.214$. The IPPS-R measure of family attachment significantly predicted general deviance, $t_{(1)} = -2.081, p = 0.039, \beta=-0.124$. Participants with lower family attachment scores had higher general deviance scores. Time spent doing homework significantly predicted general deviance, $t_{(1)} = 2.033, p = 0.044, \beta=0.108$. Participants who spent more time engaged in homework tended to have higher deviance scores than those who spent less time on homework. This finding seems to run contrary to Hirschi’s theory. Time spent riding in automobiles with friends and sitting around talking with friends each independently significantly predicted general deviance, $t_{(1)} = 4.848, p = 0.000, \beta=0.297$, and $t_{(1)} = 2.409, p = 0.017, \beta=0.133$ respectively. The more time spent riding in automobiles with friends and sitting around talking with friends, the higher the participant’s general deviance scores. Hirschi’s belief bond scale significantly predicted general deviance, $t_{(1)} = -7.092, p = 0.000, \beta=-0.444$. Participants with higher scores for Hirschi’s belief bond scale had lower general deviance scores. The regression models are presented in Table 2.

COMPARING MODELS

To compare the three models, a chi square analysis was performed using the amount of variance accounted for. The Traditional Hirschi’s Model was used to provide the expected values. The Traditional Hirschi Model accounted for 52.6% of the variance. The Contemporary Model accounted for 23% of the variance. The Hybrid Model accounted for 53.9% of the variance. As one would expect, the Traditional Hirschi Model and the Hybrid Model are not significantly different from one another $X^2_{(1)} = 0.03$. However, the Traditional Hirschi and Hybrid Models were significantly different from the Contemporary Model, $X^2_{(2)} = 16.69, p<0.005$. Given that the Hybrid Model includes a measure of parental attachment (IPPS-R) that significantly predicts general deviance,
while the Traditional Hirschi Model does not, we would recommend using the Hybrid set of measures.

Table 2. Summary of the Three Hierarchical Regression Models Predicting Self-Report Deviance(log10) Measured by the General Deviance Scale Controlling for Age, Gender, and Race

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Hirschi’s Traditional Model (model 1)</th>
<th>Contemporary Model (model 2)</th>
<th>Hybrid Model (model 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>β</td>
<td>S.E.</td>
<td>β</td>
</tr>
<tr>
<td>Gender</td>
<td>-.002</td>
<td>.017</td>
<td>.130*</td>
</tr>
<tr>
<td>Age</td>
<td>-.112*</td>
<td>.006</td>
<td>-.038</td>
</tr>
<tr>
<td>White</td>
<td>-.063</td>
<td>.033</td>
<td>-.076</td>
</tr>
<tr>
<td>Black</td>
<td>-.004</td>
<td>.037</td>
<td>-.092</td>
</tr>
<tr>
<td>Hispanic</td>
<td>.070</td>
<td>.032</td>
<td>.088</td>
</tr>
<tr>
<td>Asian</td>
<td>-.196**</td>
<td>.039</td>
<td>-.207**</td>
</tr>
<tr>
<td>Parent Attachment</td>
<td>.003</td>
<td>.003</td>
<td>-</td>
</tr>
<tr>
<td>School Attachment</td>
<td>-.052</td>
<td>.004</td>
<td>-</td>
</tr>
<tr>
<td>School Involvement</td>
<td>.098</td>
<td>.009</td>
<td>-</td>
</tr>
<tr>
<td>Do you ever feel that “there’s nothing to do?”</td>
<td>.006</td>
<td>.011</td>
<td>-</td>
</tr>
<tr>
<td>How many hours a week do you spend riding around in an automobile with friends?</td>
<td>.298***</td>
<td>.009</td>
<td>-</td>
</tr>
<tr>
<td>How many hours per week do you spend sitting around talking with friends?</td>
<td>.129*</td>
<td>.008</td>
<td>-</td>
</tr>
<tr>
<td>Belief Bond</td>
<td>-.476***</td>
<td>.003</td>
<td>-</td>
</tr>
<tr>
<td>IPPA-R Scale</td>
<td>-</td>
<td>-</td>
<td>-.405***</td>
</tr>
<tr>
<td>School Connection/Climate Scale</td>
<td>-</td>
<td>-</td>
<td>.178*</td>
</tr>
<tr>
<td>Involvement in School and out of School Activities</td>
<td>-</td>
<td>-</td>
<td>.172*</td>
</tr>
<tr>
<td>Perceptions of the Police (alternative belief bond)</td>
<td>-</td>
<td>-</td>
<td>-.095</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.53</td>
<td>23</td>
<td>.54</td>
</tr>
</tbody>
</table>
DISCUSSION

The present study set out to investigate whether Hirschi’s traditional social bonds measures, a set of contemporary measures of Hirschi’s concept, or a hybrid set of measures would do the best job of predicting general deviance. Three hypotheses were created. Hypotheses one and two were not supported but hypothesis three was. The three models accounted for the 53% of the variance, 23% of the variance, and 54% of the variance, respectively.

An interesting significant finding of the Traditional Hirschi Model is that younger adolescences are more likely to participate in general deviance. This finding is in line with Hirschi’s (1969) findings. Other research has also found that acts of delinquency occur at a higher frequency during early adolescence (Elliott, Huizinga, and Menard, 1989; Gottfredson and Hirschi 1990; Greenberg, 1981; Sweeten, Piquero and Steinberg 2013; Warr 1993). This relationship between age and general deviance did not hold true for the Contemporary Model; however, it remained significant in the Hybrid Model.

A measure of parental attachment was included in all three models. Hirschi’s (1969) measure of parental attachment did not remain significant in the full Traditional Hirschi Model. However, the IPPA-R did remain significant in both the full Contemporary Model and the full Hybrid Model. It is not atypical for the attachment to parents bond measure to not be significant in the full model (Chapple et al 2005; Hawdon, 1999; Hawdon, 1996; Ozbay and Ozcan 2006; Sweeten et al 2013).

The Contemporary Model is the only one where attachment to school is significant in the full model but the sign is in the opposite direction from what is predicted by the theory. This result was also found in a study by Skiba et al (2004) who found that school connection/climate scale was a positive predictor of student self-reported incidents of violence. Moreover, Hirschi (1969) indicated that delinquency may not disrupt a positive school environment where positive attachments remain intact.

Since Hirschi (1969) did not measure time spent in extracurricular activities, only the Contemporary Model included a measure of this. A positive relationship between involvement in extracurricular activities and general deviance was found. Hirschi (1969) did provide a logical explanation when he stated that extracurricular activities are nothing
more than leisure activities. Leisure activities are not designed to prevent delinquency because they do not strengthen a youth’s connection to conventionality. Other studies have confirmed this finding (Chui, and Chan 2012; Gottfredson and Soule’2005; Miller, 2013).

In both the Traditional Hirschi Model and the Hybrid Model, there was a significant and positive relationship between youth participation in the activities of working class adults and delinquency. In contemporary research, what Hirschi referred to as activities of working class adults are referred to as unstructured activities. Research has found that higher levels of involvement in unstructured activity increases delinquency (Haynie, and Osgood, 2005; Melde, and Esbensen 2014; Osgood, and Anderson, 2004; Osgood, Wilson, O’Malley, Bachman, and Johnston, 1996; Thomas and McGloin, 2013).

The present study found that there was a significant negative relationship between Hirschi’s belief bond in both the Traditional Hirschi Model and the Hybrid Model. Other researchers have also had similar findings (Chan, and Chui 2013; Costello and Vowell 1999; Hirschi 1969; Li, 2004; Meneses and Akers, 2011; Payne and Salotti, 2007).

The Hybrid Model found that there is a significant relationship between time spent on homework and general deviance; however, it was in the opposite direction of what Hirschi found. Since this result cannot be explained by Hirschi’s theory, it is necessary to seek an explanation from a different criminological theoretical perspective. An examination of the literature would suggest that General Strain Theory (GST) (Agnew, 1992; 2001; 2006) is an appropriate explanation. Based on the results of the present study, this can only be inferred since data related to GST was not collected. This is a potential avenue for future research.

In conclusion, only the third of three hypotheses was supported. The first hypothesis was that the Traditional Hirschi Model would account for the least amount of the variance. As the results indicated, it actually accounted for the second highest amount of the variance. However, coming in second in this instance is rather negligible as it accounted for 1 percent less variance than the Hybrid Model. The second hypothesis was that the Contemporary Model would predict more variance than the Traditional Hirschi Model but less than the Hybrid Model. As the results indicated, the Contemporary Model predicted the least amount of the shared variance. The third hypothesis was that the Hybrid Model would account for the most amount of the variance. As the results indicated, the Hybrid Model did indeed account for the greatest amount of the variance but as discussed above, it only performed better than the Traditional Hirschi Model by 1 percentage point. In the end, there is a strong
argument to be made that, Hirschi’s original questions and measures are still the strongest indicators of his social bonding theory. The only exception was Hirschi’s measure of parental bonding. While the Hybrid Model accounted for a nominally larger amount of the variance, it was the only model with a significant predictor of parental bonding in the final model. Based on these results, we conclude that the strongest predictors of social bonding theory were the variables in the Hybrid Model.

One of the limitations of the present study is sample size. While the current sample size was appropriate with regards to main effects, a larger sample would have allowed for the inclusion of interaction effects. Another limitation was not including a sample of known offenders. Including known offenders would also allow for the inclusion of both official data and the self-report data, which would increase the richness of the analysis. Incorporating known offenders would also allow for models to be developed that have serious offences as dependent variables. While the present study did find that the IPPA –R was a stronger predictor of general deviance than Hirschi’s original measure of parental attachment, this finding needs to be replicated. Finally, the results of the present study indicate that future research should also incorporate variables that measure the concepts central to GST.

REFERENCES


