

An Examination of Self-Control and the Family Structure

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ABSTRACT

Gottfredson and Hirschi are the leading authorities concerning a major criminological theory called the general theory of crime. The main theoretical assumption and finding is that self-control is related to criminal behavior (Gottfredson and Hirschi 1990). According to Gottfredson and Hirschi (1990), parental attachment is the greatest influence on the development of self-control. Due to the belief that more factors are important for self-control than parental attachment, many researchers have examined other influences (e.g., Pratt and Cullen 2000). Additional factors in my research include family structure, frequency of religious practice, participation in hobbies, and sports participation. I hypothesize that these factors have a significant influence on self-control development, in addition to parental attachment. I used The National Longitudinal Study of Adolescent to Adult Health (ADD Health) to analyze bivariate correlations, independent-samples t-tests, and regressions. My results supported Gottfredson and Hirschi's (1990) finding that parental attachment is the greatest influence on self-control. However, I discovered other influences such as religious practices and participation in hobbies and sports are positively related to self-control. Additionally, I discovered that family structure is related to self-control, albeit a smaller influence than parental attachment. While my research supported Gottfredson and Hirschi's theory, more work needs done to fully understand the development of self-control. In the future, researchers should examine other variables to see what additional factors are related to self-control.

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INTRODUCTION

Research has been conclusive concerning a link between self-control and delinquency, as well as parenting styles and delinquency. Parental socialization has a strong influence on juvenile self control, and if inadequate it can cause low self-control in children, leading to delinquency in children (Gottfredson and Hirschi 1990; Pratt and Cullen 2000 Longshore, Chang, and Messina 2005; Teasdale and Silver 2009; Jones et al. 2014). I want to examine how self-control is related to different family structures (e.g., two-biological-parents, one-biological-parent and one step-parent, and single-parent families). Additionally, I will investigate other variables to examine their association with self-control.

LITERATURE REVIEW

General Theory of Crime

Self-control and Deviance

When conducting research on self-control, one must begin by looking at Gottfredson and Hirschi's (1990) general theory of crime, which predicts that self-control is related to deviance. These authors state that self-control traits such as levels of impulsivity, sensitivity, delayed or immediate gratification, and risk-taking behavior (Gottfredson and Hirschi 1990). The research that Gottfredson and Hirschi (1990) conducted has been the leading authority for the understanding of self-control and deviancy. Many researchers have tested the general theory of crime numerous times and find support for the assumption that self-control is a predictor of crime. (Pratt and Cullen 2000; Hope, Grasmick, and Pointon 2003; Mennemeyer and Sen 2006; Simons, Simons, Chen, Brody, and Lin 2007; Phythian, Keane, and Krull 2008; McKee 2012).

Some researchers want to know if other variables influence self-control because we still do not know enough about self-control development (Pratt and Cullen 2000; Simons, Simons, Chen, Brody, and Lin 2007). Critics who have examined self-control found that other factors do contribute to self-control development. Such as social bonds, peers, neighborhoods, gender, ethnic background, socioeconomic status, and family structure (Longshore, Chang, and Messina, 2005; Teasdale and Silver, 2009; Pauwels and Svensson, 2009; Lieber, Mack, and Featherstone, 2009).

Previous Findings

As previously stated, the influence of family structure on self-control has received less attention and needs to be examined. The general theory of crime would benefit from understanding the influence of variables such as family structure and parenting styles on self-control development (Gottfredson and Hirschi 1990). Specifically, more research on self-control development with a focus on family structure, family processes, and mediating variables is needed (Brannigan, Gemmell, Peavlin, and Wade, 2002; Hope, Grasmick, and Pointon 2003; Mennemeyer and Sen 2006; Phythian, Keane, and Krull 2008; McKee 2012). According to McKee (2012), we should start “exploring the potential moderating effects of family structure regarding parenting, [low self-control], and delinquency.” More research is needed on the origins of parental efficacy and self-control as a multidimensional concept (McKee, 2012).

Family and Self-control

Gottfredson and Hirschi’s (1990) general theory of crime, predicts that parenting plays a

strong role in children's self-control, specifically, which becomes a stable trait around the age of nine. Although there was strong support for their assumptions, research conducted by other sociologists has shown other factors need consideration. Whether it is family socialization and parental education (Hope, Grasmick, and Pointon 2003), effective parenting (Phythian, Keane, and Krull 2008), or effective parental monitoring (McKee 2012). Even though they support the findings, they have found that other variables ranging from parental behavior, neighborhoods, socioeconomic status, parental composition, family integration, hostile parenting, religion, school involvement and performance, hobbies, and sports, and level of happiness play a role as well, in development self-control (Brannigan, Gemmell, Pevalin, and Wade, 2002; Knoester and Haynie, 2005; Welch, Tittle, and Grasmick, 2006; Phythian, Keane, and Krull 2008; Lieber, Mack, and Featherstone, 2009; Pauwels and Svensson, 2009; Petts 2009).

Yet, only a few studies have focused on family factors association to self-control (Hope, Grasmick, and Pointon 2003; Mennemeyer and Sen 2006; Phythian, Keane, and Krull 2008; McKee 2012). For example, some studies have examined the effect of parenting on children's self-control, by looking at parental composition, household size, home life, family processes, and family background (Brannigan, Gemmell, Pevalin, and Wade, 2002; Mennemeyer and Sen 2006; Phythian, Keane, and Krull 2008; Lieber, Mack, and Featherstone, 2009; McKee 2012).

Phythian, Keane, and Krull's (2008) research found regardless of the family structure, a family that is accepting and nurturing has a positive association with self-control. Hope, Grasmick, and Pointon (2003) found structural family background variables have an influence on self-control and it is through the family process variables of attachment and supervision. They also found age and race have a direct effect on predicting self-control. These authors looked at family structures,

parent education, and self-control. Hope, Grasmick, and Pointon (2003) and McKee (2012) figured in age, sex, and race. While Hope, Grasmick, and Pointon (2003) and Mennemeyer and Sen (2006), added the family income variable and family size was examined by Hope, Grasmick, and Pointon (2003). Mennemeyer and Sen (2006), and Phythian, Keane, and Krull (2008) used multiple methods, including utilizing some larger data sets to explore their questions. Brannigan, Gemmell, Pevalin, Wade (2002) and Lieber, Mack, and Featherstone (2009) examined family processes and parental attachment on self-control. In contrast to Mennemeyer and Sen (2006), Phythian, Keane, and Krull (2008), found that self-control is higher in families that comprised of two-biological-parents in the home, as opposed to homes with one-biological-parent and one step-parent, or single-parent home. Lieber, Mack, and Featherstone (2009) found that two variables that have a greater influence than family structure and family economics, “family processes and parent-child attachment,” specifically maternal attachment. The parental attachment gives further support to Gottfredson and Hirschi’s (1990) findings.

Family Structure and Deviance

According to Brannigan, Gemmell, Pevalin, and Wade’s (2002) Canadian study, two-parent families cause a buffering when examining “aggression and conduct disorders.” Mennemeyer and Sen (2006) and McKee (2012) looked deeper at parental context. Finding the probability of a juvenile having undesirable behavior is the same in a two biological-parent home where the parents are unhappy, as in a very or moderately happy one-biological-parent and one step-parent home, or in a single-parent home. Also, McKee’s (2012) research found no difference from intact or broken homes, concerning parenting, self-control, and delinquency.

Mennemeyer and Sen (2006) used cross-sectional data from The National Longitudinal Survey of Youth 1997; the survey had 6,748 respondents, and the sample of juveniles were ages 12-16 years. McKee's (2012) collected data from the National Evaluation of the Teens, Crime, and the Community/Community Works. Again, this is a self-report survey, which collected data from a sample of fifteen middle schools in nine states in nine states.

Brannigan, Gemmell, Pevalin, and Wade (2002), discovered that "family processes and individual traits" have a buffer effect when it comes to conduct disorders and aggression. However, this buffer effect comes from homes that have two parents in the home (Brannigan, Gemmell, Pevalin, and Wade, 2002). Hope, Grasmick, and Pointon (2003) found that the parental education levels exerted an important effect on the self-control of juveniles. One reason might be, those with more education have less emotional and physical stress, which in turn, may lead to a more effective approach to disciplining their child, or children. Regarding parental relationships and juvenile behavior, Mennemeyer and Sen (2006) found juveniles that are living in two-biological-parent households with a "particular level of happiness" have a better outcome, than juveniles that live in a home with one-biological-parent and a step-parent. But, they are cautious about making any policy recommendations, for the concern that if two-biological-parents stay together for the children, the outcomes for the juveniles may become poor. As for McKee's (2012) research, it was found that living with both biological parents may not be enough to combat juvenile delinquency, as past thought. Like Mennemeyer and Sen (2006), McKee agrees to be cautious about policy recommendations as it regards parental behavior and the structure of the living arrangements.

Limitations

Self-control and Deviance

As I previously stated, the correlation between self-control and deviancy has been supported (Pratt and Cullen 2000; Longshore, Chang, And Messina 2005; Teasdale and Silver 2009; Hay 2001; Higgins 2009; Phythian, Keane, and Krull 2008; McKee 2012). However, some problems critics have: 1) research does not address other predictors of self-control (Teasdale and Silver 2009), 2) self-control might not be stable over the life-course (Petts 2009), 3) theory has not been tested using longitudinal data (Longshore, Chang, and Messina 2005; Simons, Simons, Chen, Brody, and Lin 2007; Pratt and Cullen 2000; Teasdale and Silver 2009), and 4) research fails to look in detail at the role different family structures play in self-control development (McKee 2012; Mennemeyer and Sen 2006; Phythian, Keane, and Krull 2008). Because factors other than variables predicted by Gottfredson and Hirschi's (1990) general theory of crime could influence self-control, I will explore how family structure is related to self-control. Additionally, I will investigate if other activities have an association to self-control. Positive parenting styles, participation in activities like church, sports, and hobbies could be associated with levels of self-control.

Family Structure and Self-Control

There is some degree of limitations in any study, and future researchers can use those as a starting point for their research. Brannigan, Gemmell, Pevalin, and Wade (2002), encourages more research that would examine what they call "cluster traits," that may have a connection to socialization at a young age or a genetic predisposition. Hope, Grasmick, and Pointon's (2003) research, suggests the need for more research concerning family structure, and its impact on self-control, including family disruptions. Mennemeyer and Sen (2006) state that more research

would be beneficial as to causality, regarding “quality of parental relationships to youth undesirable behavior.” Some limitations can include, not having a broader range of indicators of self-control and no universal measurement of self-control (Phythian, Keane, and Krull 2008).

Family Structure and Deviance

Further research suggested by Lieber, Mack, and Featherstone (2009) includes continuing to examine family and their familial economy, while looking for other factors of influence regarding juvenile delinquency across White, Black, and Hispanic. Another limitation in self-control research regarding family could be reciprocal causation, which is the behavior of parent-to-child and child-to-parent, having an influence overall. However, McKee (2012) discovered that others “broader conceptualizations of parental efficacy may be needed.” Also, McKee’s (2012) research measured self-control with only attitudinal measures. Other research might benefit by looking at behavioral measures or the combination. Pratt and Cullen (2000) found the effect of self-control on crime varies by the type of measure, attitudinal or behavioral.

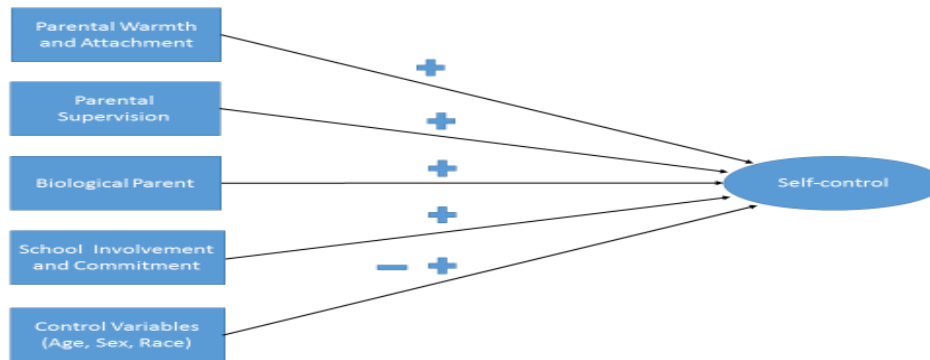
Current Study

As stated earlier, Gottfredson and Hirschi’s (1990) theory determined that self-control was a great predictor of crime and received support from other researchers, (Pratt and Cullen 2000; Hope, Grasmick, and Pointon 2003; Mennemeyer and Sen 2006; Simons, Simons, Chen, Brody, and Lin 2007; Phythian, Keane, and Krull 2008; Teasdale and Silver 2009; McKee 2012). However, there were some criticisms of Gottfredson and Hirschi’s (1990) research. The critics believed that 1) other factors might contribute to self-control, 2) self-control might not be set by age nine, and 3) did not agree that it remained stable over the life course. For example, social

bonds, peers, neighborhoods, and family structure should be considered (Wikstrom and Sampson 2003; Gibson, Sullivan, Jones, and Piquero 2010; Longshore, Chang, and Messina 2005; Teasdale and Silver 2009). Even Gottfredson (2006) later revealed that we do not know enough about the role different family structures play in self-control development.

My argument is family structure is a strong determinate in self-control. Within the family structure some problems regarding discipline can arise: 1) biological parent may prohibit step-parent involvement in discipline, 2) step-parent may be uncomfortable with the disciplinary role, 3) other biological parent may prohibit discipline by the step-parent, and 4) children disregard all attempts of discipline by step-parent. Believing that he or she does not have to listen to, or may have resentment for the step-parent. These problems can be found to some degree in a two-biological parent home if there are marital, financial, or abuse issues within the home. We may also see disciplinary issues in a single-parent home due to lack of resources, or a strong support system (Mennemeyer and Sen, 2006; Jeong and Keegan Eamon 2009; Hope, Grasmick, and Pointon 2003; Phythian, Keane, and Krull 2008; McKee 2012). At this time, it would be beneficial to look at studies that have built upon the general theory of crime (Gottfredson and Hirschi 1990), regarding unexplored research on family structure, its variables, and self-control development across different parenting styles. The focus of my research is to build on previous research, such as using behavioral indicators of self-control. Also, my research aims to provide more evidence about the associations between biological and step-parent family structures, parental warmth and attachment, parental supervision. Additionally, I will investigate school involvement and performance, religious practices, hobbies, and sports with self-control. Figure 1 illustrates my primary focus.

Figure 1: Basic Model



The following hypotheses specify my research question.

Hypotheses

Hypothesis 1: Parental attachment is significantly related to self-control. Higher levels of parental attachment are significantly related to higher levels of self-control.

$$H_0: \beta = 0 \text{ and } H_a: \beta \neq 0$$

Hypotheses 2: Participation in hobbies is positively associated with one's level of self-control.

$$H_0: \beta = 0 \text{ and } H_a: \beta \neq 0$$

Hypotheses 3: Participation in sports is positively associated with one's level of self-control.

$$H_0: \beta = 0 \text{ and } H_a: \beta \neq 0$$

Hypothesis 4: Participation in religion is positively associated with one's level of self-control.

$$H_0: \beta = 0 \text{ and } H_a: \beta \neq 0$$

Hypothesis 5: Respondents who are living with both biological parents will have significantly different levels of self-control, than respondents living in other types of families.

$$H_0: \mu_1 = \mu_2 \text{ and } H_a: \mu_1 \neq \mu_2$$

Hypothesis 6: As parental warmth and attachment increase levels of self-control increase,

controlling for family structure, age, sex, and race.

METHODOLOGY

Source and Sample

For this project I have collected secondary data, using data from the *National Longitudinal Study of Adolescent to Adult Health* (ADD Health), which is a publicly available data set. ADD Health is funded by many government entities, to include the United States Department of Health and Human Services. The data is a national sample from the cohort school year of 1994-1995 in grades 7-12, and data collection lasted until they were 24-32 years of age. The study ADD Health focused on a significant number of factors, to name a few would include school, religion, and context data of the family. The original sample included 27,000 adolescents and was conducted in four waves. However, I focused on wave one with a sample size of 6,051 respondents. I used the *Statistical Package for Social Science* (SPSS) to manage data and to determine what variables I could combine to create scales. I also used SPSS to run bivariate

Control Variables

I controlled for age, sex, and race. The breakdown is as follows; over 6,000 respondents in my sample were in cohorts ranging in age from 12-18, with a mean age of 15.80 and just over fifty-seven percent of the sample 16-18 years of age. There were 2,905 male respondents (48.0%) and 3,146 female respondents (52.0%). There were 3,996 (66.1%) White, 1,484 respondents (24.5%) Black/African American, and 568 (9.6%) other race (See Table 1).

Dependent Variable

Self-control. Self-control measured from low-high, with a range of low self-control at 0.00 to high at 3.00 which is very high self-control. This variable had a mean of 1.96 which tells us that over half the sample had above average self-control (See Table 1: Sample Characteristics).

Independent Variables

Family Attachment. Family attachment variable had 5,967 respondents ranging from low attachment at 1.00 to high attachment at a 5.00 with a high mean of 4.19. Also, 71.8% of the sample believes they have a strong attachment (See Table 1: Sample Characteristics).

Family Structure. Respondents were grouped by different family structures; 2,645 (43.7%) had a biological-parent in the home, compared to 3,402 (56.3%) that did not have a biological-parent in the home (See Table 1).

Religion. I looked at how often respondents attended religious services, the scale asked questions like how often attended in a month over the past year, to find what role religion plays in development and influence of self-control. There were a 5,248 respondents that responded to this question. According to the responses 4,633 (68.9%) of the respondents attended religious services at least once a month in the past year, while 615 (11.7%) did not attend in the past year (See Table 1).

Hobbies. To measure hobby participation, I used a variable derived from a question that asked “How many times respondent participate in hobbies in a month?” I found that 4,826 (79.0%) of the respondents took part in a hobby at least once a month, compared to 1269 (21.0%) who had not practiced a hobby, in the last month (See Table 1).

Play an Active Sport. To measure participation in sports, I asked the question “How many times respondent has participated in a sport in a month?” I found that 4,348 (71.9%) said they played at least once in the last month. Whereas 1,702 (28.1%) did not play at all, in the last month (See Table 1).

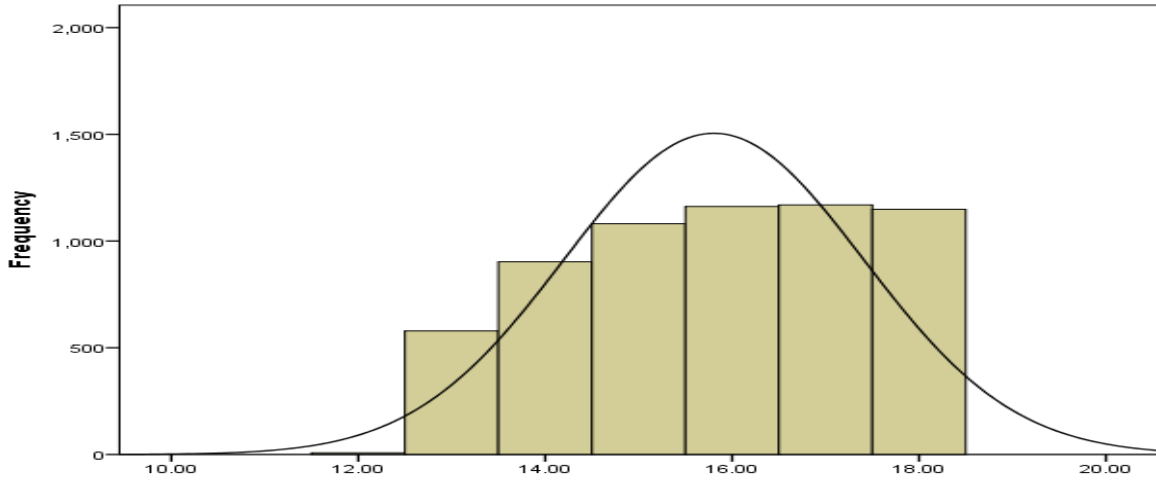
VARIABLE LIST:

<u>Variable</u>	<u>Label</u>	<u>Coding</u>
Self-Control	Behavioral Measures of Self-Control	.00 (low) - 3.00 (high)
Attachment2	Parental Warmth and Attachment	1.00 (strongly disagree) – 5.00 (strongly agree)
Hobbies	Previous Month Participation	0 (not at all) - 3 (5 or more times)
Sports	Previous Month Participation	0 (not at all) - 3 (5 or more times)
Relpract2	Participation A Month in Previous Year	1.00 (never) – 4.00 (once a week)
Bioparents	Living with Both Biological Parents	.00 (no) – 1.00 (yes)
Age	Age in Years	Age in Years
Biosex	Male Female	1 (male) – 2 (female)
White	Race of Respondent	1 (white) – 0 (other)

Table 1:**Sample Characteristics**

Variable in the Model	N=6051
Biological Sex	
Male	48.0 (2905)
Female	52.0 (3146)
Race	
White	66.1 (3996)
Black/African-American	24.5 (1484)
Other	9.3 (568)
Past Year-Attend Religious Services	
Once a week or more	46.2 (2427)
At least once a month	22.7 (1190)
Less than once a month	19.4 (1016)
Never	11.7 (615)
Hobbies	
Not at all	21.0 (1269)
1 or 2 times	33.4 (2020)
3 or 4 times	22.4 (1403)
5 or more times	23.2 (1403)
Play an active sport	
Not at all	28.1 (1702)
1 or 2 times	27.5 (1663)
3 or 4 times	19.2 (1163)
5 or more times	25.2 (1522)
Biological Parent	
Yes	43.7% (2646)
No	56.3% (3405)

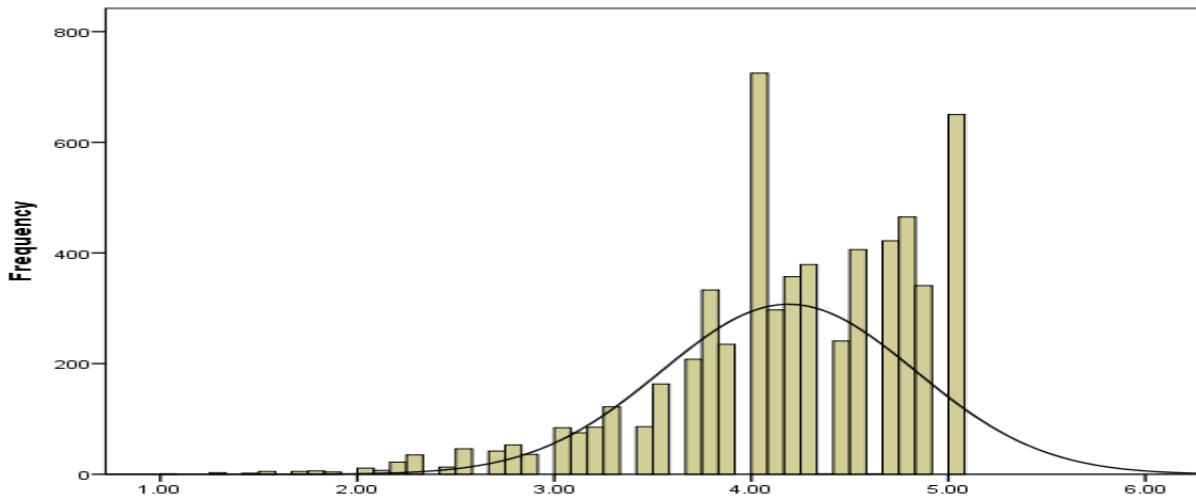
Age



Range
12-18

Mean
15.8

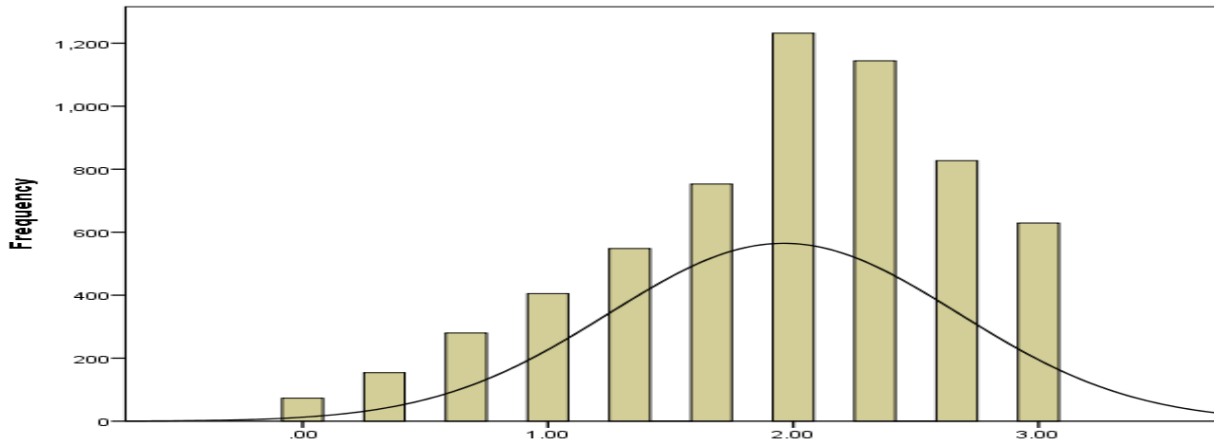
Family Attachment



Range
1.00 (Low)-5.00 (High)

Mean
4.19

Self-Control



Range
.00 (Low) – 3.00 (High)

Mean
1.96

RESULTS

Correlations. I used bivariate correlations to test my first four hypotheses. Correlations tell if the variables are associated and are indicated by two values. First, the Pearson correlation tells us the strength of the association. Values range from +1 to -1 which tells us if it is a positive or negative correlation, and the strength of association between the two variables (George and Mallery, 2000). Also, SPSS output provides a significance value, if this value is <.05 then the association is significant and the relationship is not random.

My first hypothesis was about parental attachment. I found a Pearson's correlation of .279** with a (sig = .000). There is a positive association with self-control, telling us my first hypothesis was supported and when controlling for parental attachment it has a stronger

association than any other variable. My second hypothesis was about participation in hobbies. The Pearson's correlation was .060** with a (sig = .000). Even though it has a significant positive association with self-control although it is a weak correlation and is not as strong as parental attachment. Regardless, hypothesis 2 is supported. My third hypothesis was about playing an active sport. The Pearson correlation was .041** having a (sig = .001) which tells us it has a positive association with self-control, and although significant it is a weak correlation. Thus, my third hypothesis is supported. As for Hypothesis 4 which is about the association between religion and self-control, I discovered it has a larger influence on self-control than I believed with a Pearson correlation of .135** and (sig = .000). I found that religious practice has a moderate correlation with self-control. This tells us that hypotheses 4 was supported. Results for correlations are shown below (Table 2).

Table 2:

Bivariate Correlations

Variable	1	2	3	4	5	6	7	8	9
1. Self-control	—								
2. Attachment	.279**	—							
3. Hobbies	.060**	.069**	—						
4. Play an Active Sport	.041**	.126**	.173**	—					
5. Religion	.135**	.089**	.082**	.055**	—				
6. Biological Parents	.069**	.044**	.047**	.044**	.089**	—			
7. Age of Respondent	-.101**	-.158**	-.086**	-.162**	-.083**	-.011	—		
8. Biological Sex	.098**	-.069**	-.059**	-.274**	.053**	.019	.029*	—	
9. White	-.060**	-.027*	.047**	.017	-.155**	.173**	.000	-.014	—

Independent-Samples T-Test. To investigate my fifth hypothesis, I used an independent-sample t-test. The t-test operates by comparing means from two different groups with a common interest variable. When a t-test's 2-tailed significance is less than .05 there is a statistically significant difference between groups (George and Mallery 2000).

The biological-parent home had 2,645 respondents and 3,402 respondents from homes absent any biological parent. I found that families with biological-parents had a higher level of self-control compared to family structures without a biological-parent. The means for were 2.02 for biological-parents and 1.92 for other family structures (See Table 3 A). The mean difference shows only a slight difference in self-control, with the biological-parent home having a slightly higher level of self-control than homes absent biological-parents (See Table 3 B). My results indicate that there is a significant difference between groups, with a significance of .000 (See Table 3 B). Thus my fifth hypothesis was supported in the way I expected.

Table 3A:

Independent Sample T-Test

Bio parents	N	Mean Self-Control	Standard Deviation
No	3402	1.9177	.72717
Yes	2645	2.0168	.68808

Table 3B:**Independent Sample T-Test**

	F	Sig. (2-tailed)	Mean Difference Self-Control	Std. Error Difference
Equal Variances Assumed	19.630	.000	-.09907	.01841
Equal Variances Not Assumed		.000	-.09907	.01829

Regression. I used regression to test my sixth hypothesis, which examines the influence of parental attachment on self-control. Regressions are like bivariate correlations, but control for more than two variables at the same time (George and Mallery 2000). Specifically, I asked if parental attachment would be significant after controlling for family structure, age, sex, and race. My sixth hypothesis is supported with a standardized coefficient of .273 and (sig = .000). Parental attachment was significantly related to self-control after controlling for family structure, age, sex, and race. See results on next page (See Table 4).

Table 4:

Regression

Variables	Standardized Coefficient	Significance
Parental Attachment	.273	.000
Family Structure	.064	.000
Age	-.055	.000
Sex	.110	.000
Race	-.062	.000

N: 6,051
Adjusted R²: 10.0
F Value: 133.127
Significance: .000

POSTER



An Examination of Self-control and the Family Structure

Presenter: Melissa S. Bleining
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Background

- Self-control is a major criminological theory, developed by Gottfredson and Hirschi (1990).
- Determined self-control was an important predictor of crime.
- Other research supported the importance of self-control.
- Gottfredson and Hirschi (1990), believed self-control set by age nine and stable over life-course.
- Self-control develops through family influence, specifically, parental influence.
- The association between low self-control and deviance is known, but less is known about the association between different family structures, social bonds, peers, religion, and self-control.
- Criticism from other researchers, others believed additional factors contributed to low self-control.

Hypotheses

- Hypothesis 1:** Parental warmth and attachment is significantly related to self-control. As parental warmth and attachment increase, so does levels of self-control.
 Ho: $\beta = 0$ and Ha: $\beta \neq 0$
- Hypothesis 2:** Participation in hobbies is positively associated with one's level of self-control.
 Ho: $\beta = 0$ and Ha: $\beta > 0$
- Hypothesis 3:** Participation in sports is positively associated with one's level of self-control.
 Ho: $\beta = 0$ and Ha: $\beta > 0$
- Hypothesis 4:** Participation in religion is positively associated with one's level of self-control.
 Ho: $\beta = 0$ and Ha: $\beta > 0$
- Hypothesis 5:** Respondents who are living with both biological parents will have significantly different levels of self-control than respondents who are living in other types of family arrangements.
 Ho: $\mu_1 = \mu_2$ and Ha: $\mu_1 \neq \mu_2$
- Hypothesis 6 (Final Model):** As parental warmth and attachment increase, levels of self-control increase, controlling for family structure, age, sex, and race.

Methods

- Design:** Quantitative, Secondary Data Analysis
- Data Source:** National Longitudinal Study of Adolescent to Adult Health (ADD Health)
- Data Collection Date:** ADD Health Wave 1
- Sample:** Youth grades 7-12, ages 12-18, 6,051 respondents
- Analysis:** Bivariate Correlations, T-test, Regression.

Table 1: Sample characteristics

Variable in the Model	N=6051
Biological Sex	
Male	48.0 (2905)
Female	52.0 (3146)
Race	
White	66.1 (3996)
Black/African-American	24.5 (1484)
Other	9.3 (568)
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Play an active sport	
Not at all	28.1 (1702)
1 or 2 times	27.5 (1663)
3 or 4 times	19.2 (1163)
5 or more times	25.2 (1522)
Biological Parent	
Yes	43.7% (2646)
No	56.3% (3405)
Age	Range 12-18 Mean 15.8
Family Attachment	Range 1.00 (Low)-5.00(High) Mean 4.19
Self-Control	Range .00 (Low)-3.00 (High) Mean 1.96

Table 2: Bivariate Correlations

Variable	1	2	3	4	5	6	7	8	9
1. Self-control	1								
2. Attachment	.279**	1							
3. Hobbies	.096**	.069**	1						
4. Play An Active Sport	.041**	.138**	.113**	1					
5. Religion	.133**	.089**	.082**	.059**	1				
6. Biological Parents	.050**	.044**	.047**	.044**	.069**	1			
7. Age of Independent	-.101**	-.138**	-.096**	-.102**	-.003**	-.011	1		
8. Biological Sex	.098**	.069**	.059**	.214**	.003**	.019	-.020**	1	
9. White	-.060**	-.027**	-.047**	.017	-.155**	.173**	.000	-.014	1
N	6,051	5,867	6,049	6,050	5,248	6,051	6,051	6,051	6,051
Mean	1.9610	4.1889	1.48	1.41	3.0245	4.373	15.8035	1.52	604
Standard Deviation	1.1917	.64548	1.065	1.144	1.06011	4.9609	1.60399	.500	47.362
Minimum	.00	1.00	0	0	1.00	.00	12.00	1	.00
Maximum	3.00	5.00	5	5	4.00	1.00	18.00	2	1.00

Table 3: T-Test Results

Self-control	Group Statistics			
	Biological Parents	N	Mean	Std. Deviation
Yes	3402	1977	2.717	.8247
No	2645	2108	.8808	.8138

	Levene's Test for Equality of Variances	t-test for Equality of Means					95% Confidence Interval of the Difference			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper	
Self-control	Equal variances assumed	19.630	.000	-5.380	6041	.000	-.06607	.01461	-.13518	-.00297
	Equal variances not assumed			-5.817	5818.968	.000	-.06607	.01629	-.13462	-.00222

Figure 1: Regression Results



Summary of results

- Hypothesis 1:** Supported. Parental warmth and attachment is positively related to self-control. Children with greater parental warmth and attachment have higher levels of self-control.
- Hypothesis 2:** Supported. Participation in hobbies is positively associated with higher levels of self-control.
- Hypothesis 3:** Supported. Participation in sports is positively associated with higher levels of self-control.
- Hypothesis 4:** Supported. Greater participation in religion is positively related to higher levels of self-control.
- Hypothesis 5:** Supported. Children who live in a home with two biological-parents is positively associated with higher levels self-control.
- Hypothesis 6 (Final Model):** Supported. Greater the parental warmth and attachment is associated with increases in levels of self-control. Family structure, age, sex, and race all are associated with levels of self-control.

Discussion

My research supports Gottfredson and Hirschi's (1990) self-control theory, as to the importance of parental warmth and attachment, when controlling for age, sex, and race.

I will further my research, including more variables and equations to get at what else influences self-control.

My future research will examine limitations that other researchers have not tested, possibly integrating qualitative method.

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