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PARENTING & BULLYING: A REVIEW OF THE PARENT-CHILDREN RELATIONSHIP AND ITS EFFECTS ON A CHILD'S FREQUENCY OF BULLYING

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PARENTING & BULLYING: A REVIEW OF THE PARENT-CHILD RELATIONSHIP AND ITS EFFECTS ON A CHILD'S FREQUENCY OF BULLYING

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BY

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I dedicate this thesis to my parents Gilbert Wolford III and Barbara Beck, who have been an enormous influence in my life. Had I not received support from them both, this research would have never been completed. I also dedicate this work to my kitties, Chasm and Crest. Their goofy antics always entertain me when I need a laugh.

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Abstract

This research explores the relationship between the quality of children's relationship with their parents as perceived by the children and their frequency of bullying other children. The purpose of this research is to illustrate the importance of the parent-child relationship and its impact on bullying outcomes. I create a latent variable using confirmatory factor analysis to operationalize the parent-child relationship with several indictors provided by the Health Behavior of School-Aged Children (HBSC), 2009-2010 data set (n = 6,601). I hypothesize that children are more likely to participant in bullying if their relationship with their parents is poor relative to children who have a good quality relationship with their parents. The results of the structural equations model support this hypothesis by showing statistical significance when comparing the parent-child relationship quality to the child's frequency of bullying. The children who had a poor relationship with their parents were more likely to bully.

Chapter 1: Introduction

Approximately 30% of school children in America are involved in bullying, whether they are the victim, perpetuator, or both (Evans 2014). While bullying in American schools has declined by over 50% from 1998 to 2010 (Perlus 2014), it remains a common problem that threatens the well-being of many school-aged children (Espelage, Bosworth, and Simon 2000). In this research, I explore how bullying frequency is influenced by the quality of the parent-child relationship, using data from a sample of adolescents between grade levels seven through ten. Migliaccio defines bullying as (2013:71) "deliberate and hurtful behavior that is repeated over time."I use this conceptualization of bullying for the purpose of this research, and I view bullying behavior as an important part of the overall construction of deviant behavior.

This research is important because the potential outcomes for both bullies and their victims can have long-term detrimental effects (Migliaccio and Raskauskas 2013). Bullies are more likely to have lower grades (Sigurdson, Wallander, and Sund 2014; Strøm et al. 2013), practice unsafe sex, have lower levels of moral, performative, and civic character (Hilliard et al. 2014), use drugs (Espelage et al. 2014; Fletcher, Steinberg, and Williams-Wheeler 2004; Sigurdson, Wallander, and Sund 2014), exercise violent behavior, and even experience suicidal ideation (Bonanno and Hymel 2013) and suicidal behavior (Litwiller and Brausch 2013).

Victims of bullying have very similar outcomes, including feelings of not being safe, poor general health, and higher levels of pain and suicidal ideation (Bonanno and Hymel 2013; Henry et al. 2014; Migliaccio and Raskauskas 2013; Sigurdson,

Wallander, and Sund 2014). Victims of bullying also may feel like no one likes them or enjoys their company, and this element of bullying weighs heavily on the child's self-efficacy (Esbensen and Carson 2009; Henry et al. 2014). Peer relationships are important to a child, so the humiliation of being bullied can seriously limit one's social spaces (Swearer et al. 2010). Bully victimization can contribute to higher levels of anxiety for these reasons (Evans et al. 2014; Jacobson 2011; Yen 2013).

Bullies and the victims of bullying are equally as likely to develop mental health issues into early adulthood. Both perpetrators and victims of bullying during adolescence have an increased risk of many negative outcomes later in their young adult life, such as poor physical and mental health, poor social relationships, anti-social behavior, aggression, and poverty (Georgiou and Stavrinides 2013; Sigurdson 2014). Even long after the bullying experience, those involved can suffer from consequential social costs (Sigurdson, Wallander, and Sund 2014:1607).Given the numerous negative outcomes manifest as the result of bullying for both the perpetrator and the victim, it is imperative that, from a public sociology perspective, we continue to try and understand more about these issues that may inform programs and policies. This research hopes to contribute to that effort.

Most of the previous research regarding bullying perpetration and victimization has been limited to only the parent's actions and perceptions, rather than how the child perceives the relationship quality with one's parents. This research aims to fill in a specific gap in the deviance, more specifically, bullying literature. Parent-child relationship quality, as perceived by the child, is an independent variable that is relatively absent in the literature. It is important to understand the child's perception of

the quality of his/her parental relationships, rather than just gathering the data from the parents; it does not matter what the parent reports or displays, in regards to the child's behavior, if the child perceives the relationship quality as less than sufficient. My research helps answer the questions of whether the quality of the parent-child relationship, as perceived by the child, affects the child's frequency of bullying participation. As an additional contribution to the literature, I use more sophisticated statistical methods to analyze my findings. Structural equations modeling is not entirely absent from the literature, but it has not yet been used to test the specific relationship between parent-child relationship quality and bullying frequency.

Chapter 2: Literature Review

The quality of a child's relationship with his/her family is an important predictor of deviance (Sokol-Katz, Dunham, and Zimmerman 1997). This connection between a child's frequency of exercising deviant behavior and one's familial relationship quality is abundant throughout the literature (as will be mentioned below). Specific aspects of the parent-child relationship, such as parental conflict, parental monitoring practices, and parental knowledge, have been analyzed to find potential predictors for many negative deviant behaviors, including bullying. I will begin by reviewing this important connection between family relationship quality and these negative outcomes for the children involved.

Conflict between children and their parents and siblings has been shown to impact a child's frequency of deviance (Espelage, Bosworth, and Simon 2000; Ingoldsby et al. 2006; Kazdin 1992; O'Keefe 1994; Slomkowski et al. 2001; Volling and Belsky 1992). Marsh et al. (2004) found that if children in elementary school had problems in their relationships with their parents, they were two to four times more likely to belong to the most frequent bullying category relative to those that reported never participating in bullying. While this is important research, these studies only focus on the conflict between the parent and the child, rather than the quality of the overall parent-child relationship.

Literature specifically interested in bullying perpetration is also common, but is not as abundant as the literature regarding overall deviance (as those mentioned above). Research by Georgiou and Stavrinides (2013) has established a connection between parent-child conflict and the frequency of bullying. They found that conflict between

the parent and the child increases the likelihood that the child will bully. Relatedly, Espelage et al. (2014) found that family violence leads to higher rates of bullying perpetration by the child involved. Both of these studies illustrate how familial conflict can affect a child's likelihood of participating in bullying. However, these studies were more interested in family conflict itself, rather than overall quality of the parent-child relationship as perceived by the child.

Other problems and difficulties within the context of the family have also been shown to increase the frequency of bullying, such as marital conflict (Moore, Huebner, and Hills 2012), marital violence (O'Keefe 1994), lack of adult supervision (Espelage, Bosworth, Simon 2000), less time spent with the father (Christie-Mizell et al. 2011), lack of parental trust and poor communication with parents (Pepler et al. 2008), physical discipline (Lereya, Samara, and Wolke 2013), and general emotional, behavioral, or developmental problems (Shetgiri et al. 2012). It is clear that bullying is a complex problem with many potential and interacting causes (Harcourt, Jasperse, and Green 2014).

Clearly,the quality of familial relationships impacts a child's participation in deviant behavior. Bandura (1997) theorizes that self-efficacy (an individual's internalized self-worth) can be acquired through positive familial relationships which can improve the child's self-regulation and self-control. These positive familial relationships can help children deal with serious problems or severe strain (like bullying) (Bandura 1994). Also, theories such as social control theory, posited by Hirschi (1969), claim that positive ties to family can reduce an individual's propensity towards deviance. Attachment is an important part of social control theory; especially parental

attachments, as parents are likely to be emotionally close to their children. Research testing social control theory and its relationship to delinquency is quite prevalent (Chapple and Hope 2003; Henrich, Brookmeyer, and Shahar 2005; Herrenkohl et al. 2003). Children are less likely to be defiant if they have strong positive bonds with their parents because they respect the parent's request to conform, thus giving parents more social control. While it is beyond the scope of this study to determine the exact mechanisms by which the parent-child relationship affects bullying frequency, it is nonetheless theoretically possible that one or more of the above-mentioned mechanisms play a role in the correlation between the parent-child relationship quality and bullying. I believe that parent-child relationship quality is a good measure of parental attachment, and therefore an affix of social control theory.

Chapter 3: Research Design

Using survey datafrom the Health Behavior of School-Aged Children (HBSC) study from 2009 to 2010, I use structural equations modeling to examine the effect of parent-child relationship quality on bullying behavior, net of control variables. For the purpose of this research, I am interested in around junior-high and high-school aged teenagers.

A confirmatory factor analysis is used to create a latent measure of my independent variable, parent-child relationship quality. A path diagram, showing parent-child relationship quality (PCRQ) and all control variables can be seen in Figure 1 below.A correlation across the errors of two observed variables ("My parent/guardian helps me as much as I need" and"My parent/guardian is loving") was included in the confirmatory factor analysis. The covariance between the observed variables inproved the model's fit the most.

I hypothesize that a child is more likely to be a participant in bullying if his/her relationship with his/her parents is poor, as perceived by the child, relative to children that perceive a good quality relationship with their parents. This hypothesis is based on theories regarding the importance of familial relationships and how they improve a child's self-worth and social-control.

Chapter 4: Methods

TheHealth Behavior of School-Aged Children (HBSC) 2009 to 2010 survey data were collected in collaboration with the World Health Organization. The students were from public and private schools in all fifty states including the District of Columbia (Iannotti 2010). The sample originally consisted of 12,642 students. Though the data consists of grades 5 through 10, over 99% of those in grades 5 and 6 had missing data for my independent variable (parent-child relationship quality), so they were removed from the sample (i.e., 3,767, approximately 30%, cases were lost). Also, after removing additional missing cases from my confirmatory factor analysis on parent-child relationship quality (611 cases, approximately 7.5%), my sample total was 8,264. These missing 611 cases showed no pattern of systematic relatedness to any other item within the variables of interest.

Dependent Variable

Bullying Frequency

My dependent variable is the child's frequency of bullying. This variable was based on an item asking respondents: "How often have you taken part in bullying another student(s) at school in the past couple of months?" The possible categorical response categories ranged from 0 to 4, with higher scores representing more frequent bullying. Table 1 shows a frequency tabulation for this variable. As can be seen, a majority of the sample has not bullied in the past several months.

Independent Variable

Parent-Child Relationship Quality

My independent variable was the parent-child relationship quality (PCRQ), which was created from four indicators: 1) "My parent/guardian helps me as much as I need," 2) "My parent/guardian is loving," 3) "My parent/guardian understands my problems and worries," and 4) "My parent/guardian makes me feel better when I am upset." Each indicator used the same response categories from 1 to 3, with higher numbers representing better relationship quality.

Control Variables

Body Mass Index

Body mass index (BMI) is a continuous variable ranging from to 11.05 to 46.17 (higher numbers representing children that are overweight), with a mean of 21.73 and standard deviation of 4.38. I included BMI as a variable of interested because it may relate to a child's tendency to bully others. Potentially, a child of a higher BMI might take advantage of his/her weight in order to overpower and/or intimidate others. Or s/he may be a victim target of bullying.

Family Composition

Family composition describes the child's living situation; the response categories were "Both parents," "Mother only," "Father only," "Mother and step father," "Father and step mother," and "Other" ("Both parents" being the reference category).The HBSC includes "Grandparents" as a possible response, but due to the low number of

respondents, I combined “Grandparents” or “Other”. Therefore, “Other” can be defined as a child not living with either biological parent.

Grade and Age

Grade level indicates the child’s level of education, ranging from 7th to 10thgrade. Age ranges from 11 to 17 in my sample. Fewer than 100 respondents were in either ages 11 and 17. Therefore, I collapsed 11 and 12 into a “12 or younger” response category and collapsed 16 and 17 into a “16 or older” response category. The variance inflation factor (VIF) between both grade and age was not over 10 (i.e., it was 4.72) Therefore, these variables are not collinear, so I included both of them in the model.

Gender and Race/Ethnicity

Gender is simply a dichotomous variable, with both male and female response categories; approximately 51 percent of the respondents are male. Race has five possible outcomes in my sample: “White,” “Black,” “Hispanic,” “Asian, Pacific Islander, Native Hawaiian,” and “Two or more races or other” (“White” being the reference category). The HBSC independently asks respondents if they are Hispanic, followed by a question about their race, allowing them to select multiple response categories. If the respondent selected Hispanic in the first item, but not in the second item, I coded him/her as Hispanic. All other placements were directly translated into my race variable.

Affluence

Affluence is a continuous aggregate variable provided by the HBSC data set that combines several indicators asked of the child including: “How well off do you think

your family is?", "How many computers does your family own?", "Do you have your own bedroom for yourself?", "Does your family own a car, van, or truck?", and "During the past 12 months, how many times did you travel away on vacation with your family?". This value ranges from 1 to 10, with a mean of 6.92 and a standard deviation of 1.97.

Analytical Method

My sample descriptive statistics can be found above in Table 2. These details are separated by low, moderate, and high PCRQ scores. I use a factor analysis routine to generate an estimate of the latent PCRQ variable (i.e., first factor solution). I then use this measure to stratify the sample by tertiles to illustrate the difference in predictor variables by parental relationship quality. As can be seen, a majority of my sample are white and living with both biological parents. A majority also have not bullied in the past several months (as indicated by the question). It is clear by reviewing Table 2, that children who do not bully become a smaller portion of the sample as the PCR Quality drops, while every other response category in bullying increases. We find this exact pattern with family composition: as PCR Quality drops, the portion of child living with both biological parents drops, while the portion of the sample increasesfor all other response categories.

The dependent variable in this research, overall bullying, is categorical in nature. Since the standard structural equations modeling assumes outcome variables are continuous, categorical dependent variables are not strictly appropriate. However, as a

sensitivity analysis, I attempt to determine whether treating the dependent variable as continuous affects results. I do so by comparing the results of the overall structural equations model to the outcomes in a general structural equations model, which allows for categorical outcomes. Note that while some standard statistical packages include a generalized structural equations model routine, they lack important features such as fit statistics, covariances among observed variables, or full information maximum likelihood analysis, making them less than ideal for my analysis. Therefore, if both the structural equations model and general structural equations model results yield similar findings, I can better justify my final method of analysis.

My sample of 8,264 has a high number of missing data. Listwise deletion would result in reducing the number of cases to 6,601 (lost 1,663, approximately 20%). Taking this into consideration, I include a model using full-information maximum likelihood estimates to compare the results to my main model (similar to comparing my main model to the general structural equations model results). Using full-information maximum likelihood constructs covariance matrices only using non-missing data. Doing this controls for asymptotic efficiency and normality (Bollen and Curran 2006).

Chapter 5: Results

I show results of three models. The first model (Model 1) is the structural equations model using full-information maximum likelihood. As mentioned above, I use this model to compare to the listwise deletion structural equations model (Model 2) to justify the use of listwise deletion. The third model (Model 3) is the general structural equations model without fit statistics. I use this model to compare to my main model (Model 2) to justify the treatment of my dependent variable as continuous. When comparing Model 1 and Model 3 to Model 2, my main effect remains at the same significance and direction. There are smaller changes among the control variables, but these changes are not large, show similar results, and are not of primary interest. Through these comparisons, I believe that Model 2 is the correct model to use and is robustly justified by the similar outcomes of the other two models.

Before the overall analysis could be completed, I checked to see if the measurement model (relating observed indicators to the latent construct perceived parent-child quality) for my independent variable fit into my overall model and yielded significant results. All fit statistics proved that PCRQ fits the data well. The comparative fit index was above 0.95 (best fit is 1.00) and the Tucker-Lewis index was also above 0.95 (best fit is 1.00). The root mean squared error of approximation was below 0.05 (0.00) and the Schwarz Bayesian information criterion was negative (-8.50), which favors the proposed model over the Saturated model. The model chi square was not significant (0.293), which is desirable. Also, the latent variable loadings are all highly significant and in the expected positive direction. These details indicate that the measurement model was satisfactory and could be used in my overall analysis.

As can be seen on Table 2, Model 2, the PCRQ has a significant negative effect on bullying frequency ($p \leq 0.000$). This is my main effect of interest. Therefore, as expected, as children perceive a better relationship quality with their parents, they are less likely to engage in bullying. Many of the control variables also showed significant effects. The "Asian, Pacific Islander, Native Hawaiian" racial response category shows a moderately significant negative effect ($p \leq 0.056$) indicating that they are less likely to bully. If no biological parent is present, results show it has a significant positive effect ($p \leq 0.006$). Male also shows a significant positive effect ($p \leq 0.000$). Affluence has a significant positive effect on bullying frequency ($p \leq 0.001$) which is counter to what some research has found (Veenstra et al. 2005). Body mass index also has a significant positive effect ($p \leq 0.052$). Lastly, grade had a significant negative effect ($p \leq 0.021$), indicating lower rates of bullying in the higher grade levels.

The overall model also all yielded desirable fit statistics. The comparative fit index was above 0.95 (0.98) and the Tucker-Lewis index was also above 0.95 (0.966). The root mean squared error of approximation was below 0.05 (0.025) and the Schwarz Bayesian information criterion was negative (-161.13). The square chi square was unfortunately significant (243.438), however, this result is to be expected when using a large sample size (6,601).

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Chapter 6: Conclusion

This research explores the relationship between the quality of children's relationship with their parents as perceived by the children and their frequency of bullying other children. The results of the structural equations model show statistical significance when comparing the parent-child relationship quality to the child's frequency of bullying. Children who were less likely to bully were those that had a positive relationship with their parents. These findings support my hypothesis.

My research adds an important insight into the study of bullying: children are not isolated individuals that function in day-to-day life uninfluenced by social conditions. The quality of familial relationships can augment behavior and alter the disposition regarding forthcoming interactions within other social networks. This research further contextualizes the role that parental relationships play in a child's life by paralleling and reflecting the quality of other relationships. My findings are similar to the broader deviance literature, as many have shown that poor familial relationships can lead to delinquency and problem behavior by the children involved (Ingoldsby et al. 2006; O'Keefe, 1994; Sokol-Katz, Dunham, and Zimmerman 1997). These details reflect the theoretical approach behind my hypothesis. As mentioned earlier, this research does not directly test self-efficacy theory or social control theory; however, the results are consistent with these theories. Self-efficacy can be acquired through these positive parent-child relationships which improve self-regulation and self-control and could help children deal with bullying (perpetuation or victimization). Also, positive ties to parents, as it relates to social control theory, could reduce an individual's chance of

being perpetrators of bullying. Both of these theoretical frameworks give reasons to believe that the findings of this research would be expected, though they are not directly tested.

Bullying is still a common problem (Espelage, Bosworth, and Simon 2000) and parents and staff members of schools can assist in dealing with this problem facing many children today. Unfortunately, parents still need more information to understand the problem (Harcourt, Jasperse, and Green 2014) and staff members typically underestimate the amount of bullying that actually occurs (Bradshaw, Sawyer, and O'Brennan 2007).

Many bullying prevention programs exist to attempt to reduce the likelihood that children will bully (Evans et al. 2014; Jenson et al. 2013; Migliaccio and Raskauskas 2013). Most of these programs target children early in their primary school education. Though many have shown some success, this research implies that the reach of these programs needs to extend beyond the school and into the home. Since the parent-child relationship quality is such a strong predictor of bullying outcomes, these programs should consider informing and educating parents about these associations, which may encourage parents to improve their relationship with their children (if necessary).

There are a few limitations regarding this research. The first is the lack of a true socio-economic status (SES) variable. Recall that I rely on a proxy for socioeconomic status based on the child's perceptions of different dimensions of the family's circumstances. Given the population under study, I believe that the measure is appropriate, since it is difficult to gather accurate SES informationfrom children, because they simply may not know how much money is made in the household.

Also, I cannot establish a causal relationship between positive parent-child relationship quality and low bullying frequencies. Like many other studies that are based on cross-sectional data, I cannot say which of the variables, independent or dependent, causes the other, or whether their relationship may be reciprocal. I have little to no doubt that the relationship quality plays a role in bullying practices, but to what extent, I cannot infer.

I suggest that future research interested in the relationship between parent-child relationship quality and bullying frequency perform a longitudinal study to eliminate the limitation of cross-sectional analysis. This would allow us to imply some causality to this relationship. Also, future research should more directly test theories such as social control theory and self-efficacy theory to see if they apply to this relationship between parent-child relationship quality and bullying frequency.

Despite its limitations, my research is one of the first studies to establish a connection between parent-child relationship quality and bullying frequency. This subject matter requires further attention, providing us with more information to combat this complex problem.

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Appendix A: Bullying Frequency

Table 1: Frequency table for bullying categories

Bullying	Frequency	Percent	Cumulative
No Bullying	4,602	69.72%	69.72%
Low Bullying	1,502	22.75%	92.47%
Mid-Low Bullying	248	3.76%	96.23%
Mid-High Bullying	125	1.89%	98.12%
High Bullying	124	1.88%	100.00%
Number of Cases	6,601		

Appendix B: Descriptive Statistics

Table 2: Descriptive Statistics by High, Moderate, and Low PCRQ

	High PCRQ		Moderate PCRQ		Low PCRQ	
Bullying						
No Bullying	76.51%		67.11%		63.74%	
Low Bullying	18.33%		25.11%		26.10%	
Mid-Low Bullying	2.44%		3.91%		5.19%	
Mid-High Bullying	1.22%		1.73%		2.82%	
High Bullying	1.49%		2.13%		2.14%	
Race						
White	54.51%		47.60%		40.18%	
Black	15.20%		17.28%		16.17%	
Hispanic	19.56%		22.09%		26.33%	
Asian + PI + NH	3.51%		3.75%		6.47%	
Other + 2 or More	7.22%		9.28%		10.84%	
Family Composition						
Both Mom + Dad	63.87%		56.43%		51.16%	
Mother only	17.46%		20.30%		21.78%	
Father Only	2.64%		3.02%		4.10%	
Mom + Step Dad	9.85%		13.37%		14.40%	
Dad + Step Mom	2.64%		2.96%		3.55%	
No Bio Parent	3.55%		3.91%		5.01%	
Other Controls						
Male	54.74%		50.50%		46.24%	
	Mean	SD	Mean	SD	Mean	SD
Affluence	7.27	1.88	7.07	1.91	6.67	1.99
BMI	21.45	4.28	21.87	4.48	21.87	4.31
Age	13.72	1.25	13.92	1.24	14.03	1.23
Grade	8.34	1.10	8.53	1.09	8.62	1.06
Number of Cases	2,618		1,788		2,195	

Appendix C: Results by Model

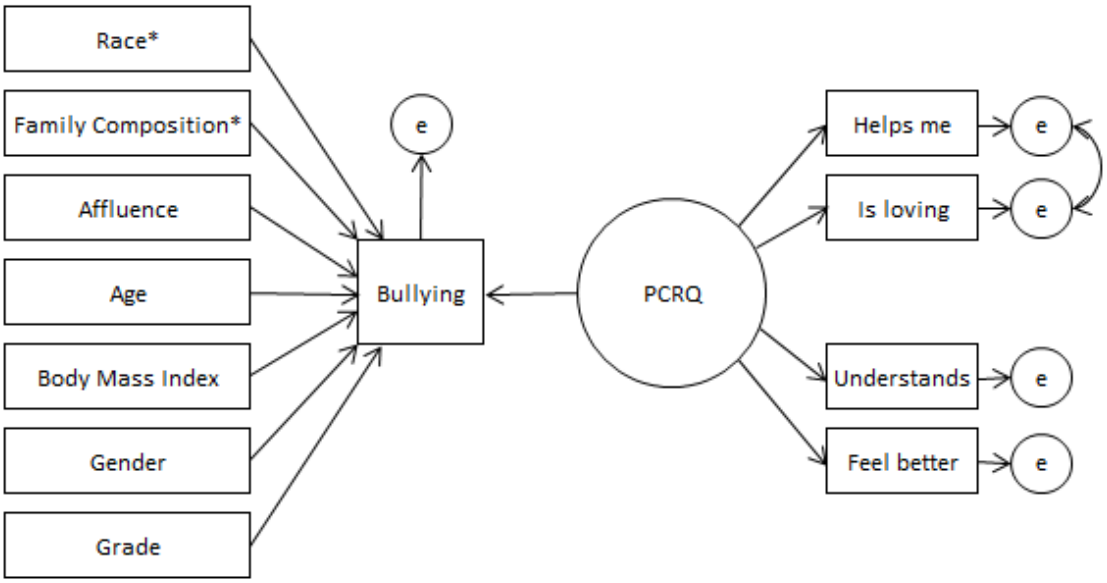
Table 3: Results related to bullying frequency by model

	Model 1		Model 2		Model 3	
	SEM: Maximum Likelihood		SEM: Listwise Deletion		GSEM: Listwise Deletion	
Measurement Model	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
PCRQ	-	-	-	-	-	-
Helps Me	1.000	-	1.000	-	1.000	-
Is Loving	0.689***	0.013	0.677***	0.014	1.081***	0.050
Understands Me	1.433***	0.025	1.442***	0.028	1.208***	0.059
Feel Better	1.356***	0.024	1.360***	0.027	1.020***	0.045
Structural Model						
PCRQ Score	-0.304***	0.025	-0.280***	0.027	-0.045***	0.004
Race						
Black	0.046†	0.028	0.017	0.029	0.019	0.030
Hispanic	-0.023	0.024	-0.014	0.026	-0.010	0.029
Asian + PI + NH	-0.066	0.047	-0.093†	0.049	-0.081†	0.049
Other + 2 or More	0.040	0.035	0.048	0.036	0.055	0.036
Family Composition						
Mother Only	0.041†	0.025	0.037	0.027	0.039	0.027
Father Only	-0.075	0.053	-0.059	0.057	-0.053	0.057
Mom + Step Dad	0.005	0.029	0.015	0.032	0.020	0.031
Dad + Step Mom	-0.024	0.057	-0.006	0.058	-0.001	0.058
No Bio Parent	0.161***	0.046	0.140**	0.051	0.147**	0.051
Other Controls						
Male	0.145***	0.018	0.151***	0.020	0.146***	0.020
Affluence	0.020***	0.005	0.017***	0.005	0.016**	0.005
BMI	0.005*	0.002	0.005*	0.002	0.005*	0.002
Age	0.007	0.016	0.029	0.018	0.030†	0.018
Grade	-0.026	0.018	-0.046*	0.020	-0.045*	0.020
Total Sample (N)	8,264		6,601		6,601	
Fit Statistics						
Logged Likelihood	-105,256.54		-85,927.35		-26,538.60	
Chi^2 (df)	287.133 (46)		243.438 (46)		-	
RMSEA	0.025		0.025		-	
CFI	0.981		0.980		-	
TFI	0.966		0.966		-	
SBIC	-127.772		-161.131		-	

Legend: Legend: † = p ≤ 0.1; * = p ≤ 0.05; ** = p ≤ 0.01; *** = p ≤ 0.001

Appendix D: SEM Path Diagram

Figure 1. SEM Path Diagram Predicting Bullying



* = Both Race and Family Composition were treated as a series of dummy variables in the analysis