

The Relation between Parenting Style and Academic Performance

Brianna Beitling and Michelle Valleroy

Truman State University

Abstract

This study measured associations of parenting style with academic performance in two different testing conditions. In past research, authoritative parenting (versus permissive, neglectful, and authoritarian) has been shown to relate to high academic performance, as well as relating to other positive behaviors. We hypothesized that participants raised in an authoritative parenting background would achieve the best academic results in an untimed testing session. In our study, participants' parents' style of parenting during their high school years was measured by completing a parenting style questionnaire. Academic performance was assessed through the use of an abbreviated Graduate Record Examination. Participants were randomly assigned to testing condition by session sign-up and were placed in either a timed or untimed environment. Overall, no significant main effects were found, but when looking at the individual dimensions of authoritative parenting (autonomy, involvement, and strictness), we found that strictness and timing condition had a significant interaction. Strictness appears to be an important factor associated with academic performance.

### Relation between Parenting Style and Academic Performance

At least four different parenting styles may be identified. Types traditionally identified include permissive, authoritarian, and authoritative (Baumrind, 1966). The permissive type is distinguished by low parental control and high parental acceptance. In other words, permissive parents care for and love their children, while also allowing them to make their own decisions and rules. The authoritarian parent is high in parental control and low in parental acceptance. Authoritarian parents are highly controlling, laying out a strict set of rules for their children that are non-negotiable. Authoritative parents are high in parental control and high in parental acceptance. Authoritative parents recognize the individuality of their children, and strive to create a more democratic atmosphere for their household (Baumrind, 1966). A fourth possible parenting style is neglectful (Maccoby & Martin, 1983). A neglectful parent is low in parental control and low in parental acceptance. Neglectful parents show little interest in disciplining or interacting with their children (Maccoby & Martin, 1983).

Authoritative parenting has been shown to predict the most positive outcomes for children, including academic achievement, social adjustment, etc., while also predicting the fewest problems (behavioral problems, mental health issues, etc.; Steinberg et al., 1989, Steinberg et al., 1994, Steinberg et al., 1992, Spera, 2005). The neglectful parenting style, however, has been shown to predict the most problematic behavior in later life (Steinberg et al., 1994). While these assumptions that authoritative parenting is ideal, especially over neglectful hold mostly true for European and American families, research has been conducted to show that other parenting styles, such as the permissive type, can predict optimum outcomes in other cultures, such as those from Spanish and Asian backgrounds (García & Garcia, 2009). While Asian parents are more likely to follow the pattern of an authoritarian style, the consequences

may be offset by other factors such as social support and individual activities such as school involvement (Steinberg et al., 1992).

An important factor in measuring academic achievement is the environment in which it is measured. Time limits are placed on tests for many reasons, but mostly for administrative convenience and as a measure of intellectual speed (Bridgeman et al., 2004). Allowing extra time for test completion has been shown to increase performance (Bridgeman et al., 2004). Studies on time constraints and their relation to performance have shown that stricter time constraints minimize extraneous individual differences in performance not intended to be measured (van Harreveld et al., 2007). Therefore, a relaxed time constraint combined with an authoritative parenting style is predicted to produce optimal results in academic performance.

Our research extends previous experiments involving parenting styles and their relation to academic achievement. A wide variety of research has been performed that has shown that the authoritative parenting style predicts the most positive effects in general (e.g., Dornbusch et al., 1987; Lamborn, et al., 1991; Steinberg et al., 1989; Steinberg et al., 1992; Steinberg et al., 1991). Many of these studies have centered on examining the more immediate relations of parenting styles by looking at academic achievement of children (i.e. ages 8-12) and/or adolescents (i.e. ages 14-17), and not college students (Dornbusch et al., 1987). Furthermore, many of these studies used a more cumulative technique to measure academic achievement by comparing a semester or year's grade point average, some of which relied on self-reported data (Dornbusch et al., 1987). While measuring academic achievement in a longitudinal research study may sum up a larger sample of behavior, assessing academic achievement with an in-session test is quick and less likely to be misrepresented. Self-reported grade point averages have been shown to typically be higher than actual grade point averages because of ignorance or

in order to increase self-image (Dobbins et al., 1993). Therefore, the use of an in-session academic test that is relatively familiar to college students should eliminate this bias. In our study, we are attempting to determine if predictions made about the effects of parenting styles on academic achievement persist on to the college years. By using a sample of participants who are older than those in previous studies, we hope to be able to extend the findings made by Diana Baumrind to older participants to see if the positive associations with authoritative parenting styles remain in the adult years and further emphasize the importance of certain parenting styles.

There will be two different settings to measure academic performance in our participants. Participants will be assigned to one of the two following conditions based upon the session in which they choose to enroll. The first condition is an untimed session to complete an abridged practice Graduate Record Examination (GRE) quantitative and verbal test (Bass, 2008) after filling out a questionnaire determining demographics and parenting styles. The other condition will involve taking the same quantitative and verbal test in a timed atmosphere. Based on the aforementioned prior research, we hypothesize that students from an authoritative parenting style background (vs. non-authoritative) will succeed best in an untimed (vs. timed) test-taking atmosphere. There has been significant research on the relation between parenting styles and academic performance; we believe the advantages associated with certain parenting styles to still be present in the college years (e.g. Steinberg et al., 1992; Spera, 2005). The testing environment in relation to past environment that predicts the best academic results will be determined, which can potentially be of benefit in structuring educational opportunities for the future, such as teaching methodology to enhance student performance.

## Method

### *Participants*

We had students ( $N = 85$ ) participate in this study, consisting of 13% males and 87% females, with an average age of 20.28 ( $SD = 1.053$ , range 18-22). 2% were of African American descent, 1% Asian American, 88 % Caucasian, 2% Hispanic or Latino/a, 5% reported multiple ethnicities, and 1% reported other. Undergraduate students were recruited from psychology classes at a public university in the Midwestern United States for small amounts of extra credit in these courses.

### *Measures*

*Authoritative Parenting Measure.* The scale used to measure parenting style measures participants' reports of their parents' level of involvement, strictness, and also the extent to which parents grant autonomy (Blondal and Adalbjarnardottir, 2009). The questionnaire served as a compilation of many items on parenting practice taken from previously designed parenting measures. Participants answered these questions in regard to their past experience with their parents during high school years. The test is split into three subscales to define authoritative parenting based on acceptance, involvement, and strictness. Ten items measured acceptance (e.g. I can count on my parents to help me). Nine items measured involvement (e.g. my parents spent time just talking to me). Finally, seven items measured strictness (e.g. how much did your parents really know where you were at night?). The acceptance/involvement scale portion of this measure has a reliability of  $\alpha = .72$ , and the strictness scale of this measure has a reliability of  $\alpha = .76$  (Blondal and Adalbjarnardottir, 2009). These scales are also valid, with coefficient  $r = .34$  (Blondal and Adalbjarnardottir, 2009).

*Graduate Record Examination (GRE).* The GRE is typically used for admittance to graduate school from the undergraduate college level, and measures ability for graduate work (Kuncel et al., 2001). Participants completed an abbreviated version of a practice GRE test, including seven questions from the verbal sections and five questions from the quantitative sections. The questions were chosen based on the percentages of people who answered the questions correctly (range 60-80%). The GRE verbal section has a reliability of  $\alpha = .91$ , and the quantitative section has a reliability of  $\alpha = .89$ . (Bass, 2008). The GRE has been cited as a predictor of graduate grade point average (GPA), both in the first year of school and cumulatively (Kuncel et al., 2001). When predicting first year graduate GPA, the verbal section of the GRE has a validity of  $\rho = .34$ , and the quantitative section has a validity of  $\rho = .38$ . When predicting overall graduate GPA, the verbal section of the GRE has a validity of  $\rho = .34$ , and the quantitative section has a validity of  $\rho = .32$  (Kuncel et al., 2001).

### *Procedures*

To begin the study, the researchers clarified the purpose of the study and encouraged participants to ask questions. After verbally explaining the informed consent form, participants signed it. Participants were randomly assigned to two different conditions based on the research session that they signed up for. Both sessions began with completing a questionnaire to measure demographic and parenting style information regarding the participants' parents. Next, in one experimental condition, participants completed the practice GRE test after being told to complete the test using the full ten minutes allotted before the test would be collected. In the second condition, participants completed the same practice GRE test having been told that they were free to work on it or anything else they wished during the ten minutes, and then to turn in the test when it was complete. At the completion of these tests researchers reviewed the purpose of the

study with the participants and again encouraged questions. Debriefing was given orally as well as in written form to participants.

## Results

Descriptive statistics concerning the predictor and response variables in our study are included in Table 1. All participants ( $n = 85$ ) completed a parenting style questionnaire which determined parenting style by measuring levels of autonomy, involvement, and strictness (Steinberg et. al., 1994). Autonomy levels ranged from 14 to 34. We determined by comparing percentiles that a high level of autonomy ranged between 31 and 34 inclusive. Out of our sample, we were able to identify 27 participants who were parented with high autonomy. Involvement levels ranged from 20 to 36. A high level here was indicated by at least a score of 33. Out of our sample, we identified 30 participants parented with high involvement levels. Strictness levels ranged from 5 to 23. We determined that a high level was indicated by a score of at least 15. In our sample, we identified 37 participants parented with high strictness. Alpha internal consistency for autonomy (.75), involvement (.77) were both moderately high, while strictness (.67) is acceptable, although lower than typical cutoffs.

All participants also completed a 12 item practice Graduate Record Examination (GRE) test consisting of both qualitative ( $n = 7$ ) and quantitative ( $n = 5$ ) questions. Alpha internal consistency for the GRE (.49) was moderate. GRE scores ranged widely, although no floor or ceiling effects were evident. Two conditions for GRE administration were randomly assigned based on session signups. In the first condition ( $n = 30$ ), which we labeled “timed,” participants were expected to work on the test for the full ten minutes without engaging in other activities or ending early. The second condition ( $n = 54$ ), which we labeled “untimed,” involved participants



working on the GRE until they finished, and then turning it in and continuing the rest of the ten minutes working on whatever they pleased.

Our hypothesis stated that participants who were raised in an authoritative setting (with parents high in autonomy, involvement, and strictness) would perform best on the practice GRE in the untimed condition. In running the ANOVAs, we discovered that our predictor variables did not have a significant impact on the response variable individually (for autonomy,  $F = .01, p = .91$ ; for involvement,  $F = .08, p = .78$ ; for strictness,  $F = .36, p = .55$ ). In addition, the timing condition variable was not significant in any of the three ANOVAs when paired with each of the dimensions of parenting style (timed with autonomy,  $F = .10, p = .76$ ; timed with involvement,  $F = .47, p = .49$ ; timed with strictness,  $F = .08, p = .78$ ). We tested our hypotheses with three 2 (timed/untimed) X 2 (authoritative/not authoritative) ANOVAs, one for each of the subscales of parenting style (autonomy, involvement, and strictness). Because our main effects were not significant (as evidenced by the t-tests), we looked at interaction effects between parenting style and testing condition. When comparing autonomy with testing condition, we found a weak interaction ( $F(1, 83) = .05, p = .83$ ). Next we looked at the interaction between involvement and the testing condition, which also produced a weak interaction ( $F(1, 83) = 3.67, p = .06$ ). Finally we observed the interaction between strictness and the testing condition, which produced a strong interaction as shown in Figure 1 ( $F(1, 83) = 6.97, p = .01$ ). Test score means for the ANOVA appear in Table 2, which show cross-over interactions between the two dimensions of parenting style and the two timing conditions. Compared to participants who participated in the untimed session with high strictness, there was a moderate significant difference with participants of high strictness in the timed setting ( $d = -.65$ ), showing that the testing condition made a significant impact on test scores between the two authoritative groups; participants with

high strictness performed best in the timed condition. When comparing the two untimed sessions (high strictness versus low strictness), there was a small to moderate significant difference as well ( $d = -.45$ ). In comparing participants of high strictness in an untimed testing session with participants of low strictness in a timed session, the difference was not significant ( $d = .07$ ).

Table 1.

*Descriptive Statistics for Study Variables*

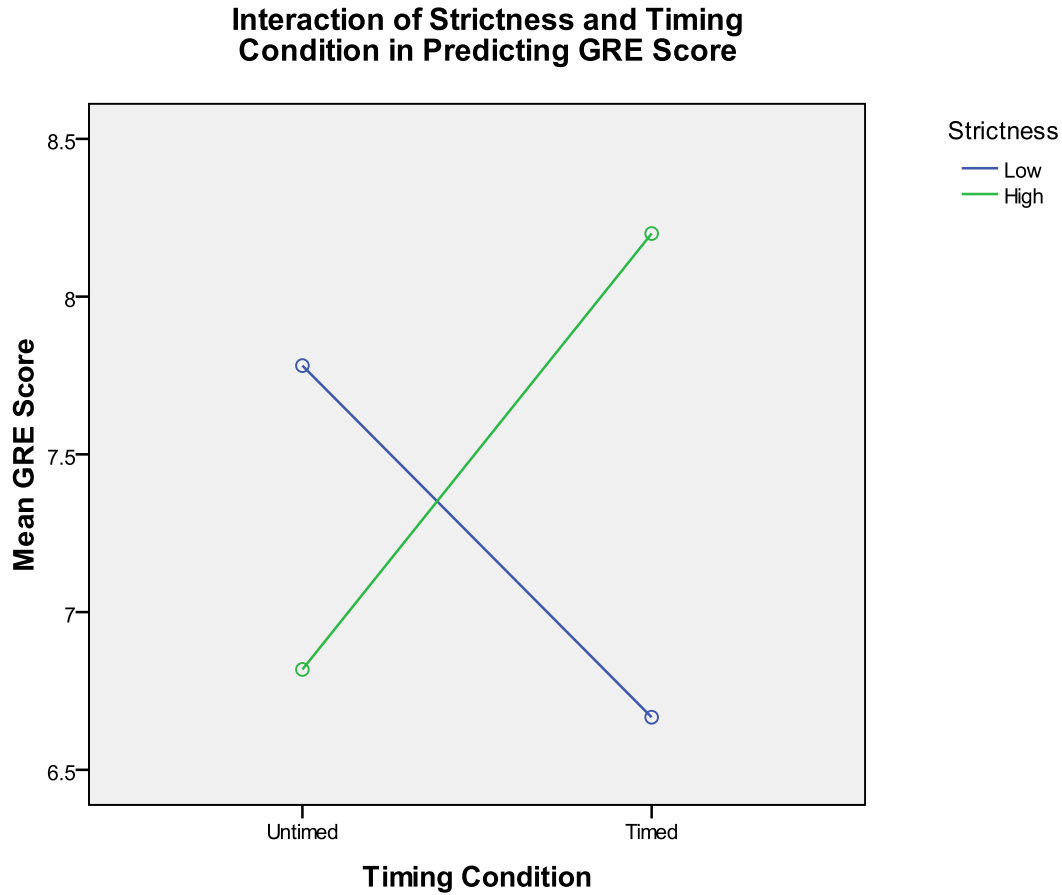
	N	Minimum	Maximum	Mean	Std. Deviation
Involvement	84	20	36	30.55	3.891
Autonomy	84	14	34	27.65	4.408
Strictness	84	5	23	13.61	3.143
Valid N (listwise)	83				

Table 2.

*Mean Testing Scores by Strictness Level and Testing Session*

Strictness	Testing Condition			
		Untimed	Timed	Row Means
	High	6.82	8.2	7.51
	Low	7.78	6.67	7.22
	Column Means	7.3	7.43	

Figure 1.



### Discussion

In our study, we hypothesized that authoritative parenting style and an untimed testing session would associate with high academic performance. Positive benefits associated with authoritative parenting styles have been shown in many research studies, but have not focused on the importance of timing in relation to academic performance (Steinberg et. al., 1989; Steinberg et. al., 1994; Steinberg et. al., 1992; Spera, 2005; Dornbusch et. al., 1987). Specifically, we predicted that an authoritative (versus non-authoritative) parenting style would be associated with optimal Graduate Record Examination (GRE) test performance in an untimed (versus timed) setting (van Harreveld et al., 2007). We predicted that because allowing extra time for test

completion has been shown to increase performance, the untimed setting will further increase test performance (Bridgeman et al., 2004). We measured parenting style by comparing scores in autonomy, involvement, and strictness. After running several statistical analyses, we were able to find some significant results. Although we were unable to find significant main effects, we were able to find one significant interaction effect. Participants who had experienced high levels of strictness from their parents produced the best GRE scores in a timed setting, which appears to contradict our original hypothesis.

Although our results show a contradiction to our original hypothesis, we were able to find that some dimensions of authoritative parenting are related to academic performance. Our results reflect the importance of high strictness levels in parenting, but do not support the importance of granting high autonomy or high levels of involvement in producing optimal academic performance. While autonomy and involvement are two of the dimensions that define authoritative parenting, based on our research, one may be able to conclude that they are less important than strictness, which coincides with previous findings (Lamborn et al., 1992). While at face value, our hypothesis appears to be invalidated, we may be able to provide some support by presenting different interpretations.

There were several limitations to our study. Our first and most important limitation concerns the definitions of the testing conditions. The session that we referred to as “timed” was meant to induce more stress and discomfort, therefore creating a negative relation with academic performance. In the “timed” session, participants were given a full ten minutes to work on the practice GRE without providing opportunities to work on other activities. On the other hand, the “untimed” session allowed participants to turn in the test when ready within the ten minute time interval. We observed that participants in the untimed session appeared to be rushed when peers

completed the test quickly, which may have actually created a more stressful environment than intended. Our results seem to contradict our original hypothesis, but the fact that the untimed session may have been more stressful than the timed session may suggest otherwise. If we were to switch the labels of our timing conditions to more appropriately reflect the level of stress presented in each session, we would actually be able to find some significant support for our hypothesis. By calling the untimed, more stressful session the timed session, we would be able to conclude that elements of parenting style can be related to academic performance in different situations. Another limitation to our study was the low reliability level of our academic performance assessment (GRE). Because the abbreviated sample test was so short, it may have not been an accurate measurement of academic performance within our study and may not have been the best representation of the test. Furthermore, the definition of authoritative parenting may have been too strict, only labeling 8 out of our 84 participants as being raised in an authoritative setting. If we had used less conservative classifications of parenting style, we may have been able to produce more significant results.

Our study extends previous research by showing the importance of level of strictness and its relation to academic performance. In addition, our study shows that parenting style, which has been shown to relate to academic performance in conjunction with other factors, may also relate to adult characteristics and behaviors (Steinberg et al., 1992; Spera, 2005). Another benefit provided by our study is that the relation of an authoritative parenting style can be assessed immediately (within a thirty minute session) instead of looking at longitudinal data concerning grade point average (e.g. Steinberg et al., 1989; Steinberg et al., 1994; Spera, 2005). Furthermore, by assessing academic performance within a controlled environment, we are able to

more accurately estimate academic achievement, rather than relying on self-reported data which may be misrepresented (e.g. Dornbusch et al., 1987; Dobbins et al., 1993).

The results of our study can be applied to teaching settings to encourage specific testing environments to produce the best academic results. For example, arranging testing centers that required students to remain seated and quiet until the time allotted has expired might improve test scores. Our study reinforces the positive associations of an authoritative parenting style, especially within the dimensions of strictness. Therefore, parents might be discouraged from treating their children too leniently and instead focus on providing supervision and guidelines for them. Moreover, teachers may be encouraged to adopt a stricter style of instruction for higher academic achievement.

To extend our findings further, it might be more applicable to compare teaching styles to parenting styles, and to determine if strict teachers were able to produce higher academic performance in their students than more lenient teachers. In addition, we could look at other dimensions of authoritative parenting as they apply to teaching styles to see which dimensions had the greatest association with academic performance. Other extensions might include a longer test, which would make the test more reliable or defining authoritative parenting more leniently. With more time and resources, significant results might be found in a longitudinal version of this study where participants completed similar tests in various periods of their lives.

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