

When conducting research, the question that was being asked was, do parents that work longer hours negatively affect their child's academic success? In order to see if there was a relationship between hours worked and academic success, five activities were given to a child or children, and the parent later completed a survey about the level of completion, time spent with the family, on average how many hours in a week do you work, etc. Three differential inferential statistical models were used: Independent T-Samples, ANOVA, Pearson's Correlation, in order to answer the aforementioned question.

An independent sample *t*-test was used to test the amount of assistance a child needed to perform a series of activities and parental involvement. There was no significant main effect across variables; indicating there was no significant differences regarding child assistance ($M = 7.68$; $SD = 2.68$) with the amount of parental involvement ($M = 6.55$; $SD = 1.81$), $t(31) = 1.27$, $p = .215$ (2-tailed). From this table, Response 1 shows that participants needed additional help upon completion of the first activity, but in comparison to Response 2 there was no significant difference between means. Moreover, no significant difference was found between *t*-strings, although Response 2 was more consistent due to having a smaller standard deviation. See Table 1 for results.

Table 2 represents the level of completion of the activities given to children, dependent on the interaction time between parent and child. The choices for completion were: attempted and completed, attempted but did not complete, and did not attempt. In regards to time spent between parent and child was on a scale of 0-10, with 0 symbolizing no time spent together at all and 10 being very much. A *p*-value of less than .05 was required for significance. The ANOVA was not significant $F(13, 24) = .94$, $p = .529$. This result rejected our alternative

hypotheses, the effect size was strong ($\eta^2 = .338$). What this shows is that there are no main effects found, meaning that it does not matter how much time was spent with the child nor did it matter the relationship between the individuals. There is no interaction between completion of activity and time spent with the parent. See Table 2 for results.

The completion of the sugar tray activity was compared to how much time parents spent with their child/children, the time spent together was recorded on a 0-10 scale with 0 being not at all and 10 being very much. Completion levels were: attempted and completed, attempted but did not complete, and did not attempt. Findings indicate there was a weak negative correlation ($r = -.180$) of parent involvement impacting the completion level of the activity. Simply, the children who fully completed the activity did not spend a lot of time with their parents. The researcher does not know if this would be true in a larger population.

Each differential inferential statistical model was used to either support or refute the original hypothesis, do parents that work longer hours negatively affect their child's academic success? The *t*-test analyzed means between the variables of activity completion and parental involvement which revealed to have no significance when compared to each other. The ANOVA analysis corroborated the *t*-tests results by showing that there was no relationship or significance; meantime, parents fell in the middle of the scale of hours worked indicating that the performance of the activity had no effect on their child's performance. Had the parents worked longer hours, there may have been a significant difference on the completion of the activity. Lastly, Pearson's Correlation is a weak negative correlation meaning that the variables are moving in opposite directions, hence there is no relationship. From the *T*-Test, ANOVA analysis, and Pearson's

Correlation, there are no main effects found between how many hours a parent worked and their child's completion of the activity.

Even though there was no significant difference found between groups, I believe that the results would have differed had a different sample been chosen. The sample in this study was families with children in Head Start from three rural counties that all were all labeled as low income. Virginia is well-known for its high socioeconomic status, which could have affected the results; however, if the study was conducted in a state with a lower socioeconomic status, results could have been more reliable. In order for the data to be applicable to a larger population, the sample should have been compared to three counties that are middle-class, three counties that are upper class, and three neutral counties. This could have helped to generalize the findings.

Table 1

Statistics of necessary assistance required and parental involvement.

Pair	Mean	SD	<i>t</i>
Assistance Needed	7.68	2.68	1.27
Hours Worked by Parents (weekly)	6.55	1.81	1.44

*Note: * $p > .05$. ** $p > .001$. $df = 31$.*

Table 2

Means, Standard Deviations, and One-Way Analysis of Activity Completion and Parental Involvement

Measure	1*		2**		3***		Hours worked	F(13, 24)	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Levels of Completion	5.84	.424	3.83	.289	5.00	.0	5.83 2.52	.942	.051

Note: Effect size $\eta^2 = .338$, $df = 13$

* = Attempted and completed

** = Attempted but did not complete

*** = Did not attempt