Impact of Parental Expectations on Education and Employment Outcomes

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Parents and their expectations play a major role in their child's development. Previous research has shown that supportive parents who are involved in a child's education can help improve their child's educational achievement. In this study, data from the National Longitudinal Survey of Youth 1997 (NLSY97), a nationally representative samples of youths who were 12-16 years old as of December 31, 1996 and re-surveyed on an annual basis, is used to assess the impact of parental expectation on education and employment outcomes. Specifically, regression adjustment is used to look at the effects of both positive expectations (e.g., chance of the child having a high school diploma by age 20) and negative expectations (e.g., chance of the child being in jail by age 20) on a range of outcomes including whether the child is employed and/or enrolled in school, highest grade completed, and income (if employed). There are statistically significant correlations between positive expectations and better outcomes as well as between negative expectations and worse outcomes. Additionally, while there are statistically significant differences between the expectations of parents from a racial minority or low-income family and other parents, there are no differences in the effect of expectations across subgroups. The paper concludes with a discussion of policies that could address low parental expectations and how to help all children succeed.

Introduction

Many studies have found that parental expectations play a critical role in a child's academic and future success.¹ High expectations are correlated with an increased chance of children staying in school and doing well.² Furthermore, high parental expectations can compensate for teacher expectations on student achievement.³ Most of the older studies focus on European Americans, but some studies do analyze minority and low-income groups. They find that low-income, African American, and Hispanic parents tend to have lower expectations than Asian American parents.⁴ Additionally, some of these studies find that parental expectations impact students

differently between these subgroups. For example, Vartanian et al. finds that expectations have a weaker impact on Asian Americans than on non-Asians.\(^5\) Lastly, the majority of these studies were done with cross-sectional and not longitudinal data sets.

Yamamoto and Holloway attempt to explain these differences in effects across subgroups by looking into how expectations affect children and their learning environment.\(^6\) They find several things that predict parental expectations including:

1. Parents' belief that their child's effort determines their school performance rather than other factors,
2. Parents' understanding of the school system and trust of its feedback, and
3. Parents' belief in their ability to affect their child's outcomes.

Thus, they suggest that low parental expectations may not be a reflection of the child's ability, but of the parents' lack of understanding of the school system. If this is the case and expectations do affect outcomes, then this analysis could suggest that additional policy intervention is needed to involve parents in their child's education. It could increase the parent's understanding of the system and efficacy, leading to higher expectations and hopefully better outcomes for the child.

In addition, Yamamoto and Holloway examine the ways in which parental expectations affect student achievement.\(^7\) High expectations might indicate that parents value achievement, and this value could put pressure on children to perform well. High expectations could also create a self-fulfilling prophecy, boosting student's own expectations about their ability and thus motivating them to do well.

Additionally, high expectations could foster parental involvement in their child's education, and several past studies have found a correlation between involvement and outcomes.\(^8\) If teachers are aware of expectations, it could incentivize teachers to spend more time on students from families with high expectations because they expect more from these students. Overall, if there are differences in the effect of parental expectations between subgroups, it could suggest that expectations are internalized in different ways.

**Data Analysis**

**Source**

The data used in this study is from the National Longitudinal Survey of Youth 1997 (NLSY97) from the Bureau of Labor Statistics. The first round of the survey took place in 1997 and included approximately 9,000 youths who were 12 to 16 years old as of December 31, 1996. During the first round, both the youth and one of that youth's parents received hour-long interviews. Youths

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\(^5\) Vartanian et al, “Early Factors.”


\(^7\) Yamamoto and Holloway, “Parental Expectations.”

have continued to be interviewed on an annual basis; the most recent interview data available is from 2011.

Parental expectations of long-term outcomes were included in the first round interviews. Parents were asked to gauge the probability that a child would obtain a high school diploma by age 20, obtain a college degree by age 30, be employed by age 30, be in jail by age 20, and be a parent by age 20. The first three expectations are hereafter grouped as “positive expectations” (as they describe the parent's expectation of success), whereas the last two expectations are hereafter grouped as “negative expectations.”

From the most recent round of interviews in 2011, data about participants' long-term outcomes is available. The 2011 interview asked about whether a participant received income in the past year, and if they did, what their income was. The interviewers also asked whether participants were enrolled in school in 2011.

Figure 1 plots the distributions of the various independent variables.

![Distribution of the parent’s assessment of the likelihood that a child would obtain a high school diploma by 20 (left) and the likelihood that a child would obtain a college diploma by 30 (right).](image-url)
Distribution of the parent’s assessment of the likelihood that a child would work 20 hours per week (i.e. a usual work week) by 30 (left) and the distribution of the simple average of positive expectations (right).

Distribution of the parent’s assessment of the likelihood that a child would be in jail by 20 (left) and the likelihood that a child would be a parent by 20 (right).

Distribution of the simple average of parental expectations (left).
Outcome Variables
The dependent variables tested were:

1. The number of arrests a participant has had through their 2011 interview.
2. Whether the individual was enrolled in school or employed in 2011,
3. The highest grade completed by the 2011 interview, and
4. Total and logarithmic income in 2010 (if employed).

Most of these variables are provided in the most recent NLSY round. I constructed the “enrolled or employed” variable based upon the participant's answers to whether they received income in the past year and whether they were currently enrolled in school.

I also compared the results of my regression to the 2005 round of data. There was some concern that the 2008 economic crisis may have disproportionately affected some subgroups of the sample and thus could affect the regression coefficients for employment outcomes.

Regression Adjustment
The primary analysis method used is regression adjustment to see the relation between higher expectations and outcomes while controlling for other factors including age, gender, race, socioeconomic background (mother's education and family income), geographic region/urbanicity, and ability (as measured by a participant's ASVAB score).

To make the regressions easier to interpret, the expectations were combined into two indices groups:

1. Positive expectations
   a. Chance of obtaining a high school diploma by age 20
   b. Chance of obtaining a college degree by age 30
   c. Chance of working by age 30
2. Negative expectations
   a. Chance of being in jail by age 20
   b. Chance of being a parent by age 20

Each “chance” was the percent likelihood that a child would obtain or achieve the stated outcome. The indices were calculated three different ways:

1. Simple average: The first index was a simple average of all the expectations included in the index.
2. Average of normalized scores: Due to the low correlation between various expectations, a second index was the average of normalized scores. Each expectation was normalized individually, and then the normalized scores were averaged.
3. Above average expectations: Using the simple average index, a binary was made for whether parental expectations were above or below the average of the index. Thus, a “1” on the above average positive expectations index means that a parent viewed the chance of their child completing high school, college, and working as more likely than what the average parent expected. A “1” on the above average negative index means that a parent viewed the chance of their child going to jail or being a parent as a teenager as being more likely than what the average parent expected. A “0” in
either means that the parent viewed the likelihood of the relevant outcomes as less than what the average parent expected.

Regression Adjustment with Subgroups
Finally, since much of the recent research on the topic has analyzed the impact of parental expectations within a particular racial or socioeconomic subgroup, interaction terms were used to see if subgroups responded to expectations differently.

Figure 2 and Figure 3 show the distributions for expectations generally as well as within subgroups. The results were consistent with prior research: using a simple t-test, the distributions differed at the 95 percent confidence level (see Table 3). As with prior research, it appeared that on average, African Americans, Hispanics, and families below the poverty line had lower positive and higher negative expectations. On the other hand, Asian Americans had higher positive and lower negative expectations. However, it is unclear if the differences are practically significant. For example, the average difference in expectations for African Americans was only a couple percentage points from the expectations for the rest of the sample population. However, the differences for families below the poverty line do seem practically significant (e.g., the 9.4 percentage point average decrease in positive expectations).9

Regardless of practical significance, because there were differences, the regressions were also run with interaction terms between above average expectations and being in a subgroup. This analysis would show whether expectations affected subgroups differently.

Results

General Results
The first set of results is for regressions with the various expectations indices (i.e., not including the subgroup analysis). The results are shown in Tables 4-9, and Table 14 summarizes the relevant coefficients. In all of the regressions, the coefficients on gender and ability (ASVAB) were statistically significant. Age was significant for certain outcomes (highest grade completed and income). All of the relevant coefficients for expectations are significant at the 99 percent confidence level except:

- Coefficients of negative expectations (simple average and average of normalized scores) and income. These coefficients appear to be approaching significance, however.
- Coefficient for above-average negative expectations on being enrolled or employed in 2011.

Interestingly, in most cases, the magnitude of the coefficient for positive expectations was larger than the magnitude of the coefficient for negative expectations. This suggests that children and/or teachers respond better to positive reinforcement or that parents are better at communicating their hopes for their children rather than concerns.

9 Because of the different scales used to gauge expectations, I could not directly compare the magnitude of my results to those in prior research. Additionally, in the papers I read, I did not see any discussion of practical versus statistical significance.
Subgroup Results

However, the practical significance of these results is unclear. For example, having above-average positive expectations is correlated with a decrease of less than one arrest by 2011, an increase in the chance of being enrolled or employed, and one additional grade level completed. Similar coefficients are seen for the other variables. The only ones that might be practically significant are the income effects. Having above average positive parental expectations is correlated with about $5,400 higher average annual wages if employed, and having above average negative expectations is correlated with about $2,800 less in average annual wages.

The lack of significance suggests that expectations affect subgroups in the same way as other groups. This finding is in opposition to most of the previous research. Ideally, I would like to do a more in-depth search of previous research and see how many longitudinal studies produced similar results. Additionally, as mentioned before, I did not see other studies discuss practical significance, which did find differential effects across subgroups. This difference may be due to the fact that this study makes use of a longitudinal survey, or other details. Further research on this point is necessary, but the present analysis using NLSY data, which is rather extensive, shows that subgroups internalize expectations in the same way.

Comparing with 2005

As mentioned above, there was some concern that the economic crisis may have disproportionately affected some groups of the sample population. Conducting the same regressions for the 2005 data, we find no statistically different coefficients except:

- Highest grade completed: the 2011 coefficients of positive and negative expectations on highest grade completed were slightly higher than the 2005 coefficients. The 2005 95 percent confidence intervals for the coefficients were [0.321, 0.529] for above-average positive expectations and [-0.307, -0.145] for above-average negative expectations. The 2011 95 percent confidence intervals for the coefficients were [0.816, 1.339] for above-average positive expectations and [-0.623, -0.221] for above-average negative expectations.
- Income and negative expectations: the magnitude of the coefficient for negative expectations on 2011 income (if employed) was slightly larger than the magnitude of the corresponding 2005 coefficient, but the difference was only a couple hundred dollars.

However, these small differences between the 2005 and 2011 coefficients are unlikely to have been practically significant. The interaction terms were also not significantly different. Many of the relevant 2005 coefficients were not statistically different from zero as well, reinforcing the conclusion that subgroups internalized expectations in the same way as majority groups.
Discussion and Policy Implications

This analysis suggests that expectations are highly correlated with outcomes in both majority groups and subgroups. Using the conclusions of Yamamoto, the results suggest that policies should be implemented to address parental expectations.\footnote{Yamamoto and Holloway.}

First, policies must be developed to address the causes of low expectations held by some parents. If low expectations are due to parents not understanding the system well or not trusting it, policies should be focused on better informing parents. Schools could send information home to parents (e.g., with report cards or test results) and require children to bring the forms back with parent signatures, and many already do. However, a better policy would directly involve parents. Those that can come to their child's school during the day should be incentivized to do so, and those who cannot should be given other opportunities (e.g., require a child's homework to involve the parent). These policies would be especially important if the goal is to provide equal opportunities across subgroups. Even if subgroups internalize expectations the same way, as this study indicates, they start out with a different set of expectations. Finding out why these differences exist and addressing the underlying causes will be key.

Second, policies should be aimed at how expectations are internalized. A simple survey could ask children about what their parents expect. These results would allow researchers to understand which expectations children internalize, as well as make teachers and administrators aware of which children may be in less supportive home environments. Positive feedback from teachers could then be used to counteract low parental expectations. Additionally, teachers should be trained to handle the differences. They should be aware of parental expectations and their effects, and gauge their feedback to students accordingly. Presently, there is a tendency for teachers to focus on children from higher-expectation families in order to fulfill those high expectations. Teachers need to be aware of why they are focusing on certain children so they can better calibrate their classroom efforts.

Conclusions

NLSY provides a unique opportunity to observe the long-term correlations between parental expectations and educational and employment outcomes. Consistent with previous research, expectations were highly correlated with outcomes. At the 95 percent or higher confidence level, positive expectations were positively correlated with better educational and employment outcomes, and negative expectations were negatively correlated with these outcomes. However, the practical significance of these relationships remains unclear.

Additionally, expectations differed significantly between subgroups (minorities and poorer families), but again the practical significance of these differences is unclear. The directions of the differences were also consistent with past research. \textit{Most notably, in contrast to previous research, differential effects between subgroups were not found.} Interaction terms in the regressions produced no statistically significant coefficients. This finding suggests that internalization of expectations happen the same way across groups, and so policies that target the
causes of differing expectations will be needed to equalize chances for children from different backgrounds.

This analysis also suggests that policy intervention is needed to increase the awareness of the correlations between expectations and outcomes. Teachers should be aware of which children may need more support if they are not receiving it at home so they can act accordingly.

Future research should look into the causes of differing expectations. If these were indeed due to parental characteristics and not to a child’s performance and abilities, it would strengthen the argument for policies that are aimed at informing and involving parents. Finally, internalization mechanisms should be investigated further in order to pinpoint where policies would be most effective.

Christine O'Donnell is an MPP candidate at the University of Virginia. Her undergraduate work was in astrophysics, and she will begin study towards an astronomy PhD in Fall 2014. Christine is interested in science communication through teaching, outreach, policy, and other means, and she hopes to pursue these interests through her graduate work and future career. Please direct any questions or requests to the author at cao4fq@virginia.edu.