



Marital Quality and Parent-Adolescent Relationships Effects on Educational Outcomes for Youth



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Marital Quality and Parent-Adolescent Relationships: Effects on Educational Outcomes for Youth

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The entire series can be found at <http://aspe.hhs.gov/hsp/08/RelationshipStrengths/>. This report can be found at <http://aspe.hhs.gov/hsp/08/RelationshipStrengths/Ed>. A version of this report, was also published under the title *Marital and Parental Relationship Quality and Educational Outcomes for Youth* in *Marriage and Family Review* (2009), Vol.45.

Marital Quality and Adolescent-Parent Relationships: Effects on Educational Outcomes for Youth

Executive Summary

This research examines the effects of parental marital quality and the quality of the parent-child relationship on the educational progress of adolescents. Previous research indicates that family structure and economic capacity have significant effects on educational achievement and high school graduation rates. Few studies, however, have examined the effects of the quality of the parental relationship on educational outcomes. This study is built on the bioecological and social capital theories of human development that suggest that the capacity for child and youth development is enhanced when their primary relationships are supportive and provide them with social assets that encourage human capital development. The study uses data from the National Longitudinal Survey of Youth, 1997 cohort (NLSY97), a nationally representative sample of adolescents who are being followed into adulthood. The findings indicate that family stability and living with two biological parents is a stronger predictor of high school graduation than parent marital quality and the quality of the parent-child relationship. But the data also indicate that parent marital quality and the quality of the parent-child relationship has a strong and positive effect on post-secondary education access among those who do graduate from high school. These findings are interpreted in light of the contribution of relationship quality to further educational involvement and the implications this has for workforce development and successful labor force competition in a global economy.

Marital Quality and Adolescent-Parent Relationships: Effects on Educational Outcomes for Youth

The capacity of a nation to compete in an increasingly global economy depends in large part on the educational competence of its youth and adults (Orthner, 2007). We are moving toward an economy that requires a higher proportion of the labor force to be working in knowledge industries rather than manufacturing industries. These knowledge-based jobs and careers require more education and knowledge skills than was true for earlier generations of American workers. Today's students need to stay in school, graduate with academic skills, and move on toward post-secondary colleges and technical schools that will provide them the education and training to be easily absorbed into the new economy.

How successful are we today in achieving the objective of having our students acquire the knowledge they need and complete the schooling required for this new economic reality? Recent data indicate that the United States has some reason to be concerned. By one measure, we are graduating approximately 70% of our high school students within the normal 4 year pattern of progress (Greene & Winters, 2006). The U.S. Census Bureau (2004) estimates that by age 25, however, about 85% of our young adults either have completed a high school diploma or a GED. Students from low-income families are much less likely to graduate, as is true for students from single parent homes (Greene & Winter, 2006). Only about one-half of African-American low-income males graduate from high school today (Orthner, Cook, Rose & Randolph, 2002). The importance of a high school diploma for later career opportunities and income cannot be denied. The U.S. Census Bureau (2004) finds that adults aged 25-44 with high school diplomas earn an average \$27,280 per year compared to \$18,826 for non-graduates, a 45% improvement. Of course, those going on for further education have significant economic

advantages with bachelor's degree holders averaging annual incomes of \$51,194 and advanced degree holders averaging \$72,824.

The factors that contribute to successful educational progress, high school graduation, and post-secondary education and graduation are many and quite complex. One set of factors is clearly socioeconomic with students from upper income, suburban, better educated, and two-parent families more likely to be successful in school (Cherlin, 1999). When parents are more involved in their education, this adds additional benefits (Woolley & Bowen, 2007). Likewise, students in schools with higher quality teachers, smaller class sizes, more supportive educational climates, and more active parent engagement are also more likely to be successful.

Another set of factors that has not received as much attention is the focus of this report: namely, the quality of the relationships that the student experiences in their family. These include the quality of the parents' relationship with each other, namely their marital quality, and the quality of the parent-child relationship during adolescence. These factors have been shown to have a range of benefits for children and youth (e.g., Manning & Lamb, 2003) but little attention has been paid to date to their effects on educational progress.

Marital and Parental Quality and Educational Outcomes

The potentially positive effects of marital and parental relationship quality have been demonstrated in previous research. Strong and positive marital relationships have been associated with family stability and lower divorce rates (Amato, 2007), better work commitments and performance (Orthner & Pittman, 1986), better adjustments to military deployments (Orthner & Rose, 2003), and better health outcomes for adults and children (Umberson, Williams, Powers, Liu & Needham, 2006). Adults with strong marital bonds also tend to have more positive parental engagement and better parent-child relationships (Amato, 2007). Thus, it is not

surprising that marital quality between parents has been recently found to have positive effects on children who have experienced stressful circumstances, such as the deployment of a parent to war (Orthner & Rose, 2007).

Previous research on educational outcomes for youth finds considerable evidence that the stability of parental marriage has positive outcomes for children. Children who have experienced divorce, for example, are more likely to be held back in school and less likely to graduate from high school (Sandefur, McLanahan & Wojtkiewicz, 1992). Parental separation and divorce may cause children to lose valuable family resources, and the involvement of their mother's and father's engagement in their education may become less consistent. In a similar vein, parental family structure is a major predictor of high school graduation; youth from single parent and cohabiting families are less likely to successfully progress in school and graduate on time when compared to those from married families (Cherlin, 1999). This lower graduation rate among youth from single parent and cohabiting households has been linked to lower levels of parental interaction with children in these households compared to married households (Stratton, 2004).

The importance of the parent-child relationship and the related process of parental school engagement have been widely noted in previous research on the educational outcomes of children. Studies have consistently pointed out the value of parental support, attentiveness, and schoolwork involvement in the academic success of children and youth (eg. Scales & Gibbons, 1996; Wentzel, 1999). Woolley and Grogan-Kaylor noted that parental support for their children, along with parent involvement in the school, significantly impacted school behavior as well as academic achievement. Woolley and Bowen (2007) recently found that student engagement in their school, as measured by schoolwork involvement and desires to be in school,

is highly predicted by parental support. The support of parents contributed significantly to school engagement, even after other risk factors were considered in their analysis.

The quality of the parents' marriage, however, has not as frequently been examined as a contributor to a student's school performance or graduation rates. This is primarily because administrative data on students and longitudinal studies of youth are less likely to have incorporated good measures of marital and parental relationship quality. Studies have indicated, however, that higher quality marriages among parents are associated with students being less likely to repeat a grade in school (Waite & Gallagher, 2000), having fewer behavior problems at school (Barton & Coley, 2007) and being more likely to graduate (Ensminger & Slusarcick, 1992).

The Potential Contribution of Relationship Quality

The role of relationship quality in youth development has been suggested by Bronfenbrenner (2005) in his bioecological theory of human development. This is a familiar theory in human development and it describes the child's progress in development as primarily being influenced by the proximal interactions within his or her most immediate setting, typically the family, which in turn is influenced by increasingly distal interactions with the social environment of the family, community, and society. It is within the bio-psycho-social family system that this developmental trajectory is initiated, nurtured and launched. Bronfenbrenner indicates that other relational systems increasingly take priority over time but that the parental family remains a significant contributor to the developmental outcomes for youth into adolescence.

The family system also contributes social capital to the developing child and maximizes the opportunity of the child in achieving relevant outcomes (Coleman, 1988). Social capital

includes those relational assets within the family that foster skills and competencies that can serve to promote positive interactions in other settings in which those skills are often needed, such as at school or in interactions with peers. Social capital provides both bonding capacities that offer relationship strength that can help in managing stress or coping with challenges as well as bridging capacities that provide the skills necessary to take advantage of the benefits that can be derived from more distant relationships (Putnam, 2000). Children who are nurtured and loved and see the adults in their lives expressing positive regard for each other are building social capital and these assets increase social competence, including the competencies needed to perform well in school (Wentzel, 1999).

From an economic perspective, educational achievement is a component of human capital, or an asset that can be acquired and utilized to promote achievement in other settings, most often employment and economic success (Orthner & Neenan, 1996). Thus, human capital capacity building is a foundation for economic development and the educational competence of the labor force is a major contributor to a society's ability to compete in the global economy. But there is a critical intersection here between social capital development and human capital development (Sherradon, 1991). Human capital development usually occurs in the context of relationship assets or social mechanisms, as we noted above, that provide the momentum to acquire the human capital, whether it be the motivation to stay in school or the interpersonal connections needed to find and keep a job.

From a family strengths perspective, the quality of the relationships in the family can and should foster all these forms of capital assets, including social, relational and human capital (Orthner, Jones-Sanpei, & Williamson (2003, 2004). In fact, there appears to be an empirically close relationship between each of these forms of capital assets in families. The strength of the

family and the parent-child system largely comes from these assets, and the acquisition of any one form of this capital seems to influence the others. Thus, families with less education or income are also more likely to have fewer relationship assets or provide their children with the social capital needed to perform well in school. When family social capital is weak, parents are less likely to be involved in their children's schools and thus weaken the development of their children's human capital development (Woolley and Bowen, 2007).

It is this intersection between social, relational and human capital development that is the focus of this research. We hypothesize that when there is a stronger marital relationship between the parents of adolescents, they are more likely to progress successfully in school to graduation and are more likely to go on for further post-secondary school education. Similarly, we hypothesize that when one or both parents have a positive and strong relationship with their child, that the child will be more likely to graduate from high school and go on to post-secondary education. The longitudinal data here only include youth who are 12 to 14 years of age and in two-parent household families at the beginning of the study. Thus, we are limited in examining the effects of alternative family structures, except for subsequent separation and divorce, or those living in step-family households. It is relationship strength and quality that is the focus of this investigation.

Method

Data

The National Longitudinal Survey of Youth, 1997 cohort (NLSY97), is a nationally representative sample of 8,209 adolescents, ages 12-16 in 1997, who were surveyed over time. The survey is sponsored by the Bureau of Labor Statistics of the U.S. Department of Labor and examines school progress, labor force behavior, and the transition from school to work. To

accomplish this task, extensive information is collected on the youth's labor market behavior and educational experiences. The NLSY97 also collects data on a broad array of child and family interactions and relationships, as well as adolescent health-related behaviors.

Sample

We limited our sample to 3,316 respondents who were 12 to 14 years old in December 1996 and whose parents were married at the time of the interview in 1997. This includes two-biological parents, adoptive parents, or bio and step-parent marriages. The sample was 52.35% males (N=1736) and 47.65% females (N=1580). The race and ethnicity breakdown was as follows: 59.74% non-Hispanic White (N=1981), 21.53% Hispanic (N=714), 17.79% non-Hispanic Black (N=590), and 0.93% mixed race (N=31).

For information on the predictor measures of parents' marital relationship quality and the quality of the parent-youth relationships, please see the companion research briefs by Hair, et.al., "Marital Quality and Parent-Adolescent Relationships: Components of Relationship Strengths in Married Parent Families" and "Marital Quality and Parent-Adolescent Relationships: Effects on Adolescent and Young Adult Well-Being" from this project (<http://aspe.hhs.gov/hsp/08/RelationshipStrengths/>). The contextual variables such as specific marital, family, adolescent, peer, and environmental characteristics are also described in the Hair, et.al. brief.

Education Outcome Measures

Two education outcome measures are used. First, a dichotomous variable indicating whether respondent had graduated from high school or received a GED by 20 years old (N=2,337). Second, a dichotomous variable indicating whether those respondents with a diploma or GED had gone on to post-secondary school by 20 years old (N=1,296). The

unweighted sample included 345 respondents (12.36%) who did not receive a high school diploma or GED, 107 respondents (3.83%) who received a GED but no diploma, 1044 respondents (37.37%) who received a high school diploma and did not go on to post-secondary school, and 1,296 respondents (46.42%) who received either a high school diploma or GED and went on to post-secondary school. Five hundred, twenty-four respondents were missing educational outcome information. A description of the sample on the educational outcome indicators is provided in Table 1.

Table 1: Description of Sample by Education Outcomes

	N	Percent
No diploma/No GED	345	12.36%
No diploma/GED	107	3.83%
HS Diploma	1044	37.37%
Enrolled in post-secondary	1296	46.42%
Missing	524	---
Received HS/GED by 20		
yes	2447	87.64%
No	345	12.36%
Missing	524	
Enrolled in Post-sec by 20		
Yes	1296	52.96%
No	1151	47.04%

Data Analysis

Logistic regression analysis was used to examine the research questions for this research. The logistic regression model predicts the influence of marital quality and the quality of parent/adolescent relationships, and other characteristics (marital, family, adolescent, peer, and environment) on respondent’s educational outcomes. The results of this analysis are reported in Table 2.

Table 2: Odds Ratios of Educational Outcomes^a

	Percent/ Mean (SD)	HS/GED at 20 (N=3154)	HS/GED & Enrolled in post-secondary at 20 (N=2337)
Marital Quality & Parent/Adolescent Rel			
High Marital Quality & good Parent-Adolescent Relationships (both)	47.81%	1.08	1.65***
High Marital Quality & good Parent-Adolescent Relationships. (one)	12.27%	1.13	1.35*
High support/high conflict & good Parent-Adolescent Relationships (one/both)	18.26%	0.95	1.39*
Low Marital Quality & good Parent-Adolescent Relationships. (one/both)	13.63%	1.04	1.51***
High Marital Quality & bad Parent-Adolescent Relationships. (both)	3.77%	0.89	1.41
Low Marital Quality & bad Parent-Adolescent Relationships. (both)	4.25%	ref	ref
Marital Characteristics			
Two married, biological parents	71.95%	1.41***	1.35***
Experienced marital disruption (1997-1999)	14.66%	0.80***	1.00
Family Characteristics			
Family Income (ref=400% plus)	19.78%		
Less than 100% of Poverty ^b	9.5%	0.51***	0.75*
100-199% of Poverty	13.78%	0.44***	0.79*
200-399% of Poverty	28.17%	0.55***	0.77***
Bio Mom's age at youth's birth ^c	9%/ 60%	0.72***	0.88
Parent Employment (ref=one parent empl)	24.16%		
Neither parent employed	2.80%	0.75***	0.80
Both parents employed	58.50%	1.25***	1.02
Parent Education (ref=coll grad plus)	29.04%		
Less than High School	18.52%	0.34***	0.42***
High School Graduate	27.77%	0.60***	0.43***
Some College	24.67%	0.74*	0.56***
Parent involvement in school	1.84 (1.21)	1.00	1.11***
Family Religious Activities at Age 16	33%/ 51%	1.24***	1.15*
Adolescent Characteristics			
Gender (0- Male, 1-Female)	52%/ 48%	1.20***	1.42***
Adolescent lies or cheats (0-no, 1-sometimes, 2-often)	52%/ 45%/ 4%	0.88*	0.85***
Peer Characteristics			
Positive peer behavior index	3.29 (0.77)	0.99	1.09**
Negative peer behavior index	1.75 (0.88)	0.91*	0.87***
Environment Characteristics			
Region (ref=northwest)	16.52%		
Midwest	23.34%	0.96	0.74***
South	35.13%	1.01	0.81**
West	24.00%	1.04	0.68***
Physical Environment Risk Index	1.05 (1.23)	0.90***	0.87***
*p<0.05, **p<0.01, ***p<0.001, Source: National Longitudinal Survey of Youth - 1997			
^a Variables tested that did not contribute to the model: Length of marriage, Number of siblings, Adolescent's age, Adolescent's race, Adolescent has disability, Lives in urban area.			
^b 1997 measure of poverty used adjusted for family size (\$16,400 annually for a family of four).			
^c Biological mother's age less than 20 years old at youth's birth compared to youth's whose biological mother was 20-29 at youth's birth. Other categories were insignificant.			

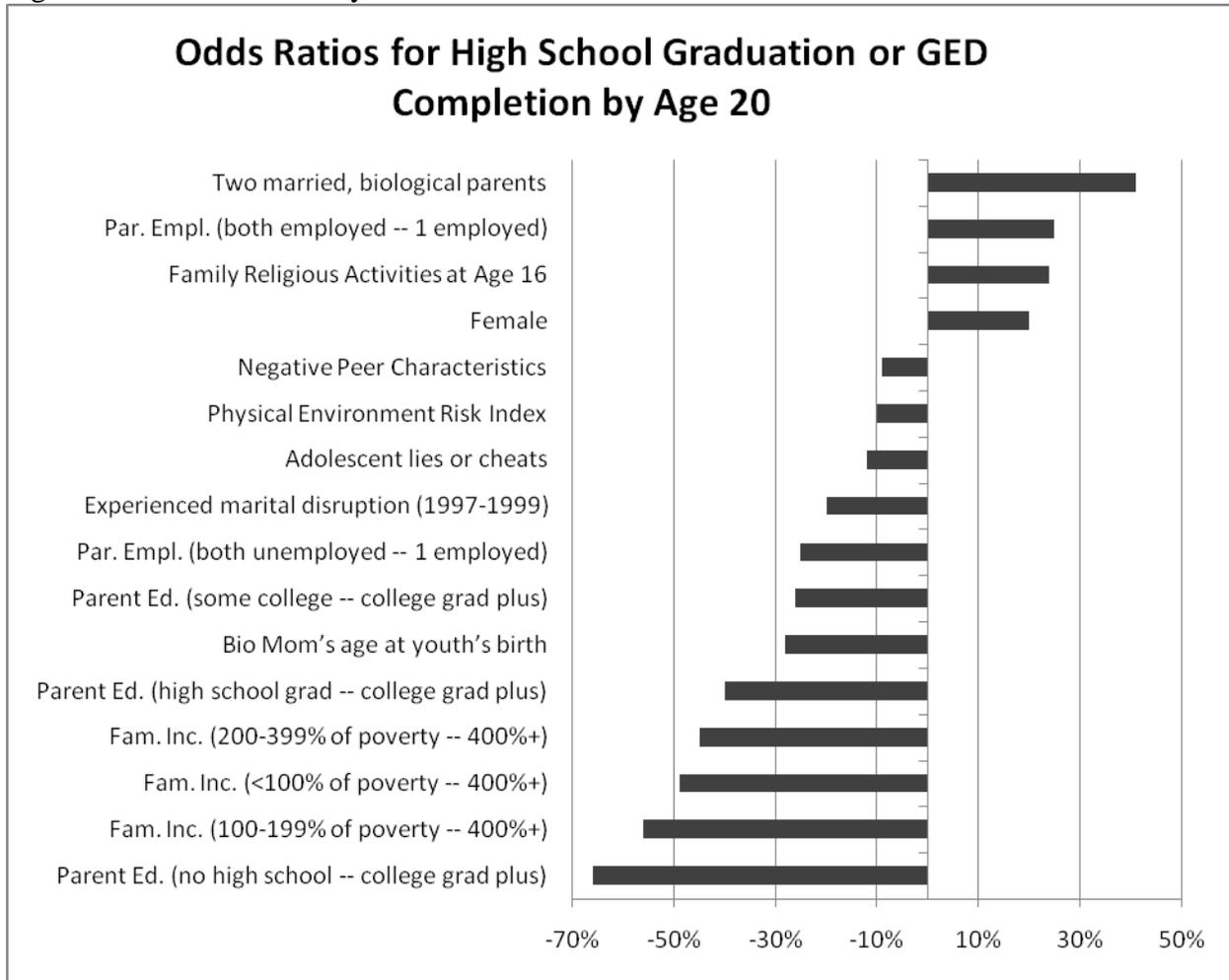
A single model was developed for each outcome. The model predicting high school graduation or GED completion included 3,154 respondents, 87.64% of whom had graduated or obtained a GED by the time he or she was 20 years old. The model predicting enrollment in post-secondary school included just the 2,337 respondents who had graduated from high school or obtained a GED by the time they were 20 years old. The model predicts the likelihood of enrolling in post-secondary education by the time they were 20 years old (46.42% of the sample).

To handle missing data, we maximized the available data by using full information maximum likelihood (FIML) procedures for cases with incomplete data within Mplus. FIML is a method that makes use of all available data points, even for cases with some missing responses. The method uses the responses with non-missing data to compute the statistic and takes into account the level of missingness on the variables to adjust the standard errors. Other methods for handling missing data such as listwise, pairwise, and mean substitution are inferior when compared to FIML methods (Arbuckle, 1996) (Enders, 2001) (Enders & Bandalos, 2001).

Findings

The findings from this analysis are described in this section. Table 2 provides a summary of the regression analysis and reports the odds ratios for those variables that were significant in the analysis. Figures 1 and 2 provide graphic summaries of the significant findings for the each of the dependent variables: graduation from high school or receipt of a GED by age 20 and entrance into post-secondary education among those who graduated or received a GED.

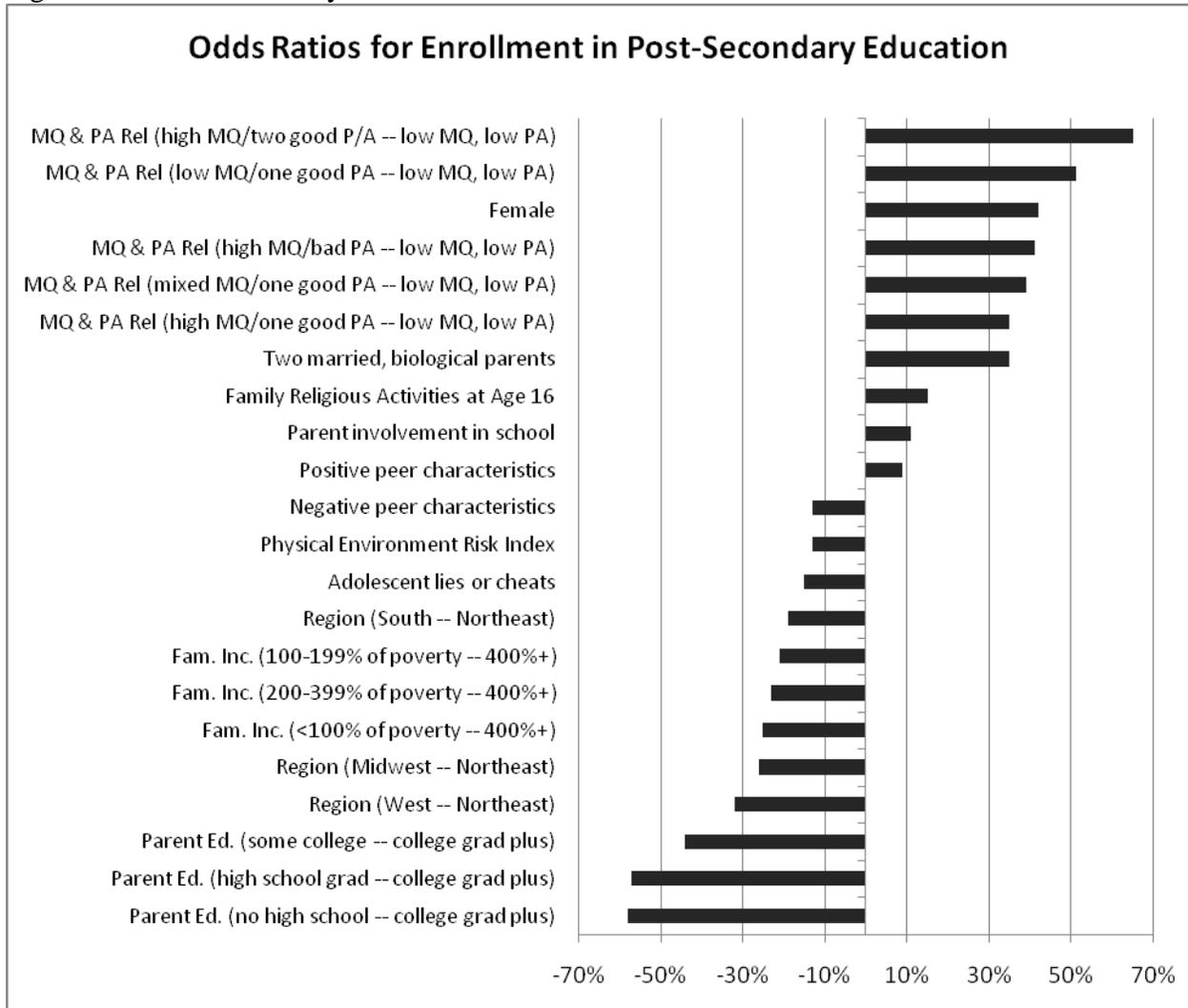
Figure 1: Odds Ratios Analysis



Marital Quality and Adolescent/Parent Relationships

Results from the logistic regression analysis indicate that among adolescent with two married parents in early adolescence, the quality of the marital relationship and the quality of the adolescent/parent relationship does not significantly influence whether or not the adolescent had graduated from high school or received a GED by the time he or she was 20 years old. However, among adolescents with a high school diploma or GED who reported that their parents demonstrated high marital quality and that they had a good relationship with both parents, there

Figure 2: Odds Ratio Analysis



Key: MQ refers to Marital Quality
PA Rel refers to Parent/Adolescent Relationship Quality

For a description of the components of marital quality and the parent adolescent relationship see: Marital Quality and Parent-Adolescent Relationships: Components of Relationship Strengths in Married Couple Families at <http://aspe.hhs.gov/hsp/08/RelationshipStrengths/Components>

is a 65% increase in the likelihood that they will have enrolled in post-secondary education compared to high school graduated youth who reported parents with low marital quality and a poor relationship with both parents. Similarly, adolescents with a high school diploma or GED who reported that their parents had low marital quality but with whom they had a good relationship with at least one parent are 51% more likely to enroll in post-secondary education than adolescents who reported that their parents had low marital quality and that their own

relationship with both parents was poor. Finally, adolescents with a high school diploma or GED who reported that their parents had high marital quality, or a marital relationship with high support and high conflict, and a good relationship with at least one parent are also significantly more likely to enroll in post-secondary education than adolescents with a high school diploma or GED who reported parents with low marital quality and a poor relationship with both parents. A good relationship with at least one parent seems to be a protective factor that contributes positively to enrollment in post-secondary education by age 20 years.

Contextual Variables

The contextual variables in the analysis provide additional information about the factors that contribute to high school completion and post-secondary education participation. It is important to understand that each of these factors takes into account the other factors in the model, including marital quality, so the contribution of each factor is the net contribution after controlling for the other factors in the model. This kind of analysis is important since marital and parental quality are related to these other factors and understanding their contribution to educational outcomes gives us a more complete understanding of just how these outcomes can be influenced through policies and programs.

Marital Stability. While the length of the parents' marriage did not significantly influence educational outcomes, experiencing a marital disruption and having two continuously married, biological parents did contribute to these outcomes. Adolescents who experienced a marital disruption between 1997 and 1999 were 20% less likely to have graduated from high school or obtained a GED by the time he or she was 20 years old than adolescents who did not experience a marital disruption. On the other hand, having two married biological parents was a protective factor, in that adolescents who lived with their married biological parents were 41% more likely

to have graduated from high school or received a GED than adolescents who lived with at least one stepparent and had experienced a marital disruption prior to 1997. Similarly, adolescents with a high school diploma or GED who lived with their married biological parents were 35% more likely to enroll in post-secondary education than adolescents with a high school diploma or GED who did not live with their married biological parents.

Family Characteristics. Family characteristics that influenced educational outcomes included income, biological mother's age at birth, parent employment, parent education, parental involvement in adolescent's school, and family religious activities when adolescent was 16 years old. The number of siblings in the family did not significantly influence educational outcomes.

Family income, when compared to the reference group with an income over 400% of the poverty rate (based on family size), was shown to be a risk factor for both educational outcomes—graduating from high school or obtaining a GED, and enrolling in post-secondary school after receiving a high school diploma or GED. Adolescents in all income subgroups below 400 percent of poverty in 1997 were about half as likely as adolescents from families with incomes above 400 percent of poverty to graduate from high school or obtain a GED.

Adolescents from families with incomes less than 100% of poverty were 49% less likely to graduate, while those from families with income between 100% and 199% of poverty were 56% less likely to graduate and those from families with income between 200% and 399% of poverty were 45% less likely to graduate from high school or obtain a GED than adolescents from families with income over 400% of poverty.

The difference was not as large, but still significant when considering whether adolescents who had graduated from high school or obtained a GED continued on to post-secondary school. Compared to adolescents in families with incomes over 400 percent of

poverty, adolescents with a high school diploma or GED from families with incomes less than 100% of poverty during 1997 were 25% less likely to continue on to post-secondary education by the time they were 20 years old. Adolescents with a high school diploma or GED from families with incomes between 100% and 199% of poverty were 21% less likely to continue on to post-secondary education and those from families with income between 200% and 399% of poverty during 1997 were 23% less likely to continue on to post-secondary education than adolescents from families with incomes over 400% of poverty.

If the biological mother was less than 20 years old when the adolescent was born, then the adolescent was 28% less likely to graduate from high school or obtain a GED by the time he or she was 20 years old than adolescents whose mothers were between 20 to 29 when the adolescent was born. However, the mother's age at the birth of the adolescent was insignificant in predicting whether an adolescent who completed high school or a GED would continue on to post-secondary school.

Similarly, parental employment influenced high school graduation and GED receipt, but not post-secondary enrollment. Compared to adolescents with one employed parent, adolescents with neither parent employed were 25% less likely to graduate from high school or obtain a GED by the time they were 20. Adolescents with both parents employed were 25% more likely to graduate from high school or obtain a GED by the time they were 20 than adolescents with one parent employed.

Low level of parent education, measured by the highest education of either parent, was also a significant risk factor for both high school graduation and GED obtainment and enrollment in post-secondary education. Compared to adolescents with a parent who had graduated from college and possibly gone on to graduate school, adolescents with parents who did not graduate

from high school were 66% less likely to graduate from high school or obtain a GED by the time they were 20 years old. Adolescents with a parent who graduated from high school but did not go on to post-secondary were 40% less likely to graduate from high school or obtain a GED than those with a parent who graduated from college. Finally, adolescents with a parent who had some college experience but did not graduate were 26% less likely to graduate from high school or obtain a GED than those with a parent who graduated from college.

Similarly, adolescents with a parent who graduated from college were more likely to enroll in post-secondary education by the time they were 20 years old. Adolescents who had graduated from high school or obtained a GED who had parents who did not graduate from high school were 58% less likely to enroll in post-secondary education than adolescents who had graduated from high school or obtained a GED and had a parent who had graduated from college. Adolescents who had graduated from high school or obtained a GED who had a parent who graduated from high school but did not go on to post-secondary were 57% less likely to enroll in post-secondary education than those who had graduated from high school or obtained a GED and had a parent who graduated from college. Finally, adolescents who had graduated from high school or obtained a GED who had a parent with some college experience but who did not graduate were 44% less likely to enroll in post-secondary education than those who had graduated from high school or obtained a GED and had a parent who graduated from college.

Parent involvement in school did not significantly influence high school graduation or GED completion; however, it did influence whether or not they went on to post-secondary education after completing high school or obtaining a GED. Adolescents with parents who were involved in their school in 1997 were 11% more likely to go on to post-secondary education after

completing high school or obtaining a GED than those whose parents were not involved in their school.

Finally, family religious activities when the adolescent was 16 did significantly influence both high school graduation or GED obtainment and enrollment in post-secondary education. Adolescents whose families engaged in more religious activities when the adolescent was 16 years old were 24% more likely to graduate from high school or complete their GED by the time they were 20 years old than those adolescents whose families did not engage in as much religious activity. Similarly, adolescents whose families engaged in more religious activities when the adolescent was 16 years old were 15% more likely to enroll in post-secondary education after graduating from high school or completing their GED than those adolescents whose families did not engage in as much religious activity.

Adolescent Characteristics. Adolescent characteristics that influenced educational outcomes included gender and reported lying or cheating. The adolescent's age, race, and the presence of a disability did not significantly influence high school completion/GED obtainment or enrollment in post-secondary education by the time they were 20 years old. Female adolescents were 20% more likely to graduate from high school or obtain a GED by the time they were 20 years old than males, and 42% more likely to enroll in post-secondary education after high school/GED completion than males.

Reports of lying or cheating by the adolescent were a risk factor for both high school/GED completion and enrollment in post-secondary education by the time he or she was 20 years old. Adolescents who reported lying or cheating were 12% less likely to graduate from high school or obtain a GED by the time they were 20 years old than adolescents who did not report lying or cheating. Similarly, adolescents who reported lying or cheating were 15% less

likely to enroll in post-secondary education after completing high school or a GED than those who did not report lying or cheating.

Peer Characteristics. Peer behavior significantly influenced both high school/GED completion and enrollment in post-secondary education. Having positive peers who attend religious services and plan to go to college did not influence high school/GED completion, but adolescents who graduated and had positive peers were 9% more likely to enroll in post-secondary education than adolescents who graduated with a diploma or GED and did not have positive peers. Having negative peers who belong to gangs, cut classes or are sexually active, however, negatively influenced both graduation and enrollment in post-secondary education. Adolescents with negative peers were 9% less likely to graduate from high school or obtain a GED than adolescents who did not report having negative peers. Similarly, adolescents who graduated and had negative peers were 13% less likely to enroll in post-secondary education by the time they were 20 years old than those adolescents who graduated and did not have negative peers.

Environment Characteristics. Both the region of the country and the Physical Risk Index significantly influenced adolescents' educational outcomes. While region did not significantly influence high school graduation or GED completion, it did influence enrolling in post-secondary education. Compared to adolescents from the Northeast, adolescents from all other regions were less likely to enroll in post-secondary education. For example, adolescents from the Midwest who graduated were 26% less likely to enroll in post-secondary education than those from the Northeast. Similarly, adolescents from the South who graduated were 19% less likely to enroll in post-secondary education than adolescents from the Northeast. Finally, adolescents from the West who graduated were 32% less likely to enroll in post-secondary education than adolescents from the Northeast.

Residing in a physical environment with a high level of risk had a negative effect on educational outcomes. Adolescents who scored higher on the Physical Environment Risk Index, those whose homes and communities were more linked to crime, poverty, and poor household conditions, were 10% less likely to have graduated from high school or obtained a GED by the time they were 20 years old than those who scored lower on the index. Also, after graduating, adolescents who scored higher on the Physical Environment Risk Index were 13% less likely to enroll in post-secondary education than those adolescents who scored lower on the index.

Discussion

The findings from this analysis of the NLSY 97 longitudinal data of adolescents and young adults indicate that family and relationship factors play a significant role in the educational progress and outcomes of adolescents in America. This analysis only examined the educational outcomes for adolescents who began early adolescence in a two-parent home, so outcomes for adolescents from single parent or other household configurations were not examined. Still, even after controlling for other significant factors that can contribute significantly to educational outcomes, the structure and characteristics of the family and the quality of the marital and parental relationships contribute to at least one of the two educational outcomes of interest—graduation from high school or receipt of a GED, and enrollment in post-secondary education by the age of 20.

It is not surprising to find that family structure plays a significant role in the educational progress of high school students. Other research has demonstrated this to be the case as well (c.f., McLanahan & Sandefur, 1994). But the data from this investigation focus on those adolescents whose families began middle school in a potentially more advantageous intact, two-parent home. Among these adolescents, it is apparent that having two biological parents

significantly increases the odds of high school graduation and going on post-secondary schooling compared to having two parents, at least one of whom is a step-parent. The potential benefit of a stable, two biological parent family is confirmed by the finding that adolescents who experienced a parental divorce or separation while in middle school or high school were significantly less likely to graduate from high school or obtain a GED. Thus, adolescents who have the advantage of a more stable family and living with both of their biological parents are more likely to show positive educational outcomes, especially graduation from high school.

The contribution of the marital relationship quality and parent-child relationship quality to the educational outcomes of adolescents is somewhat mixed. The data do not indicate that either the quality of the marriage or the quality of the parent-child relationship significantly contributes to high school completion in this sample. In contrast with the lack of findings for high school completion, however, the quality of the parents' marriage and the quality of the parent-child relationship have strong and positive impacts on enrollment in post-secondary education. This suggests that the structure of the family, namely parental breakup or step-family status, is more significant than relationship quality in explaining high school completion, at least among this sample of adolescents from two-parent families. But when these students graduate from high school or obtain a GED, relationship quality also significantly contributes to their going on for further education, either to college or a technical school.

This latter finding is quite important. It suggests that the quality of the parents' marriage or the socio-emotional support they provide their children is not sufficient alone to move a child toward high school completion, or that the lack of such relationships will keep a child from finishing high school. But the quality of these family relationships pay substantial dividends as these youth make decisions that will propel them into higher education and technical training.

Thus, adolescents growing up with parents who offer them a more supportive relationship appear to be more likely to be having interactions at home that stimulate movement toward further education and career related schooling. It may be that families with more positive interactions provide a social environment and social and relational capital within which adolescents can explore their future career options and receive the support they need to make plans for further education and training. Previous research has indicated that the quality of the relationships in the home stimulates greater educational progress among youth, thus opening more pathways for career exploration and subsequent career success (Wooley & Bowen, 2007).

It is not surprising that the quality of the parents' marriage and the quality of the parent-child relationship do not act alone in effecting educational progress and outcomes. This study confirms previous research (Orthner & Randolph, 1999) that low-income and poverty status can significantly increase the risks that students are less likely to finish high school or go on to post-secondary school, even if they experience higher quality family relationships. Similarly, having a mother who gave birth at a young age, parents with less than a high school degree, or parents who are not employed increase these risks as well. In addition, adolescents with peers who are more likely to be in trouble are also increasing their risks of dropping out of school. These risk factors represent negative conditions that can hurt the chances for adolescents to make progress in their education, but they can also limit the quality of the parent-child relationship and put marital quality and stability at risk as well.

The role of gender also must be considered in our understanding of educational outcomes. It appears from this analysis that gender plays a potentially significant role in educational outcomes. In this study, as well as in previous research (Greene & Winters, 2006), adolescent females were more likely than males to complete high school and then more likely to

go on to post-secondary school. This difference in educational outcomes is producing an emerging gender gap in college graduation rates and opportunities that women are now having in early labor force entry. Perhaps the independence that our society promotes among adolescent males and their families, or the premature emancipation of these young men into adolescent peer cultures, does not serve them well in their educational progress (Greene & Winters, 2006). It also may not serve the interests of our nations economic and workforce development efforts if these lower educational completion rates continue for male adolescents.

We must keep in mind that this study examines longitudinal data on a subset of adolescents who had two parents in their lives at the time that they were 12 to 14 years of age. These results apply only to those adolescents, not to those who at that time were living with only one parent, or who were in foster care or other household arrangements. The findings for these other adolescents may have been quite different. For example, we know that the adolescents in this sample had a high school graduation or GED rate of 87% compared to a 4 year national graduation rate of about 70% for all adolescents and a graduation rate for the full sample in the NLSY97 data set of 82%. Thus, the implications of these findings are restricted to married parent families but these families represent approximately 69% of all families (Fields, 2003). Also, if it is those families toward which more of our family and education policies are being directed, then this study speaks well to the direction these policies and programs might take.

In conclusion, the findings from this study have important implications for workforce development. As our nation attempts to compete effectively on the world stage and in a global economy, it is important that our adolescents complete their education, earn higher degrees and gain the technical skills demanded in our rapidly evolving labor force (Orthner, 2007). Often the approach to building this capacity is to place the burden of educational competence and student

progress on our schools and to demand from them higher standards for knowledge acquisition and graduation requirements. This is built into the assumptions of the high-stakes testing regimes that states and school systems have adopted. Thus, workforce capacity building is largely placed on schools, along with youth oriented employment and training programs and other such youth development programs and strategies.

Our findings, however, suggest that these efforts could be complemented by strengthening the quality of parent engagement with their school-aged children and in strengthening the quality of the parents' marital relationship as well. At first glance, it may be hard to consider that strengthening families and building healthy relationships is an education and economic development strategy, but the data from this analysis suggest that there may be such an association. The educational progress of youth appears to be related to the stability of their parents' relationships and the quality of their relationships with each other and their children. These are longitudinal data so we are able to observe that the effects are sustained over time, even into young adulthood.

National and state efforts to help married couples strengthen and sustain positive relationships, as well as to build their skills in promoting positive relationships with their children, can have economic development impacts as well as social and community impacts (Amato, 2007). If the foundation for a vital economy is built upon having young adults complete their education and go on for further education and training, then strengthening marriages and parent-child relationships is an important part of this effort.

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