

The Role of Parents' Educational Values, Expectations and Behavior in Shaping Occupational Aspirations, Expectations and Educational Attainment among Adolescents in Mekelle City, Ethiopia

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Abstract: *This study examined the link between parental process variables and adolescents' occupational aspirations/expectations and educational attainment. A total of 322 individuals (N = 64 11th graders, N = 55 12th graders, N = 98 of their fathers, N = 105 of their mothers) completed multiple quantitative measures assessing parents' educational values, expectations and parenting behaviours, and adolescents' occupational aspirations/expectations. Statistically significant positive relationships between fathers' educational values, and adolescents' educational aspirations, values, and academic attainment were observed. Fathers' educational expectations predicted both adolescents' educational aspirations/expectations and educational attainment. Higher-income and higher educational levels of mothers and higher occupational status of fathers were the primary predictors of adolescents' occupation expectations. The results highlight the importance of parents' process variables and their educational and work background for the development of occupational aspirations/expectations and educational attainments in adolescents. This suggests that greater attention should be paid to the role of parents as potential socializers of achievement-related values of adolescents and the differential roles that mothers and fathers seem to play when designing career choice interventions for adolescents in the study context.*

Keywords: parental process variables; occupational aspirations; occupational expectations; educational aspirations; educational expectations; educational attainment

Background

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United Nations' Sustainable Development Goal (SDG) 4 seeks to improve the quality of education for all, especially beyond the primary level. Education is also the key that will allow other SDGs to be achieved. For example, when people can obtain quality education, they can break from the cycle of poverty. Through education, people can get better jobs and have better lives. Ethiopia has made major progress towards increasing enrollment rates at all levels of schooling. Between 2006 (14.7 %) and 2014 (20.2 %), the enrollment rates of students in grades nine and ten increased by 5.5 %. However, during the same period, Ethiopia's overall Net Enrollment Rate (NER) of 20.2 % was still below the weighted NER average of Sub-Saharan Africa of 30 % (National EFA 2015 Review Report). This indicates that Ethiopia has to develop effective interventions to meet SDG 4 by 2030. As parental support is one of the most important protective factors for avoiding drop-outs from the educational system in other countries (e.g., USA) (Suizzo et al., 2016), this study aims to investigate the role parents play in their children developing particular occupational aspirations and educational attainment in Mekelle City.

According to career development theory, occupational choice and development are profoundly affected at the micro level, parents' child-rearing orientations and behaviors (Setegen, 2019). Parental work situations also affect children's and adolescents' developing interests, values, and aspirations (Johnson & Mortimer, 2002). The quality of parent-child interactions is a central mechanism through which parents' socioeconomic position influences children's work values and eventual occupational attainment. They found out that parents' perceived aspirations for their adolescent children have medium to significant associations with the adolescents' educational aspirations, and small but significant associations with the adolescents' occupational aspirations. For Johnson and Mortimer (2002) family's influence on adolescents or young children's occupational development lies along two dimensions: providing opportunities (for example, educational,

financial, informational), and through socialization (for example, parenting practices and parent-child relations).

Parental values and expectations play a significant role in the career path that children choose to follow. Adolescents tend to share their parents' values on major issues of life and they pay much attention to what their parents expect of them, particularly in choosing a career (Michael Rutter as cited in Otto, 2000). Without parental approval, children are often reluctant to pursue, or even explore, certain careers (Taylor, Harris, & Taylor, 2004). Parents demonstrate their expectations by showing heightened support for particular careers. This was shown in a study done by Ferry (2006), which indicated the factors that influence the career choices of adolescents in rural Pennsylvania. Ferry (2006) reported that followed by other family members, parents provided valuable learning experiences through their own role models and supporting activities that assisted in exploring career interests. By showing support for particular activities, parents demonstrated their preference for certain career options over others. Likewise, parents tended to show additional support for occupational choices that mirrored their own (Kniveton, 2004).

According to expectancy-value theory, developed by Eccles et al. (1983) and Simpkins et al. (2012), role modeling, communicating expectations and providing different practices (providing more opportunities to develop and explore their interests, for example, purchasing educational resources, trips to museums, visiting workplace), are the mechanisms through which parents shape adolescents' career aspirations (Eccles, 2007; Wang & Degol, 2013). This highlights the importance of parents providing children with information about their educational capability and career interests (Wang, 2012). Besides, motivational beliefs expressed by parents towards their children's pre-adolescence give hope and confidence and are expected to influence adolescents' educational outcomes and occupational aspirations (Wang & Degol, 2013). This suggests that a

better understanding of the connection between parental process variables, that is educational values, expectations and parenting educational involvement, and adolescents' occupational expectations and educational attainment in our own context may give insights into how Net Enrollment Rate (NER) could be improved. In this study, the specific parental process variables considered were parental beliefs about the most desirable outcomes of their children's education, i.e., parental educational values (Jodl et al., 2001; Suizzo, 2007), and parental expectations, that is the realistic goals that parents have for their child's educational attainment (Jacob & Christenson, 2010). Besides, education-related parenting educational involvements were assessed; the specific involvement of parents in academic activity, including helping their children with homework, parents' involvement in school activities, and relevant verbal interactions with their children (Jodl et al., 2001).

Statement of the Problem

This study was intended to examine parental influence on their adolescent's career aspirations and educational attainment. This topic was chosen to further explore knowledge regarding the role parents play in their adolescents' career choice. This is an important topic because parents may not realize the major effect their values and expectations have on their children's career exploration (aspiration, expectation). Parental influence may present opportunities or obstacles during educational attainment and career exploration. Therefore, how do parents affect the educational attainment and career aspirations of their adolescent is presented below.

How Parental Process Variables Affect Adolescents' Educational Expectation and Attainment

Parental expectations are an important predictor of students' educational outcomes as parents' expectations set the context within

which students shape their expectations and provide an orientation against which academic decisions are made (Harris & Goodall, 2007). In a sample of 12,000 children aged 5 to 17 from U.S. national representative data; Grinstein-Weiss et al. (2009) found that parental expectations were indeed associated with their children's school achievement. Parents' expectations for the educational attainment of students are thus related to their actual academic performance (see also Halle, Kurtz-Costes, & Mahoney, 1997).

Another way in which parents positively influence their children's educational outcomes is through their involvement in the child's life (Schneider, Atteberry, & Owens, 2005). Parents with higher levels of involvement in their children's educational preparation may provide their children with valuable developmental experiences within which school expectations are formed (U.S. Department of Education, 1999). The opportunity for educational attainment is decreased when parents fail to spend time with their children about school activities and increased through parental engagement, i.e., the more parents get involved, the higher the level of the child's attainment will be (Coleman, 1988; Portes, 1998; Harris & Goodall, 2007).

In a review of studies, Jeynes (2007), however, observed a stronger relationship between school grades and parental expectations than between grades and actual parenting educational involvement, in alignment with Fan and Chen's (2001) earlier findings. In an ethnically diverse country in the Mid-Atlantic region of the United States, Jodl et al. (2001) observed parents who held high educational values were more likely to have children who expected the school to be important for their future and valued school for this reason. In other words, parents who have a clear understanding of the value of education are more likely to influence positively their children's educational expectations and values. Qualitative research by Suizzo et al. (2016) also suggests a connection between parents' memories of their own schooling experience and parental academic communication,

particularly regarding how much children value education. Building on these studies, the first hypothesis in the present study was that parental process variables (values, expectations, parenting educational involvement) is associated with adolescents' educational values and educational attainment in the study context, too, in that parents with positive educational values, expectations and supportive parenting educational involvements would promote children's favorable views on education and their actual academic achievement.

How Parental Process Variables Affect Adolescents Occupational Aspiration/Expectation

Parents affect adolescents' occupational preparation in several important ways. The quality of family relations and how parents and adolescents interact are significantly associated with the degree to which adolescents engage in occupational exploration (Schulenberg et al., 1984). Parenting educational involvement can affect which activities adolescents prefer, and ultimately their occupational aspirations and expectations (Jodl et al., 2001). More broadly, child-oriented parenting, that is, facilitating school performance or monitoring out-of-school activities through parent-child-centered activities and relationships, seems to foster adolescents' self-directed and adaptive behavior and through this a realistic representation of the self-relevant to future occupational choices (Noack et al., 2010).

While most of these findings are not new, exploring these factors in the Ethiopian context is important as little is known about the role of Ethiopian parents in their children's educational and occupational aspirations and performance in addition to the particular ways in which Ethiopian parents interact with their children in some different ways, for instance, parents most often don't tend to interact much with their children, and children are not taught to explore. To mention few examples related to findings in Ethiopian context. Wudu (2007) reported that parents tended to get involved in their children's

education by explaining the grades their children had obtained, but it is not clear if this behavior related to students' occupational choices. Kassa (2014) showed that parental values related to the desired goals of their children (e. g., hardworking, achievement, etc.) were related to students' academic achievement, but did not consider how those parental values relate to children's occupational aspirations and expectations. Most importantly, Setegn (2014) reported that adolescent's work-related personalities, i.e., adolescent's personal and occupational identities marked by his/her general orientation to primarily work with people, data, or ideas, were relatively aligned with their occupational aspirations and expectations for investigative (science and medicine related fields) and artistic occupation types (aesthetic and literacy-related fields). In other words, the result showed that adolescents with high work-related personalities had aspirations/expectations to obtain occupations that suggested an affinity for investigative and artistic occupation types. Setegn (2014) suggested that adolescents' occupational aspirations and expectations may largely be a reflection of the kind of career and family life connections they have.

In summary, then, while there is limited research in this area in Ethiopia in general and study area in particular (Eshetu, 2014; Kassa, 2014; Tassew, 2011; Young Lives, 2013) international research suggests that parental process variables (their educational values, educational expectations, and education-related behaviours) do predict adolescents' occupational aspirations/expectations in the study context, which led to this becoming the second hypothesis, indicating another main axis of investigation.

Family Background Variables and Adolescents' Occupational Aspirations/ Expectations, Educational Expectations and Attainment

Adolescents' educational attainment and occupational aspirations/expectations also appear to vary with family structural

variables in different countries. For example, Cook et al. (1996), Schoon (2010), and Crockett and Beal (2012) found that aspirations and expectations seemed to differ by socioeconomic status in that more prestigious occupations were more common for adolescents from families with higher socioeconomic status. The increase in adolescents' occupational expectations with an increasing level of parental education has also been found to be greater at higher levels of parental education than at lower levels of parental education (Beal & Crockett, 2013). Likewise, parents with college experience more often expect their children to attend college (Davis-Kean, 2005) and are better able to help them prepare for college (Choy, Horn, Nunez, & Xianglei, 2000).

Despite the recent policy initiatives and relevant SDG targets to address gender disparities in Ethiopia (World Bank, 2019), women are still less likely to participate in the labor force, and more likely to take unsafe and unpaid jobs, suggesting that women fare worse than men. In Ethiopia, women, i. e., mothers, mostly engage in unskilled occupations and their level of education is generally low. Culturally, it is more appropriate for women to become housewives than to engage in skilled occupations. Such culturally deep-rooted attitudes undermine the value of women's work (OECD, 2008). This assertion appears to be linked to Ethiopia, where women are engaged in poorly paid jobs, and tiresome household work, leading them to be the most impoverished section of society (Tigist, 2011). In more specific terms, this assertion seems to apply the same in the study context. The third expectation or hypothesis was thus that structural features (parents' income, occupation, and education levels) are linked/related to adolescents' occupational aspirations/expectations and educational attainment. This assertion is important as family background facilitates different ways in which parents can engage with their children about educational outcomes and occupational aspirations, and the development of their expectations, values, and aspirations for their children.

Objectives

The present research has the following objectives: (1) to examine the predictive value of parental process variables (values, expectations, parenting educational involvement) on adolescents' occupational aspirations and expectations; (2) to investigate whether parental process variables (values, expectations, parenting educational involvement) predict adolescents' educational expectations/aspirations and attainment; and (3) to investigate the predictive value of family backgrounds (education, income, occupation) on adolescents' occupational aspirations/expectations, educational expectations and attainment.

Methodology

Research Design

To address the research objectives, the author employed correlational research design with cross-sectional, sampling only one point in time, and investigating relationships between variables without manipulating or controlling them through experimental intervention design. To test the associations or relationships empirically quantitative descriptions (statistical analyses) were used. Thus, relationships or differences between variables could be revealed and explained.

Participants

For two reasons this research was limited to adolescent students in preparatory school aged between 15 and 20. Firstly, at this stage experiences and beliefs gained during childhood need to be reformed in preparation for the individual's new stage of life which includes participation in the world of work. Based on life experiences at this age adolescents would be able to report their educational and occupational aspiration and their educational attainment meaningfully. Secondly, by

this time parents would be able to report on their perceived role in shaping adolescents' occupational aspirations/expectations and educational attainment.

Data was collected at one preparatory school in Mekelle City, Tigray Region, Ethiopia. Only one school was selected for two important reasons. The first is to focus on specific group within the school, that is students in a particular grade level and section, and sampling helps isolate those groups. The second is to generalize the finding to the broader school population because a sample chosen in this way can allow author to do so. The total number of students in their last two years of preparatory study at the school was $N = 2,190$ (11th grade: $n = 461$ males, $n = 607$ females, total $n = 1,068$; 12th grade: $n = 493$ males, $n = 529$ females, total $n = 1,022$). Stratified random sampling was employed to select the student sample. Each grade consisted of sections, $n = 27$ in grade 11 and $n = 26$ in grade 12. Section refers to a class. Of these four sections from each grade level, i.e., a total of 8 sections, were chosen randomly. Only eight sections out of 53 were selected following the assumptions that underline stratified random sampling. First, stratified random sampling allows the author to take some few subgroups as the selection process is carefully considered. Second, if the chosen sections are representative of the population and that the sampling within those selected sections is done randomly.

A simplified formula, $n = N/1+N(e)^2$, developed by Yamane (1967) was used to calculate the sample size; where n is the sample size, N is the population size, and e is the level of precision (confidence level). Samples obtained through this way were reconsidered with the assumption of parent samples matched to the corresponding student data. Based on sex (male and female students) proportionate samples were drawn from each class. In total, 200 students were approached to participate in the study, half of them male and half of them female. Those students were chosen using random sampling. Of 200 students, the responses of 36 students in 11th grade and 45 students in 12th

grade were discarded as they indicated having no parents. Finally, 119 students, who completed the questionnaire used to collect data about students' educational and occupation expectations and educational attainment, were taken in the analysis. Data was also collected from a total of 98 fathers and 105 mothers of participants in the student sample and matched to the corresponding student data. The sample description is reported in Table 1.

Table 1: Demographic Characteristics of Participants

Adolescents								
Age	f	%	Gender	f	%	Grade Level	f	%
15-17 years	46	38.7	Male	40	33.6	11 th grade	64	53.8
18-19 years	73	61.3	Female	79	66.4	12 th grade	55	46.2
Total	119	100.0	Total	119	100	Total	119	100
Mothers								
Education Level	f	%	Occupation	f	%	Income Level	f	%
Didn't attend school	26	24.8	Employed	24	22.9	Low Income	47	44.8
Primary School	41	39.0	Unemployed	18	17.1	Middle Income	52	49.5
Secondary School	18	17.1	Self-employed	41	39.0	High Income	6	5.7
Certificate & Diploma	14	13.4	Others	22	21.0	Total	105	100.0
Degree and above	6	5.7	Total	105	100.0			
Total	105	100.0						
Fathers								
Education Level	f	%	Occupation	f	%	Income Level	f	%
Didn't attend school	12	12.2	Employed	37	37.8	Low Income	40	40.8
Primary School	37	37.8	Unemployed	10	10.2	Middle Income	44	44.9
Secondary School	20	20.4	Self-employed	36	36.7	High Income	14	14.3
Certificate & Diploma	16	16.3	Others	15	15.3	Total	98	100.0
Degree and above	13	13.3	Total	98	100.0			
Total	98	100.0						

Instruments

Parents' Values, Expectations, and Parenting educational involvement Scales: To measure what *parents* valued about their children's education, parents had to indicate how important it was for their children to achieve six possible educational outcomes. Three of the outcomes were identical to those used by Jodl et al. (2001). Three items were modified to reflect the Ethiopian cultural context. These were items related to jobs that demonstrate well paying (prestige is a plus), an achievement graduating from university, i.e., graduating from high school is not the only outcome valued how important it is for their children, and becoming to adjust in the social functioning role rather than in the intellectual world. Items included "To be known through demonstrating recognition of achievements", and "To earn a graduate degree: masters or doctorate". Respondents were asked to indicate the level of importance attached to each outcome using a five-point Likert scale ranging from 1 (= very low) to 5 (= very high). *Parents' expectation* for their child's educational attainment was measured with items that reflected realistic goals that parents might have for their child's educational achievement. Seven items were modified slightly from Jacob and Christensen (2010), to be rated using a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Items included, "I have a goal in mind for how much education I would like my child to achieve" and "My expectation for my child's educational outcome has changed as he/she gets older." *Parenting educational involvement* was measured through six items assessing parents' involvement in academic activity (Jacob & Christensen, 2010). Items included "How often do you devote time to help your adolescent with homework", "How often do you devote time in discussing what your child did at school", and "How often do you encourage your child to take classes that challenged him/her". Parents rated those items using a five-point Likert scale (1= not at all, 5 = more than once a day).

Adolescents' Occupational Aspirations/Expectation Measures: An ideal goal (aspiration) and realistic goal (expectation) that adolescents hold for their occupational choice were measured with one item each. The occupational aspiration question asked was "What kind of job would you ideally like to have when you finish your education?" Participants were asked to choose what job they aspired to have from a list of occupations. Following Patton and Creed's (2007) method, the author ranked the chosen occupations based on the level of prestige or status. From this perspective, unskilled occupations were assigned lower scores, reflecting lower prestige, professional occupations higher scores. The list of occupations with associated status ranks included manual to high prestigious professional jobs, with scores allocated by the author. Scoring was made based on the list of job grading prepared by the Civil Services Commission of the Federal Democratic Republic of Ethiopia. For example, manual jobs were given the score of one, i.e., the lowest score, whereas the university professor was given a score of eight, i.e., the highest score. The same procedure was applied to score occupational expectations. To assess this variable the question asked was "What kind of job do you really expect to have when you finish your education?" Participants did choose what jobs they expect to have from a given list of jobs.

Adolescents' Educational Values Inventory: How much adolescents viewed school as a pathway for later opportunities in their life was adopted from Jodl et.al's (2001) seven-item adolescents' value of education measure. Adolescents were asked to indicate their level of agreement for each statement using a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Items included "I have to do well in school if I want to be a success in later life" and "Schooling is not so important for adolescents like me". The responses on three items of negatively worded items in the scale were re-coded.

Adolescents' Educational Expectation/Aspiration Scales: As recommended by Jodl et al. (2001), adolescents' expectations and

aspirations for future educational attainment were measured with one item for each, namely "How far will you actually go in school?" and "How far would you ideally like to go to school?" Answers were scored from 1 to 7, with 1 = less than grades 12 and 7 = Ph.D. *Academic achievement* was the grade point average, that is, the average score or mark out of 100 percent which would indicate educational attainment across academic subjects and taken from school records.

Demographic data of parents' (fathers and mothers) educational level, occupational status, and income level were collected to be used as family background variables. To be noted, income was collected at an individual level, not as a family level. Father's income was the average of labor income from all jobs of father per year in Ethiopian Birr (ETB). Likewise, the mother's income was measured by the average labor income from all jobs of mother per year in ETB. Demographic characteristics of students such as sex, age, and grade level were also collected in the questionnaires.

Data Collection Procedures

The extent of the accuracy and consistency of items or measures was done through validity and reliability measures. Regarding validity, initially all items and variables were discussed with and verified by two professors from the Department of Psychology at Mekelle University to evaluate the content validity and the relevance of the items in the study context. Then after, to develop the cultural competency of measuring instruments, the author employed a three-step process for translating item instruments into the target language. First, each scale was translated from the source into the local language (forward translation), which is the Tigrinya version. Second, backward translation was carried out. In this step, the translated items were translated back into the original language (English). Third, after forward and backward translation of language, the final version of instruments was reviewed by another qualified team consisting of two independent experts with

the intent to achieve greater clarity and accuracy, and check the resolution of discrepancies that may be detected during the translation process. This stage was helpful to reach the clarity of items in that there would only be one possible meaning for the statement in the particular study context. Once the instruments were validated in such a manner, their reliability were evaluated. The reliability of instruments was assessed through pilot-and field testing (1) to identify the workability of items, and (2) to verify scale accuracy of the questionnaires and determine reliability estimates. (For further information on the reliability estimates, please see Table 3 on page 10). Factor analysis was also employed to establish the construct validity and the reliability of the adapted instruments.

Before administration, participants were informed of the research objectives. Participants were then asked their consent to participate in the study; none of the approached participants declined their participation. To all adolescent participants and parents matched to this sample, the questionnaires were administered at school in two large halls outside of class-time. The questionnaire administration lasted an hour. The participants were approached to participate in the study through the School Director and Parent Teacher Association (PTA) of the school. PTA is a means in which parents and teachers come together in the interest of the child (Rawling, 2013).

Data Analysis

Descriptive and inferential statistics were employed to analyze the scale data and hypotheses. Pearson correlation was used to reveal relationships among parental process variables and adolescents' occupational aspirations/expectations, educational expectations, and attainment. Once the family background variables are transformed into dummy variables, the Pearson correlation is used to reveal correlations among parental demographic variables and adolescents' occupational aspirations/expectations, educational expectations, and attainment.

Subsequent multiple regression analyses examined how parental process and background variables (income, education, occupation) might be linked with adolescents' educational expectations, occupational aspiration/expectation, and educational attainment.

Results

Scale Structure

The adapted instruments were assessed for the construct validity of parental variables through exploratory factor analysis. The fact that exploratory factor analysis was not performed for the Adolescents' Educational Values Scale indicates there was no interest to cluster individual items into dimensions. Exploratory factor analysis (EFA) was performed to identify the underlying factor structure, pattern of loading factors, and the inter-correlations among the factors. Since it was expected to correlate with possible factors, promax rotation was used. The analysis resulted in a three-factor model that accounted for 48.75% of the total variance. Factor loadings, variance explained, and commonalities are presented in Appendix 1. According to Martin and Newell (2004), and Seçer, Halmatov, and Gençdoğan (2013), in a factor analysis factor loading are expected to be higher than 0.30. The factor loadings of items 3, 4, and 6 in the third factor were greater than 0.40 indicates the adequacy of items for the final analysis. And also, the screen plot showed a slight decrease, suggesting the three factors should be retained.

The first factor (parenting educational involvement) included six items loaded from 0.69 to 0.76 loading factor explained 20.32% of the total variance, a second factor (parents' values of education) consisted of six items loaded from 0.67 to 0.78 loading factor accounted for 17.75% of the variance, and a third factor (parents' expectations) consists of seven items, loaded from 0.43 to 0.76 loading factor, explained 10.49% of the total variance. Reliability estimates were determined for these

and the other one scale, and the evaluation of the scale's reliability is presented in Table 2.

Table 2: Reliability Statistics of Scales

Variables	Cronbach's Alpha	No. of Items
Parents' values of education	.82	6
Parents' expectation	.79	7
Parenting educational involvement	.88	6
Adolescents' educational values inventory	.75	7

Descriptive Results

Mean scores and standard deviations were computed for all questionnaire scales. As Table 3 shows mothers had greater value in their children's education than fathers. Equally so, mothers also had higher expectations of their child's educational attainment. Both parents seemed to be involved in their child's education to similar degrees with the average involvement of parents being low. Both adolescents' occupational expectations and aspirations tended towards prestigious occupations, i.e., adolescents aspired and expected to obtain at least a degree which did not correspond with their academic achievement/attainment measured by grade point average, which at $M = 66.678$ ($SD = 11.608$) suggested lower occupational attainment.

Table 3: Mean Scores and Standard Deviation of Parental Process Variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Fathers' Values	98	6	30	23.868	5.310
Fathers' Expectation	98	7	35	26.929	5.421
Fathers' Parenting educational involvement	98	6	30	18.151	5.833
Mothers' Values	105	9	30	24.514	4.643
Mothers' Expectation	105	10	35	27.676	4.826
Mothers' Parenting educational involvement	105	6	30	18.638	6.356
Adolescents' Occupational Aspiration	119	1	8	5.147	1.777
Adolescents' Occupational Expectation	119	1	8	5.268	1.723
Adolescents' Educational Values	119	7	30	18.411	3.847
Adolescents' Educational Expectation	119	1	6	4.672	1.426
Adolescents' Educational Aspiration	119	1	6	5.067	1.233
Educational Attainment	119	10.500	94.400	66.679	11.608

To examine the relationships among parental process variables (educational values, expectations, parenting educational involvement), adolescents' occupational aspirations/expectations, adolescents' educational aspirations/expectations and educational attainment, Pearson correlations were computed. Table 4 displays the correlation matrix. Statistically significant positive relationships were observed among fathers' educational values and adolescents' educational aspirations, educational values and academic attainment ($r = .244$, $p < .05$, $r = .215$, $p < .05$ and $r = .298$, $p < 0.01$, $N = 98$, respectively). Fathers' educational involvement was positively correlated with educational expectations of adolescents ($r = .200$, $p < .05$, $N = 98$). Significant positive associations were also found among maternal educational values and educational aspirations ($r = .254$, $p < .01$, $N = 105$) and mothers' educational involvement and educational aspiration ($r = .268$, $p < 0.01$, $N = 105$). It can also be seen that adolescents'

occupational aspirations and expectations correlated more strongly with each other than either it did with any other variable.

Table 4: Pearson Correlations among Parental Process Variables and Adolescents Occupational Aspirations/Expectations, Educational Aspirations/Expectations, and Educational Attainment

Sources	1	2	3	4	5	6	7	8	9	10	11	12
Fathers' Values (1)	—	.620 ^{**}	.412 ^{**}	.444 ^{**}	.184	.062	.03 ₉	.01 ₉	.244 [*]	.10 ₄	.21 ₅	.298 ^{**}
Fathers' Expectations (2)		—	.478 ^{**}	.273 ^{**}	.394 ^{**}	.153	.00 ₂	.08 ₄	—	.26 ₅ ^{**}	.37 ₂ ^{**}	.264 ^{**}
Fathers' educational involvement (3)			—	.168	.158	.473 ^{**}	.08 ₈	.06 ₉	—	.10 ₆	.20 ₀ [*]	.134
Mothers' Values (4)				—	.549 ^{**}	.325 ^{**}	.16 ₀	.10 ₂	—	.11 ₀	.25 ₄ ^{**}	.089
Mothers' Expectations (5)					—	.426 ^{**}	.04 ₃	.05 ₅	—	.06 ₃	.27 ₁ ^{**}	.025
Mothers' educational involvement (6)						—	.03 ₁	.09 ₈	—	.01 ₆	.26 ₈ ^{**}	.048
Occupational Aspirations (7)							—	.52 ₇ ^{**}	—	.29 ₂ ^{**}	.40 ₇ ^{**}	.066
Occupational Expectations (8)								—	—	.36 ₅ ^{**}	.43 ₆ ^{**}	.119
Educational Values (9)									—	.22 ₁ [*]	.23 ₄ [*]	-.140
Educational Expectations (10)										—	.53 ₃ ^{**}	.169
Educational Aspirations (11)											—	.099
Educational Attainment (12)												—

Note. ^{**} $p < 0.01$; ^{*} $p < 0.05$

Parental Process Variables about Adolescents Educational Expectation/Aspirations and Educational Attainment

First, the assessment of the collinearity effect was performed to allow a more careful interpretation of data from multiple regression analyses (See Table 5). The multicollinearity effect was examined by collinearity diagnostics in the regression analysis through the coefficient of tolerance and Variance Inflation Factor (VIF). As suggested by Vatcheva et al. (2016), a tolerance close to zero means that multicollinearity may be a threat, whereas a value close 1 suggests that there is little multicollinearity. According to Allison (1999), the problem of multicollinearity will exist when the tolerance is less than 0.4 and the VIF is greater than 2.5. As a result, multicollinearity was not a problem in the model.

Second, as adolescent participants were nested in both grade and class/classroom, grade and classroom would likely have the potential to interact with the ways that parental expectations help to shape student aspirations and educational attainment. So, intra-class correlation coefficients (ICCs) also called variance components were computed for each of the dependent variables including adolescents' educational values scale, adolescent's occupational aspirations, and expectations. The fact that ICCs were lower than 0.05 confidence interval for each variable, implying that multilevel modeling may not be warranted, that is, grade and classroom (as moderators) wouldn't need to be included in the subsequent regressions. Once this is done, subsequent multiple regressions were performed to examine the predictive value of parental process variables on (1) adolescents' educational expectation/aspiration and attainment, and (2) adolescents' occupational aspiration and expectation.

In a first multiple regression analysis, the six parental process variables, namely fathers' value of education, educational expectation, and parenting educational involvements and mothers' value of education, educational expectation, and parenting educational involvements were used as predictors of adolescents' educational expectation. The model was statistically significant, $F(6, 89) = 1.668$, p

< .05, and accounted for 10.8 % of variance in adolescents' educational expectations. Table 5 shows the standardized coefficients for each predictor variable. Fathers' expectation of educational attainment was the strongest predictor ($\beta = 0.388$, $p < 0.01$). The same predictor variables accounted for a significant amount (17.6%) of variance in adolescents' educational aspirations ($F(6, 89) = 2.952$, $p < 0.01$). Here, too, fathers' expectation of educational attainment was the strongest predictor ($\beta = 0.40$, $p < 0.01$), followed by mothers' parenting educational involvements ($\beta = .163$, $p < 0.05$). The six parental process variables accounted for 9.3% of the variance in adolescents' educational attainment, and the model was also significant, $F(6, 89) = 1.415$, $p < .05$. Fathers' values of education had the highest weight in the model ($\beta = .236$, $p < 0.05$), followed by fathers' expectation of educational attainment ($\beta = .116$, $p < 0.05$).

Two further multiple regression analyses were conducted to see whether the parental process variables predicted adolescents' occupational aspirations and occupational expectations. This time, mothers' value of education was observed to be the strongest predictor of adolescents' occupational aspirations ($F(6, 89) = 0.182$, $p < 0.05$), while fathers' expectation of educational attainment contributed most to explain the variance of adolescents' occupational expectation ($F(6, 89) = 0.164$, $p < 0.05$). In the last multiple regression analysis, the same parental process variables were used to predict adolescents' values of education. The prediction model was statistically significant, ($F(6, 89) = 8.540$, $p < 0.05$), and accounted for approximately 24.5% of the variance in adolescents' values of education. Fathers' values of educational attainment were the strongest predictor ($\beta = .181$, $p < 0.05$), followed by fathers' parenting educational involvements ($\beta = .101$, $p < 0.05$), and fathers' expectation of educational outcome ($\beta = .091$, $p < 0.05$).

Table 5: Beta Values for Predictor Variables in the Multiple Regression Analyses conducted to Predict Adolescents' Educational Expectations, Aspirations and Educational Attainment from Parental Process Variables

Parental Variables	Process	Educational Expectation	Educational Aspirations	Occupational Aspirations	Occupational Expectation	Educational Attainment	Collinearity Statistics	
		(β Values)	(β Values)	(β Values)	(β Values)	(β Values)	Tolerance	VIF
Fathers' values of education	values of education	.147	.028	-.052	-.113	.236*	.564	1.774
Fathers' expectation of education	expectation of education	.388*	.404*	-.075	.164*	.116*	.547	1.829
Fathers' educational involvement	educational involvement	.055	.050	.157	.044	.022	.838	1.193
Mothers' values of education	values of education	.092	.068	.182*	.053	-.031	.874	1.144
Mothers' expectation of education	expectation of education	.166*	.040	-.044	-.108	.011	.651	1.617
Mothers' educational involvement	educational involvement	-.112	.163*	-.090	.032	.015	.849	1.140

Note. * $p < 0.05$

The partial correlation and squared semi-partial correlations (sr^2) coefficients were calculated to assess the specific contribution of each independent variable on the dependent variable, that is, the proportion of specific variance explained by each predictor variable. With a considerable match between bi-variate correlations and the partial correlations for the variables in Table 4, the unique or specific variance explained by each predictor variable was moderate except for occupational aspiration/expectation for which partial correlations with the predictor variables were weak. The fact that the partial correlations were moderate suggests the predictor variables explained a significant percent of contributions independent variables. For example, from this analysis of partial correlations, the author can considerably vest confidence that the correlation between father's values education and

adolescent's educational attainment was far larger to the correlation between father's expectation and adolescent's educational attainment.

Parental Demographic Variables as Predictors of Adolescents' Occupational Aspiration/Expectations, Educational Aspirations/Expectations, and Educational Attainment

To examine the relationships among parental background variables and adolescents' occupational aspirations/expectations, educational aspirations/expectations, and educational attainment, Pearson correlations were used. Table 6 shows the correlation matrix. All of the three family background variables were not statistically correlated with adolescents' educational aspirations and occupational aspirations. As done in parental process variables, assessment of the collinearity effect was also performed (see Table 7). The collinearity diagnostics shows multicollinearity was not a problem in the model.

Once multicollinearity effects were done, multiple regression analyses were used to examine whether family background variables (income, occupation, education) predicted adolescents' occupational aspirations/expectations, and educational attainment. Adolescents' educational aspirations and occupational aspirations were not considered as dependent variables as any of the independent (family background) variables correlated with adolescents' educational aspirations and occupational aspirations (See Table 6). To run the analyses the family background variables were transformed into dummy variables.

Table 6: Pearson Correlations among Parental Demographic Variables and Adolescents' Occupational Aspirations/Expectations, Educational Aspirations/Expectations and Educational Attainment

Sources	1	2	3	4	5	6	7	8	9	10	11	12
Father's occupational status (1)	1	.472**	.190	.334**	.371**	.299**	-.086	.239*	.287*	.214*	-.083	.180
Fathers' educational level (2)		1	.376**	.228*	.572**	.249*	.072	.264*	.001	.228*	.157*	.258*
Fathers' income level (3)			1	-.184	.393**	.648**	.095	-.138	.281*	.248	.191	.184
Mothers' occupational status (4)				1	.276**	.121	.057	.290*	.333*	.294*	.017	.286*
Mothers' educational level (5)					1	.352**	-.091	.298*	.309**	.255*	.132	.288*
Mothers' income level (6)						1	.156	.347**	-.084	.380*	.123	.322**
Occupational Aspiration (7)							1	.507*	-.141	.277*	.364*	.110
Occupational Expectation (8)								1	-.190*	.329*	.317*	.172
Educational Values (9)									1	.272*	.299*	.170
Educational Expectation (10)										1	.497*	.152
Educational Aspiration (11)											1	.122
Educational Attainment (12)												1

Note. P* < 0.01, p* < 0.05

In the first analysis, both fathers' and mothers' income and occupation levels were used to predict adolescents' educational expectations. In this regression analysis, the parental educational level was controlled to see how much variance the predictors of interest account for (R-square change). R-square change was not observed. The model was

statistically significant, $F(4, 88) = 1.395$, $p < 0.05$, and accounted for 18% of the variance in adolescents' educational expectations. Mother's income level was the strongest predictor, followed by father's income, with the occupational status of either parent not predicting unique variance in the dependent variable, as shown in Table 7.

In the second model, parents' occupational status was controlled to see how much variance the predictors of interest account for; and both fathers' and mothers' educational and income levels were entered into the analysis to examine their ability to predict adolescents' occupational expectations. R-square change was not observed. The model was again statistically significant, $F(4, 88) = 2.295$, $p < 0.05$, and accounted for approximately 50% of the variance in adolescents' occupational expectations. Mothers' income and educational levels followed by fathers' occupational status were the variables that predicted a significant amount of unique variance in their children's occupational expectations.

Table 7: Standardized Predictor Weights in Multiple Regressions of Adolescents' Educational Expectations, Educational Attainment, Educational Values and Occupational Expectation from Parental Demographic Variables

Parental variables	demographic	Educational Expectation (β -Values)	Education al Values (β Values)	Occupational Expectation (β -Values)	Educational Attainment (β -Values)	Collinearity Statistics	
						Tolerance	VIF
Fathers' Status	Occupational	.067	.174*	---	.030	.635	1.576
Fathers' Educational Level		----	.056	.154*	.078	.476	2.100
Fathers' Income Level		.181*	.176*	-.051	.068	.488	2.049
Mothers' Status	Occupational	.042	.013	---	.127*	.796	1.256
Mothers' Educational Level		----	.228*	.251*	.183*	.572	1.748
Mothers' Income Level		.328*	.040	.316*	.033	.515	1.941

Note. * $P < 0.05$

Another regression analysis was conducted to examine whether mothers' and fathers' income, education, and occupation status predicted adolescents' educational values. The model was statistically significant, $F(6, 88) = 1.178, P < 0.05$, and accounted for 15% of the variance of the educational values of adolescents. Mothers' education level ($\beta = 0.228, P < 0.05$), followed by fathers' income and occupational status, received the strongest weight in the model. In the last analysis, the same predictor variables were used to predict the adolescents' educational attainment. The prediction model was statistically significant, $F(6, 88) = 1.393, P < 0.05$, and accounted for 21% of the variance of adolescents' educational values. The educational level of mother parents ($\beta = 0.183, P < 0.05$) was found to be more or less the strongest predictor of the adolescents' educational values, followed by the occupational status of mother parents ($\beta = 0.127, P < 0.05$).

Discussion

Situated within the expectancy-value model (Eccles, 2007; Wang & Degol, 2013), the purpose of this research is to examine the role of parental process variables related to their children's' education (educational values, expectations, parenting educational involvements) and parental demographic variables (income, education, occupation) in shaping adolescents' occupational aspirations and academic attainment in preparatory school. The findings may extend the literature in the study context on the development of adolescents' occupational aspirations/expectations and educational attainment in several important ways. First, it appears that the relationship between parental process variables and occupational expectations/aspirations was weak. This suggests that the distinction between expectations and aspirations may be important in determining the direction of the relationship and needs to be incorporated in future research on how they relate to one another. Second, the findings provide meaningful evidence to support the underlying connection between fathers' process variables and

adolescents' educational expectations and educational attainment. Third, the results varied by parental income, education, and occupational status, that is, mothers' background variables are the most important predictors, indicating the need to consider adolescents' educational expectation and attainment as being constructed in the context of family socioeconomic status.

Generally, the most interesting result seems to be that fathers' values and expectations are linked to adolescents' educational aspirations and academic attainment, while mothers' values, expectations, and parenting educational involvement were not relevant for their children's values, expectations, or academic achievement (only for educational aspirations). This suggests that fathers' attitudes/behaviours are more important than mothers' attitudes/behaviours. In the pattern of relationships, why might parental (father) process variables be more related to adolescents' educational aspirations, expectations, and attainment than mothers? One plausible explanation is that mothers are less likely to engage in proactive practices and guiding their children's life-long values and achievements. This assertion is very much apparent to Ethiopia where culture and social practices determine the lesser role and status ascribed to women, although the government is working aggressively towards alleviating gender inequality relevant to SDG targets. This result agrees with a previous study conducted by Jodl et al. (2001), there was a remarkable decrease in maternal involvement as their children move to late adolescence. The relationships obtained are supported because in our context there are particular ways in which paternal parents interact with their children that are different from maternal parents, that is, fathers are the sources of authority and decision-making in the family. This suggests the relationship would be greater when considering the father's process variables than mothers.

Fathers' expectation for educational attainment explains a larger percentage of the variance accounted in the model for the changes in

adolescents' educational expectation/aspiration. This result agrees with the expectancy-value model of Wang and Degol (2013), suggesting that paternal expectation is more likely to be linked with children's educational expectations more than maternal parents although the relationships are small. The result is also consistent with the expectancy-value model developed by Simpkins et al. (2012), indicating that students had better educational expectations if parents had high expectations/aspirations for their child. Given the general Ethiopian context of child socialization, fathers receive a larger role in socializing their children's life experiences including the academic pursuit. Thus, adolescents may take fathers as their model for achievements. Jodl et al. (2001) acknowledge adolescents who identified with their fathers placed a greater emphasis on school as important to their life and possessed a higher degree of educational aspirations/expectations. Within the domain of adolescents' values of education, fathers' values of education, parenting educational involvement, and expectation for educational attainment received the highest contribution in the model respectively. This evidence supports that fathers' process variables make a larger contribution to adolescents' educational attainment more than the contributions of maternal process variables. This result agrees with a previous work of Jodl et al. (2001), stating that adolescents positively identified with their parental parents may unfold the probability of internalizing parental achievement related to educational values. The author suggests this might happen because fathers seem to hold an influential role in socializing their children into adopting particular educational attainment values. This indicates that parents of the study area has to develop effective interventions to meet the SDGs by 2030, as parental support is one of the most important protective factors for quality educational outcomes of adolescents. One of the ways to achieve this is to create parent career communication working on adolescents' creativity and talents through early exploration and initiating exposure to the world of work.

Mothers' income/education/occupational status levels are more important than fathers of the same variables, that is, maternal demographic factors make a larger contribution more than parental demographic factors on adolescents' educational and occupational expectations. Higher mothers' income and educational level primarily predicted occupation expectations of adolescents. This result is consistent with the findings of Jacob (2010). It seems that a better understanding of realistic career options and income or financial aid would impact a mother's perception of career development as a realistic goal for her child's future career expectations. Adolescents of higher mothers' educational status were found to be higher in their educational expectations for future educational attainment than their other counterparts. This would likely happen because they were able to fall back on their personal experiences with college applications and attendance (Suizzo et al., 2016). This would also possibly explain where education sheds some light on the accessibility of mothers to motivate their children in their future educational expectations. Likewise, women increase their earning power and financial contributions to the family, as women enter the workforce with more education. The expectation that adolescents' educational aspirations and occupational aspirations would correlate with parents' income, occupation, and education level didn't meet in the model. As suggested by Gottfredson (1981), aspirations are less realistic than expectations. If so, aspirations would be less likely to shape adolescents' educational achievement. Future research needs to examine such relationships.

In summary, the findings indicate some more important relationships than has previously been suggested in the literature. Rather than a consistent relationship where gender-neutral parents' attitudes/behaviours predict adolescents' occupational aspirations/expectations (e.g., Eccles, 2007; Wang & Degol, 2013) or predict adolescents' educational attainment (e.g., Wang & Degol, 2013), these findings indicate complex relationships where both parental process and demographic factors were considered. Besides,

the present results indicate the importance of fathers' and mothers' educational values, expectations, and behavior in shaping adolescents' occupational expectations and educational attainment. Such gender-inclusive relationships were not previously considered in literature particularly in adolescents of the study area. This indicates that parents' educational values and expectations as well as the behavior they display towards their children with regards to their education should be given greater attention when designing career choice interventions for adolescents.

Limitations of the Study

Although the study provided important relationships, some limitations should be considered. The sample was taken from the city area, potentially limiting the generalizability of findings to other populations. Future research needs to replicate these findings in urban contexts. There was likely to be non-independence of observations between father-mother pairs, which would require separate multiple regression analyses for mother and father predictor variables; and this would still ignore any couple effects in the analysis. Additionally, occupational aspirations and expectations were coded in terms of occupational prestige in that prestige scores may reflect a more individualistic orientation and materialistic values, which could be at odds with adolescent norms. Another limitation is how adolescents interpreted the measure or question on aspiration, i.e., whether "ideally like to do" really captured aspirations. Finally, based on the data obtained from the samples the author predicted adolescents' occupational expectations and educational expectations and attainment in the most rigorous way possible, yet there is no attempt to explain the interaction effects. Future research might reveal these moderating effects to extend the understanding of how parental process and demographic variables interact with one another to influence occupational expectations/aspirations and educational attainment in Ethiopian adolescents.

Conclusion

Positive relationships were identified between parental educational values, especially those of fathers, and adolescents' educational aspirations, and academic attainment. Fathers' educational expectations predicted both adolescents' educational aspirations/expectations and educational attainment more than maternal parents did. Mother's income and education levels are most important in shaping adolescents' educational values and attainment. The predictive validity of parental process variables on adolescents' occupational aspirations/expectations was relatively weak. Future research needs to focus on sorting out the directions and patterns of those relationships.

Recommendations

The design of career choice and educational attainment interventions can be tailored with greater emphasis on the role of parents, as parents seem to hold an influential role in socializing their children into adopting particular occupational aspirations/expectations and educational attainment. Therefore, parenting skills training and community dialogue on child-rearing and preparation of young adolescents for future education would be important interventions for career development and educational attainment of adolescents. Planning for career exploration for adolescent students and inviting parent participation are also ways to strengthen the communication between parents and children. Educational attainment and future career options are either positively or negatively linked to the roles parents play. Therefore, educators, counselors, and career designers should assist adolescent students through career choice training/orientation, life skills training including decision making, self-esteem, and assertiveness to fully explore the educational and occupational opportunities within a developmental and socio-cultural context. Particularly, school guidance officers or school counselors can provide a link between parents and adolescents by

emphasizing the role parents play a significant contribution to their children's career decisions. Additionally, early exposure to appropriate information about occupations and the educational outcome is essential for timely intervention to adolescents' challenges.

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