The Efficacy of Motivationally Related Variables and Family Interaction in Predicting Academic Achievement among High School Students

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Abstract

This study investigated the effects of family interaction, self-efficacy, educational value, academic motivation and helplessness on academic performance using data from 203 (125 male and 78 female) high school students. Correlational analysis indicated strong relations among the variables. Results from path model revealed that educational value, academic motivation, and family interaction directly predicted academic performance; self-efficacy directly predicted educational value, academic motivation, and helplessness. However, contrary to available literature, self-efficacy did not significantly predict academic performance. Academic motivation and educational value have directly influenced performance but the direct influence of helplessness on performance failed to reach significance. As expected, self-efficacy played a mediational role between family interaction and the other independent variables. The joint contribution of the variables including sex to the variance of performance was 48.8%. However, academic motivation, educational value, and family interaction alone accounted for 48.7% in the variance of performance.

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Introduction

It is an obvious fact that human beings under similar conditions act differently. An event that strongly attracts one may be boring for another. As a result of such irregularities among individuals, their task accomplishments also vary significantly. Since long, researchers showed interests in investigating the role of motivation in human achievement-related behavior and other performances. Accordingly, one of the most widely studied constructs in the fields of educational and psychological research is motivation.

The level of motivation individuals possess determines what they achieve, the nature of goals they set, the amount of effort they exert to attain the goals they set, the degree of their persistence on a particular task, and many other performance related behaviors. Research on the study of student motivation includes self-efficacy beliefs (e.g., Bandura, 1995; Zimmerman, 2000; Schunk, 1991; Pajares, 1996b), expectancies and task values (Wigfield and Eccles, 2000; Eccles and Wigfield; and Schiefele, 1998), goal orientation (Ames, 1992; Ames and Archer, 1988), self-regulation (Zimmerman and Martinez-Pons, 1990), and causal attributions (Weiner, 1986), just to mention some.

Studies have been undertaken extensively to examine the paramount significance of self-efficacy beliefs, expectancies, task values, and self-regulation in various life-related situations including education and health. Several researchers have reported that self-efficacy beliefs are strong predictors of performance and future intentions to engage in a task (Schunk, 1991; Bandura, 1997; Pajares, Miller, and Johnson, 1999; Pajares and Miller, 1994; Pajares and Kranzler, 1995; Yalew, 1996, 2003). However, another study (Bong, 2001) revealed that self-efficacy negatively predicted students' intentions of future course enrollment.

Self-efficacy beliefs act as mediators between skills, previous performances, abilities, and present or future performances; and as predictors of affective, cognitive and motivational variables such as anxiety,

depression, attitude and academic outcomes (Bandura 1993, 1995, 1997; Pajares, Miller and Johnson, 1999; Wigfield and Eccles, 2000; Zimmerman, 1995, 2000). They also influence the learning methods students choose to employ, choice of activities they undertake, motivational processes (Schunk, 1991; Pajares, 1996a), subjective task values (Wigfield and Eccles, 2000), and performances (e.g., Bandura, 1997; Yalew, 2003). It has also been argued that while high self-efficacy beliefs help to create feelings of serenity in approaching difficult tasks and activities, low self-efficacy may lead to the development of stress, depression, and other negative affects (Bandura, 1995; Pajares, 1996a).

According to Bandura and other researchers (Bandura, 1995; Zimmerman, 2000), self-efficacy beliefs emanate from four sources: previous performances, vicarious experiences, verbal persuasion, and physiological states. Of these sources, states the theory, the influence of previous experience on efficacy beliefs is strong, which either facilitates or stunts their development. Success enhances the level of self-efficacy while failure lowers it. Especially repeated failures in the early years of schooling could have the most adverse effects on personal efficacy beliefs of students before they are firmly established (Bandura, 1995). Two decades ago Hurlock (1980: 156) described childhood period, particularly elementary school age, as a "*critical period* in achievement drive – a time when children form the habit of being achievers, underachievers or overachievers. Once formed, habits of working below, above, or up to one's capacity tend to persist into adulthood."

Zimmerman (2000) posited that verbal persuasion by significant others could affect the development of self-efficacy beliefs in children. Although there has been a large body of research on the role of beliefs and expectancies in predicting students' academic-related behaviors and accomplishments, little attention is given to how family interaction affects students' personal self-efficacy beliefs. There are evidences that parent-child interactions and quality of the home environment provide children and adolescents a sense of serenity and feeling of security. Higher interpersonal variables such as parental involvement (Ginsburg and Bronstien, 1993; Grolnick, Ryan, and Deci, 1991), parental autonomy support (Grolnick and

Slowiaczek, 1994), and parental attachment (Aisworth, Blehar, Waters, and Wall, 1978; Jacobson and Hoffman, 1997; Hurlock, 1980) are related with the social, emotional and intellectual developments of students.

A recent study has shown that children and adolescents who have secure attachments with their parents tend to be more responsible for their actions, self-confident, better adjusted, have higher levels of achievement and motivation, and more socially and intellectually competent than those who have insecure attachments (Yalew, 2004). The study, for instance, revealed that child-parent interaction correlated strongly and negatively with students' feeling of hopelessness ($r = -0.538$) and aggression ($r = -0.476$) but positively with academic motivation ($r = 0.449$), educational value ($r = 0.471$), job aspiration ($r=0.417$) and social competence ($r = 0.348$). Specifically it was found that child-parent interaction was more important than inter-parental interactions, though one cannot rule out the paramount importance of the quality of interaction between parents in affecting the general home environment.

Other studies have also unveiled that the bond between parents affects the general well-being of their children (van Wel, Linssen, and Abma, 2000). According to van Wel, Linssen, and Abma, a change in parental bond corresponds to a parallel change in the psychological well-being of adolescents. The connection did not even show a decrease as the adolescents grew older. This implies that parents continue to be significant sources for the psychological functioning of their children. Parental acceptance (Barber and Olsen, 1997), love, responsiveness, and involvement in their children's activities (Herman, Dornbusch, Herron, and Herting, 1997) correlated negatively with adolescents' substance abuse and behavior problems.

Families provide three different kinds of socialization experiences that contribute to positive development of their children (Barber, 1997). They include promotion of positive emotional connections between adolescents and significant others, regulation of behavior, and development of psychological autonomy. In the course of behavioral development in

children, fulfillment of needs and having positive role models for life perspectives are certainly important.

It has also been found that parent-child interactions such as monitoring and helping with homework, encouragement of learning and education through the use of incentives and punishments, emotional support, and promoting literacy and numeracy correlated with school achievements (Ryan and Adams, 1995). Grolnick and Slowiaczeki (1994) reported that parent involvement influenced children's perceived competence, self-regulation and these, in turn, impinge upon their academic performances. Another study also reported that parental encouragement of curiosity, independent mastery of a task, and persistence contributed positively to the development of intrinsic motivation by the children (Gottfried, Fleming, and Gottfried, 1994).

Children and adolescents who had secure attachments with their parents were found to be high on perceived competence (Paterson, Field, and Pryor, 1994; Yalew 2004), low on insecurity about the self (Jacobson and Hoffman, 1997), and to have high motivation to succeed (Learner and Kruger, 1997; Wong, Wiest, and Cusick, 2002).

Therefore, in this paper, it is assumed that the child's beliefs, such as "I am confident to do it!" or "I can do it!" would not be put into a reality unless those around the child, specially parents, provide him/her support, encouragement and help. Parents are the major sources of reinforcement, information, resources, and opportunities for their children (Eccles, 1993), and they affect what children value (Wigfield and Eccles, 2000).

Research suggested that supportive relationships can enhance personal efficacy, which in turn could help minimize vulnerability to depression (Cutrona and Trouman, 1986; Major et al., 1990). It has also been reported that social support (which includes primarily family members) is negatively correlated with depressive symptoms (Dean and Ensel, 1982; Lin and Dean, 1984). Parental negativity has very strong associations with adolescents' depression and internalizing behavior (Hetherington et al., 1999, cited in Maccoby, 2000), and child outcomes (Cogner and Elder, 1994; Reiss et al.,

1995, cited in Maccoby, 2000). Similarly Midget et al. (2002) stated that parental pressure related negatively with academic effectiveness of students. Moreover, a recent study also indicated that parents' values and beliefs directly predicted youths' values and beliefs, which highlight the role of parents in influencing achievement-related values and the occupational aspirations and visions of adolescents (Jodl et al., 2001). Hence, the influence of parents, especially in Ethiopia where family influence is very strong, is far reaching and profound, as they are the main, if not the only, care providers of their children, whatsoever is the kind of child rearing practice they may possess.

Hence, the purpose of this study was to examine the effects of family interaction on self-efficacy beliefs, helplessness, educational values, academic motivation, and academic performances of adolescents. The study attempted to explain the relationships of these variables in line with the self-efficacy theory (Bandura, 1995; Pajares and Kranzler, 1995; Zimmerman, 2000), the expectancy-value theory of Eccles and her colleagues (Wigfield and Eccles, 2000), and the Ainsworth theory of parental influence on student motivation and achievement.

In this study, self-efficacy belief was used as a mediator variable between family interaction and the other variables, and as a predictor following the social cognitive theory (Bandura, 1996; Pajares, 1996a; Schunk, 1991; Zimmerman, 2000). The social cognitive theory maintained that personal self-efficacy influences emotional states, such as stress, anxiety, and depression, as well as motivation and academic achievements of the learners (Bandura 1993). Based on this theory, it has been hypothesized that students with high level of self-efficacy beliefs are more likely to be motivated to learn a given task, and less likely to be helpless, tend to give high value to education and perform high. It has also been hypothesized that helplessness has a direct influence on educational values, academic motivation, and academic performance of students. According to Peterson, Maier, and Seligman (1992) learned helplessness destroys the child's desire to learn, and affects the subjective value of learning.

The expectancy-value model, on the other hand, represented that socializers' behavior influences the child's goals and general self-schemata, which subsequently impinge upon the child's subjective value of a task and expectation of success (Wigfield and Eccles, 2000). To examine the influences of these variables on others, a structural modeling equation was constructed based on Wong, Wiest, and Cusick's (2002) suggestion, and the models developed by Wigfield and Eccles (Wigfield and Eccles, 2000), and Pajares and Miller (1994). Wong, Wiest, and Cusick (2002) suggested that a structural modeling may be used to assess the influence of parental attachment on academic performance and motivational orientation as the influence of the first may be mediated by factors like perceived competence.

Method

Participants

The participants of this study were 203 grade 9 students (125 boys and 78 girls) in Bahir Dar. All students who were in their regular classes, selected using simple random sampling from the existing sections at the time of data collection, were given the questionnaires. The total number of students who filled in the questionnaires was 229. However, only 203 students completed the questionnaires properly and they were included in the study.

Variables and Instruments

Academic Perceived Self-Efficacy

A modified and short version of a scale developed originally by Yalew (2003) to measure college students' academic self-efficacy beliefs was employed. Originally the instrument had 20 items. But through repeated tests and validation it was found out that 10 of the 20 items were appropriate for the purpose of measuring self-efficacy beliefs of students. This 10-item instrument was used to assess students' perceptions of their efficacy to successfully do well and understand the subjects they were

learning. Some of the items were "I can do well in this class even when the subjects are challenging," "I believe I can successfully pass different exams given in this class," "I can do an excellent job in this class," "I am confident that I can achieve an average of 75% and above in this semester." The instrument was rated on a dichotomous scale of 0 (not true of me) and 1 (true of me), when the items were phrased positively. Reverse coding was used when the items were stated negatively. The full version of the original scale with the 20 items has a coefficient alpha reliability estimate of 0.882 with college students. In this study, the short version of the scale had an estimated reliability of 0.79.

Academic Achievement

This variable represented the students' average scores of all subjects collected from the record office of the school. The scoring system in Ethiopian schools is criterion-referenced in which a student's promotion is determined by a preset criterion. To promote from one grade to the next, a student has to score a minimum average of 50 out of 100, provided that the student does not score less than 50% in no more than 2 subjects.

Helplessness

This measure was used to evaluate the degree to which students feel inadequate to understand and learn, to feel hopeless to succeed, as well as the associative negative psychological states. The students were asked to assess the extent of their negative feelings or affect that emanated from difficulty of learning and/or repeated failure in achievement. Initially the scale consisted of 8 items scored dichotomously: 0 (not true of me) and 1 (true of me). Some items were adapted from Koss-Butcher and Lachar-Wrobel Critical Items (Graham, 1993) and modified to make the items reflect negative feelings of students in relation to their schooling. However, the item-total correlations results revealed that 3 of the items correlated poorly and were rejected. This reduced the number of items used in the analysis to 5. Some of the items included were "My school work is inefficient," "I lost my confidence to deal with my schooling," "I never expect success in my academic career," and "Thinking of my performance

at school, I feel anxious and restless." The reliability of the measure as estimated by KR_{20} was 0.78.

Educational Value

For learning to take place, students should consider education as an important factor in their present and future life. Learning without a clear anticipation of outcomes does not encourage students to work hard and to be motivated to learn. Values "provide the impetus for the formation of systems of proximal subgoals, ... and represent important incentives for present action" (Miller, DeBacker, and Greene, 1999). Not being sure of why they should learn makes students unable to benefit from the curriculum. If they do not value what they are learning, they consider the school merely a place where they are supposed to spend their time. They should see the value of education in bringing about (positive) changes in their lives. In this case, the instrument was designed to assess the extent to which students value education as an important factor in their present and future lives, the role it plays in the development of a country, its role in getting jobs, its contribution to the betterment of one's life, its (positive) effect on human behavior in general, and the level of education they would like to attain.

Sixteen items were used for this purpose. Some items with modification were adapted from PALS (Midgley et al., 2000), and others were developed by the researchers. Some sample items include "Education will not help me to have the kind of life I want when I grow up," "Education makes people egoistic," "Education does not guarantee a person to get a job," "Education does not bring a change in human behavior," and "Luck is more important to get a job than education." The students were asked to rate their value of education on a 2-point scale of 0 (false) and 1 (true). Reverse coding was used when the items were negatively phrased. The obtained KR_{20} reliability of the instrument was 0.87.

Family Interaction

A 16-item measure assessed students' perceptions of the quality of inter-parent and parent-child interactions, and the general home atmosphere of the students. Some items were adapted from Koss-Butcher and Lachar-Wrobel Critical Items (Graham, 1993) and others were developed by the researchers. The scoring procedure was the same as education value scale. Sample items include: "I feel comfortable at home," "My parents encourage me to achieve good results," "My parents have no concern about me," "Family strife and misunderstanding are common at home," "I and my parents communicate things openly," and "I and my siblings help each other." The KR_{20} reliability of this instrument was 0.92.

Academic Motivation

This measure represented students' intrinsic efforts to be successful and to achieve high scores in the subjects they learned. The students were asked to rate the extent to which they were motivated to master the subjects they learn, the effort they exert to score high, and the degree to which they persist when they face difficulties in learning. It was scored dichotomously like the other variables where 0 represented "not true of me" and 1 represented "true of me". A total of 8 items were used for this purpose. The KR_{20} reliability estimate was 0.86.

Procedures

Questionnaires were distributed during regular classes by one of the researchers with the help of classroom teachers. The students were instructed to complete all the items. Explanations were given to them on how to fill in the questionnaires. They were also informed to raise their hands if they encountered any difficulties while completing the questionnaires. Data collection was done five days before the final exam. This was done to get a better picture of the psychological states of the students that may be instigated by the approaching exams. All the instruments were prepared in Amharic.

Data Analysis Methods

To investigate the effects of family interaction, academic self-efficacy, educational value, helplessness, and academic motivation on academic performance of students, as well as to examine the mediational and predictive capacity of personal self-efficacy beliefs, a path analysis using maximum likelihood esimates technique was carried out. In order to examine the correlation among the variables, Pearson correlation coefficients were calculated. Multiple regression analysis was conducted to determine the combined and individual contributions of the variables to the variance in performance. To analyze differences between boys and girls on the variables treated in the study, t-tests were determined. Means and standard deviations were also reported. The data were analyzed using SPSS version 11.0 and AMOS version 4.01.

Results

Relations between Variables

Means, standard deviations and zero-order correlation coefficients among all variables are reported in Table 1. The correlation analyses revealed that all variables but sex correlated strongly and significantly in the expected directions. The results showed that students who reported higher scores on the family interaction (FI) scale tended to report higher scores on academic self-efficacy (ASE) ($r = 0.598$), educational value (EV) ($r = 0.518$), academic motivation (AM) ($r = 0.503$), and performance (PER) ($r = 0.528$), but lower scores on helplessness (HELP) ($r = -0.526$) scales. Significant correlations were not found between sex and the rest of the variables, implying absence of sex difference in all variables. Only a slight significant variation was found in helplessness ($t = -1.94$, $p=0.055$), where boys tended to be more in the helpless side than were girls.

Table 1: Means, Standard Deviations, and Zero-order Correlation Analyses of the Variables treated in the Study (n =203)

Variables	Mean	SD	1	2	3	4	5	6
1. Sex[a]								
2. FI	10.365	3.349	0.107					
3. ASE	4.985	1.699	0.011	0.598*				
4. HELP	1.507	1.539	-0.135**	-0.526*	-0.406*			
5. EV	11.837	3.113	-0.019	0.518*	0.489*	-0.450*		
6. AM	5.581	1.812	0.097	0.503*	0.570*	-0.404*	0.661*	
7. PER	63.392	16.717	0.050	0.528*	0.434*	-0.379*	0.600*	0.626*

[a] Sex is coded: 0 = female, 1= male. *p<0.0001, **p=0.055.

Academic self-efficacy was positively and strongly related to academic motivation (r = 0.570), educational value (r = 0.489), and academic performance (r = 0.434), but inversely to helplessness (r = -0.406). The strongest correlation was between educational value and academic motivation (r = 0.661). The correlation between students' academic performance and their academic motivation (r = 0.626) as well as their educational value (r=0.600) were also very strong and positive.

Composite and Independent Contributions of Family Interaction, Academic Self-Efficacy, Educational Value, Helplessness, and Academic Motivation to Academic Performance

Since bivariate correlations do not show the relative contributions or independent associations of certain variables to others, multiple regression analyses were conducted. In the regression analyses, all variables were used to predict academic performance of students. Results of the regressions are presented in Table 2.

Table 2: Multiple Regression Analysis for Predicting Performance from Family Interaction, Sex, Academic Self-Efficacy, Helplessness, Educational Value, and Academic Motivation

Variables	Parameter Estimate	Standard Error	β	t-values	p
Family Interaction	1.160	0.357	0.232	3.251	0.001
Academic Self-Efficacy	-0.399	0.687	-0.041	-0.581	0.562
Helplessness	-0.149	0.680	-0.014	-0.219	0.827
Educational Value	1.382	0.392	0.257	3.525	0.001
Academic Motivation	3.296	0.688	0.357	4.789	0.000
Sex	-0.206	1.800	-0.006	-0.115	0.909

$R=0.699$, $R^2=0.488$, $adjR^2=0.473$, $F_{3,196}=31.169$, $p=0.0001$

As shown in the analysis, the joint contribution of the variables to the variance in performance was about 48.8% ($R=0.699$, $R^2 = 0.488$, adj. $R^2 = 0.473$, $F_{6,196} = 31.169$, $p=0.000$). However, the three factors that most significantly predicted achievement were academic motivation ($\beta=0.357$), educational value ($\beta = 0.257$), and family interaction ($\beta = 0.232$). These three variables jointly accounted for 48.7% ($R=0.698$, $R^2=0.487$, adj. $R^2 = 0.480$, $F_{3,199}=63.033$, $p=0.000$) of the variance in academic achievement. It is

surprising that despite the existing literature, self-efficacy had no significant effect on performance of students.

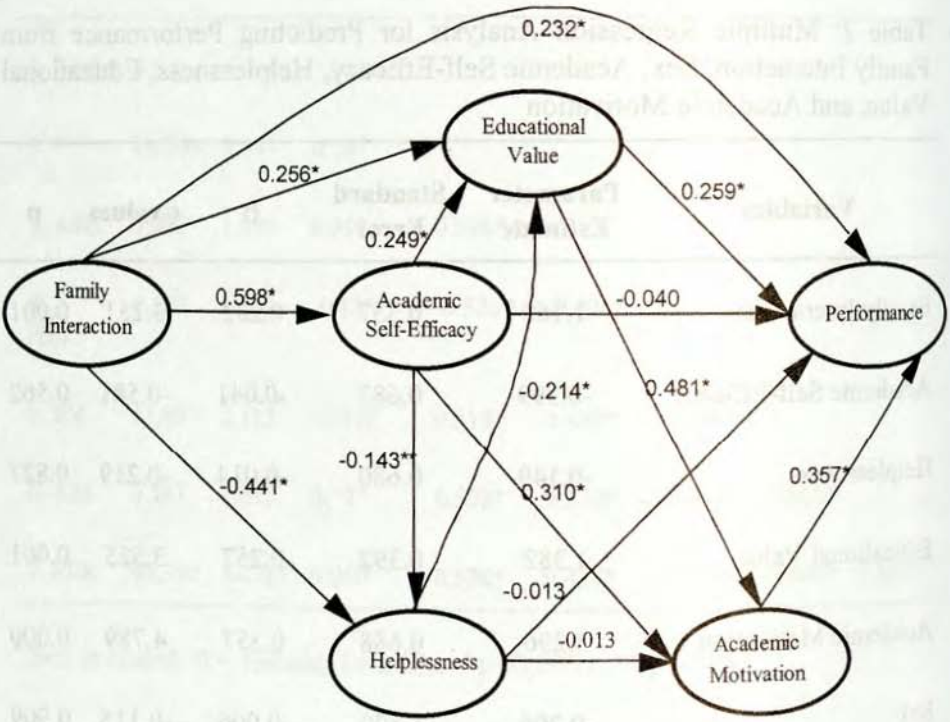

Figure 1. A model representing the effects of family interaction, self-efficacy, educational value, helplessness and academic motivation on students' academic performance (* $p < 0.001$)

The Path Analysis Model

A path model was developed to assess the direct and indirect effects of the independent variables on performance of students. This time, however, sex was removed from the model, because significant differences were not

observed between boys and girls in the variables. Estimation of the model showed a nonsignificant χ^2 value, (χ^2 = 1.069, df=1, p=0.301), NNFI=1.000, CFI=1.000, NFI =1.000, and RSMEA=0.019 (p>0.05). The path model was fitted using Amos 4 maximum likelihood estimates techniques. As these indices are reasonable indicators of goodness of fit, the model was retained and discussions were made.

The model clearly shows that the paths from academic self-efficacy and helplessness to performance, and from helplessness to academic motivation were not significant. As indicated in Figure 1, the only variables that had significant direct effects on performance were academic motivation (β = 0.357, t = 4.902, p < 0.001), educational value (β = 0.259, t = 3.613, p < 0.001), and family interaction (β = 0.232, t = 3.311, p < 0.001).

Table 3: Decomposition of the Direct, Indirect and Total Effects of the Variables[a]

Effect	Direct Effect	t-values	Indirect Effect	Total Effect	R^2
On Performance					0.485*
of Family Interaction	0.232*	3.311*	0.284	0.516	
of Academic Self-Efficacy	-0.040	-0.576	0.236	0.196	
of Educational Value	0.259*	3.613*	0.172	0.431	
of Helplessness	-0.013	-0.210	-0.114	-0.127	
of Academic Motivation	0.357*	4.902*	0.000	0.357	
On Academic Motivation					0.520*

of Family Interaction	0.000		0.467	0.467	
of Academic Self-efficacy	0.310*	5.381*	0.143	0.453	
of Helplessness	-0.062	-1.105	-0.103	-0.165	
of Educational Value	0.481*	8.117*	0.000	0.481	
On Educational Value					0.351*
of Family Interaction	0.256*	3.342*	0.261	0.517	
of academic Self-Efficacy	0.249*	3.489*	0.030	0.279	
of Helplessness	-0.214*	-3.177*	0.000	-0.214	
On Helplessness					0.290*
of Family Interaction	-0.441*	-5.955*	-0.085	-0.526	
of Academic Self-Efficacy	-0.143**	-1.927**	0.000	-0.143	
On Academic Self-Efficacy					0.358*
of Family Interaction	0.598*	10.603*	0.000	0.598	

*p<0.001, **p<0.05. [a] The variation between the direct effects displayed in this Table and in Table 2 was due to the use of Maximum Likelihood and Least Square techniques, respectively.

The Effects of Family Interaction

It bears noting that the direct effects on self-efficacy ($\beta = 0.598$, $t = 10.603$, $p = 0.000$) and helplessness ($\beta = -0.441$, $t = -5.955$, $p = 0.0001$) of family interaction were significantly high and strong. Family interaction alone has contributed about 36% and 23% of the variances in self-efficacy ($R^2 = 0.3575$) and helplessness ($R^2 = 0.2895$), respectively. Its direct effects on educational value and academic motivation were also moderate and significant.

The Effects of Self-Efficacy

Though it is unexpected to find that self-efficacy failed to predict directly academic performances of students, its direct effects on educational value, academic motivation and helplessness were significant and in the expected directions. However, the indirect effects, presented in Table 3, of self-efficacy on performance ($\beta=0.236$) were moderately high.

Students' academic motivation and educational values were highly influenced by their self-efficacy beliefs, $\beta = 0.310$ and $\beta = 0.249$, respectively. Educational value, in turn, had strong direct effects on academic motivation ($\beta = 0.481$, $t = 8.177$, $p = 0.000$) and performance ($\beta = 0.259$, $t = 4.902$, $p = 0.0001$).

The direct effect of self-efficacy on helplessness was not negligible ($\beta = -0.143$, $t = -1.927$, $p = 0.054$), which negatively influenced educational value ($\beta = -0.214$, $t = -3.177$, $p = 0.002$). The effect of helplessness on academic motivation was not significant.

Discussion

This study examined the role of family interaction in influencing students' self-efficacy beliefs, educational value, helplessness, academic motivation, and academic performance, as well as the mediational and predictive capacity of self-efficacy between family interaction and the rest of the variables. Correlational analyses revealed that students who reported that they have high level of family interaction, compared to those with low interaction, tended to have high levels of self-efficacy, academic motivation, educational value, and performance, but a low helplessness level. Self-efficacy is related significantly and positively to educational value, academic motivation, and performance. Its negative correlation with helplessness was significant and strong. All the associations were in the expected directions. Seen from the correlational analyses, the results were consistent with the results of previous findings (Strage, 1998; Pajares, Miller, Johnson, 1999; Yalew, 2003; Wong, Wiest, and Cusick, 2002).

The results of multiple regression analysis showed that those variables that significantly predicted academic performance of students were family interaction, educational value, and academic motivation. These variables accounted for 48.7% of the variance in academic performance, of which the independent contributions of family interaction, educational value and academic motivation were 11.67%, 15.54% and 21.53%, respectively. These results were in agreement with other findings (Jacobson and Hoffman, 1997; Wong, Wiest, and Cusick, 2002; Eccles, 1993). The proportions of variance in performance explained by academic motivation and educational value were relatively large. This could be due to the proximal nature of the variables compared to family interaction to performance. Surprisingly, unlike the existing literature, academic self-efficacy failed to predict the academic performances of students. This could be due to the culture of the society where it is usually unacceptable to say "I am smart," "I am the best in this class," no matter what beliefs the students may have about their competences.

In the Ethiopian culture, interdependence, relying on each other, is a predominant feature in interpersonal relationships. There are some studies

that demonstrated culture as an influential factor in determining self-efficacy level of learners (Oettingen, 1995; Eaton and Dembo, 1997). Eaton and Dembo, for instance, found that although they score superior academic performances, Asian and Asian-American students labeled their efficacy beliefs lower than non-Asians. Similar results were also reported by Bong (2001).

Another plausible explanation could be educational value and academic motivation may mediate the effect of self-efficacy on performance. Students who feel competent may value education and be motivated to perform high - both were found to be strong predictors of students' performance. A recent study has shown that students who have high level of job aspirations valued education higher than those who have lower aspirations (Yalew, 2004). One feels competent in tasks he/she values. Similarly, motivation increases in activities where individuals perceive they are competent. The other reason could be due to lack of specificity of the instrument used to assess academic self-efficacy beliefs of students as well as the general nature of academic performance, which consisted of results of different subjects.

To investigate the influence of family interaction on self-efficacy, educational value, helplessness, academic motivation and performance; and to examine the mediational and predictive roles of self-efficacy beliefs of students, a path analysis was used. The results disclosed interesting points. Family interaction, as an exogenous variable, had both strong direct and indirect effects on all the variables treated in the study. It may not be surprising to find these results in the Ethiopian context where family influence is very strong and profound. Probably, the family is a single most important influence on each child because it is the major (may be the only) source of support in all forms: information, psychological and emotional security, encouragement, and what not. Especially, a strong direct negative effect on helplessness (-0.441) and positive direct effect on self-efficacy (0.598) of family interaction implies the extent to which the family plays a pivotal role in the psychological well-being of the adolescents. This is strong evidence that demonstrated how the degree and the quality of interaction children or adolescents have with their family members greatly

affected the psychological aspects, specially the competence belief of students.

Available literature on parent-child relationships revealed that parental bond (close relationships between children and parents) remains of considerable importance. Some studies showed that the quality of parental bond has positive psychological effects when viewed longitudinally (Allen *et al.*, 1994; DuBois *et al.*, 1992; Whitbeck *et al.*, 1993), or contemporaneously (e.g., Barber and Olsen, 1997). The effects of the bond with both parents on the well-being and performance of adolescents usually point in the same direction (Barnes and Farrell, 1992; Paterson *et al.*, 1994). Recent study also reported that child-parent bond proved to have a significant relation with the general well-being of adolescents (van Wel, Linssen, and Abma, 2000).

Researchers reported that the strength and security of attachment relationship affect the way adolescents perceive themselves and their feelings of competence (Eccles and Midgley, 1990). More important in the child's learning success and psychological well-being is the child-parent interaction than inter-parent interaction (Yalew, 2004). The results of this study suggest that child-parent relationship is an important determinant of students' academic performance directly and through its influences on the affective, motivational and cognitive aspects of the students.

In the path analysis, though self-efficacy failed to directly predict performance, its indirect effect on performance was moderately high. Much of its effect was via academic motivation. Self-efficacy, helplessness and educational value accounted for 52% ($R=0.721$, $R^2=0.52$, $F_{3,199}=71.865$, $p=0.00001$) of the variance in academic motivation, of which educational value explained the largest share (31.8%) followed by self-efficacy (17.7%). Only a small proportion was contributed by helplessness. It is a fact that those individuals who value education that it could help them to earn specific educational degree, get jobs, and contribute to society tend to be motivated to learn and achieve better. This supported the results of Habtamu (1994, as cited in Habtamu, 1998), wherein education was found to be one of the three most valued things by the Ethiopian society.

The present study ventured to examine the relative importance of the family interaction on motivation related factors, helplessness and academic achievement. The results confirmed that family interaction plays a paramount significance in influencing those variables treated in this study, both directly and indirectly. Family interaction is far beyond mere verbal persuasion. It is not enough only to say that verbal persuasion and previous performances bring about and strengthen self-efficacy beliefs of students, although one cannot overlook their effects. It is also consequential to consider other family related, home bound situations in order to fully understand the extent of family influences on self-efficacy and other psychological conditions of adolescents. The findings support the suggestions of Midgett et al. (2002). These authors stated that "...to promote more positive feelings about the self while ignoring...family relationships will likely be ineffective in making children more academically successful" (p.142). This is especially true in the Ethiopian context where the family's influence is far-reaching and crucial. Hence, it looks imperative to look into the role of family interaction on the development of students self-efficacy beliefs.

This study is highly quantitative and may lack the quality of addressing parent-child relationships and their features, and the influences they may have on motivation-related variables and performance. Thus to better understand the problem raised it may be important to do further studies that make use of qualitative techniques on top of quantitative studies.

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