GENDER DIFFERENCES IN CAUSAL ATTRIBUTIONS FOR SUCCESSES AND FAILURES, AND ACADEMIC SELF-EFFICACY AMONG HIGH SCHOOL STUDENTS

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***ABSTRACT**:Causal Attributions Scales for Academic Successes and Failures, and Academic Self-Efficacy Scale were used to examine gender differences among 190 high school students (92 males and 98 females). T-test results indicated that males attributed success to self-confidence, more than females and females to luck more than males. Moreover, males internalise success while females externalise it, but for failure the reverse is true. In addition, male students showed significantly higher level of self-efficacy than female students. Femaile Failures have showed the lowest mean score in the self-efficacy scale*

I. INTRODUCTION

Since the formulation of the theory of attribution by Heider (1958), a burgeoning research studies have flourished to explain the causes of one's success or failure (e.g., Weiner, Nierenberg & Goldstein, 1976; Frieze, 1976; Nicholls, 1975, 1976; Dweck, 1975; Gaeddard, 1987; Simon and Feather, 1973; Schunk, Hanson & Cox, 1987; & Tamirie, 1995). Heider (1958) postulated that people give

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rationales or explanations for their successes or failures in almost every task that they are engaged in. Regardless of the authenticity of the reasons one gives about his/her performed or imagined actions, there seems to be a pursuit in utilising attributions. Heider discussed that a motivated behaviour has its own background in the attributes one presents to justify his/her accomplishments in a particular environment(s). Describing Heider's idea, Klien (1982: 97) stated that "attribution process plays a central role in determining our expectations and, thereby, our motivated actions."

Thus, be the causal attributions internal (e.g., ability, effort, interest, self confidence, etc.) or external (e.g., the nature of the task, people around us, luck, etc.), their effect will either impede or facilitate our future performances (Heider, 1958).

Studies conducted on gender differences in attributions for successes and failures reported contradictory results. Several research findings disclosed the existence of differences in females' and males' causal attributions for success and failure. It was indicated that males more often than females attribute success to internal factors, specially ability; and to external factors such as luck and lack of effort for failure (Nicholls, 1975; Tamirie, 1995; Weiner & Kulka, 1970; Simon & Feather, 1973; and, Griffin et al. 1983). However, Gaeddard (1987), Frieze et al(1982) and Darge (1988) reported that gender provided little information to explain causal attributions to students' academic achievement.

Furthermore, Frieze et al. (1982) reviewed theories of sex differences in attributions and concluded that sex variation in attributions may appear in luck and perhaps ability, however, such differences may not influence future academic behaviour of students. In contrast to this conclusion, causal attributions that students provide for their successes and failures have been found to influence their self-concept, expectations and social adjustment (Klien, 1982, Ames, 1978; Ames & Felker, 1979; & Chambers & Abrami, 1991). Probably the differences in the conclusions of these studies might have occurred because of methodological problems, subjects' variation in age, educational level and other important constructs treated by the researchers.

It is believed that the rationales individuals offer to explain their actions or thoughts reflect what they think or imagine who they are and what they perform. Generally, the explanations can be viewed in the light of one's feeling of competence - self efficacy. According to Bandura (1977), efficacy expectation is the feeling that one is able or unable to do or to engage in a given task. It refers to one's degree of confidence that an outcome is achieved through the individual person.

Bandura (1977, 1982) further maintained that the sense of competence an individual conceives of himself/herself determines performance outcome. The expenditure of effort, persistence on the activity, the attempt to be made to perform the task, the vigour to deal with the task, and expectations of achievements are reliably predicted from one's feeling of competence (Bandura, 1986).

Like Heider (1958), Bandura (1977) theorised that self-efficacy stems from one's past experiences i.e. from performance accomplishments where successful performance strengthened efficacy expectations and occasional failure of which resulted in threatened self-efficacy, and from observing vicarious experiences of others, verbal persuasions, and emotional arousal of individuals.

If this is the case, then, since females encounter repeated failures in classes (Gennet, 1991), and get little or no significant encouragement from others (Bar-Tal, 1978) specially parents and teachers to strive harder in academic settings, they will develop lower level of self-efficacy than their male counterparts. Substantiating this, Gennet (1991: 97) concluded about female students' self-perceptions that "socialised by patriarchal thinking, many women have developed a withdrawn view about their capacities and potentials in participating in education." Moreover, Bar-Tal (1978: 267), quoting Frieze et al., pointed out that "since people appear to have lower expectations for women and to make detrimental causal attributions about their successes and failures, girls internalise these beliefs and form maladaptive patterns."

Many research findings revealed that females have shown lower level of self-efficacy. Schunk & Lilly (1984) and Pajares & Miller (1994) have found that female students reported lower self-efficacy expectations than their male counterparts. Schunk & Lilly (1984) have indicated that such lowered efficacy expectation was improved through training. Similarly, Junge & Dretzke (1995) and Ewers & Wood (1993) investigated that male students showed more self-efficacy level and strength than females did. Even those gifted students have reported higher level and strength of self-efficacy than students with average ability (Ewers & Wood, 1993).

The purpose of this study is, therefore, to investigate students' causal attributions to successes and failures and their academic self-efficacy in terms of gender. Research that takes these psychological constructs together has not been conducted in Ethiopian high schools. Only one research is available on attributions of students (Darge, 1988). His focus was only on internal causes for success and failure. But instead of treating attributions only, studying them along with students' feeling of competence seems to be paramount importance and logical to induce intervention programs. This study could, therefore, give a comprehensive picture of the problem.

II. METHODS

Subjects

The subjects of this study were grade 11 students randomly selected from a large population of Entoto Comprehensive Secondary School. A total of 190 (92 males and 98 females) students from the Natural Science Stream are included in the study.

Instruments

Two measures were employed in this study. The first, one is the "Causal Attributions Scale for Academic Successes and Failures" developed by Tamirie (1995). It was used with little modifications on its directions and scaling. It contains 20 items, Its reliability, according to Cronbach, alpha, is 0.81 with a standard error of 3.45.

While filling the questionnaire, students were instructed to judge their performances either as "success" or "failure" regardless of scores they achieved. If student's performance was within the bound of his/her expectations and was happy about the score, it was judged as a "Success," and if he/she was dissatisfied and the score was below his/her expectation, it was judged as a "Failure." Thus it was the students verdicts of their results that was reckoned to be a"success" or a"failure" (rather than comparing it to a certain criterion). After they decided their results as "Success" or "Failure," the students were asked to evaluate a list of causal attributions perceived to be causes of successes or failures. The subjects were also asked to indicate how important was each factor for their success or failure, ranging from very important (a weight of 4), to unimportant (a weight of 1).

The second measure, known as "Academic Self-Efficacy Scale," was developed by the researcher to measure the general academic self-efficacy perceptions of males and females. The scale consisted of 18 items, while filling the questionnaire, students were instructed to judge their performances either as "success" or "failure" regardless of what score they achieved. If it was within the bound of their expectations and were happy about the scores, it was judged a" Success," and if they were dissatisfied and the scores were below their expectations, it was judged a" Failure." Thus it was their own verdicts to reflect feeling of competence that was considere. The scale was scored dichotomously: (True or False). The statement was assigned a "1" if subjects answered "True" for an idea that indicated a high self-efficacy level such as "I have an ability (or competence) to join higher learning institutions after graduating from high school," and when the subjects answered "False" indicating disagreement to a statement that represented low self-efficacy, e.g., "When I think of myself, I have not sufficient ability to pass exams." Thus, the higher the score on the scale, the higher was the self-efficacy of the students. Its reliability ward determined by KR20 and computed to be 0.78 with a standard error measurement of 1.39.

Both questionnaires were administered as the subjects received their first semester results. This helped to get better information about the 'fresh' impressions the students had about their results. The two instruments were presented in Amharic in order to avoid language difficulties on the part of the respondents.

III. RESULTS

To determine gender differences in causal attributions for 'success' or 'failure', t-tests was used. From the total of 20 perceived causes to attributions of success, significant differences between males and females were observed in only two items, luck (item number 1) where females considered it to be an important cause for success, and self- confidence (item number 4) which was thought to be the perceived cause for success by males ($t = 2.067$, $p<0.05$). As to the other causal attributions, the two genders did not show significant variations. (See Appendix B)

On the other hand, perceived causes for failure of males and females were also examined. Results of t-tests comparing the mean scores of males and females on each item discerned that males attributed their failures to lack of "friends' help during study" ($t=1.974$, $p<0.05$), "parental help and encouragement" ($t=8.768$, $p<0.001$), "good study habit" ($t=3.201$, $p<0.01$), 'teacher's competence of teaching' ($t=4.765$, $p<0.001$) and "difficulty of the exam" ($t=3.708$, $p<0.01$) more than females.

In contrast, females reported that the major causes of their failure were "difficulty in quick understanding and memorisation of the learned material" ($t=3.708$, $p<0.01$). (See Appendix C)

To investigate whether the two genders differ on internal and external causal attributions, their mean scores were compared.

Females and males did not differ in the type of causality that they reported as attributes to their academic performances. (See Summary of results Table 1).

Table 1: t-test Values, Means, and SDs of Internal and External Causal Attributions for Males and Females Based on their Academic Performances.

	Causal Attributions							
	Internal				External			
	Successes		Failures		Successes		Failures	
Gender	X	SD	X	SD	X	SD	X	SD
Males(n=92)	3.620	2.750	2.874	4.026	3.576	3.513	2.829	5.146
Females(n=98)	3.535	2.760	3.487	4.655	3.098	3.689	2.483	4.871
t-test*	0.119		0.805		0.510		0.391	

*all t-values $p>0.05$

Another interest of the study was to examine whether students with the same gender on the same achievement status differ in their internal-external causal attributions. Female students assumed that their failure was more attributable to internal causes ($t=2.017$, $p<0.05$). Females indicated that internal causes have higher impediments to their academic accomplishments more than external

causes However, significant differences were not found for internal-external dimensions of causalities of their successes. In the case of males, in both educational attainments, significant differences were not procured. (See Table 2).

Table 2: Intragender Differences on Internal - External Causal Attributions for Successes and Failures.

		Causal Attribution				
		Internal		External		
Gender		X	SD	X	SD	t-values
Males	Successes (n=33)	3.620	2.750	3.576	3.513	0.062
	Failures (n=59)	2.874	4.026	2.829	5.146	0.155
Females	Successes (n=27)	3.535	2.760	3.098	3.689	0.630
	Failures (n=71)	3.487	4.655	2.483	4.821	2.017*

*p<0.05

The second major purpose of this study was to scrutinise gender differences in self-efficacy in academic achievements. Results of t-tests indicated that male students reported significantly higher self-

efficacy scores than did female students (t=3.583, p<0.001). (See Table 3 summary of results).

Table 3: Gender Differences on Self-Efficacy Scale

Gender				
Males (n=92)		Female (n=98)		
X	SD	X	SD	t-test
14.652	2.369	13.163	3.308	3.583*

*p<0.001

If this holds true in all the cases, then we can compare the students' mean scores on the basis of their academic performances. Thus, successful males are compared with successful females, and failure males with failure females.

Surprisingly, significant differences are not obtained between females and males who are successful in their academic performances (t=1.620, p>0.05). The difference sought between failure females and failure males is highly significant in favour of the males (t= 2.964, p<0.01). One interesting result of this

study is that successful females did not show a significantly lower level of self efficacy than failure males (t= -0.594, p<0.05). (See Table 4)

Table 4: Gender differences on Self-Efficacy Scale Based on their Academic Achievements.

	Gender				
Achievement	Males		Females		
	X	SD	X	SD	t-test
Success	15.515	2.063	14.519	2.592	1.620
Failure	14.169	2.408	12.649	3.419	2.964*

*p<0.05

When intragender comparison was made on the level of self-efficacy, successful males and females had higher feeling of self-

efficacy than those same gender students who judged their performances as failure. (See Table 5)

Table 5: Intragender Comparison of Males and Females on Self-Efficacy Scale

Achievement	Gender			
	Males		Females	
	X	SD	X	SD
Success	15.515	2.063	14.519	2.592
Failure	14.169	2.408	12.649	3.419
t-tests	2.824*		2.908*	

*p<0.01

VI. DISCUSSION

The major purpose of this study was to examine gender differences in causal attributions to successes or failures, and academic self-efficacy among high school students. Results of t-tests indicated that males attributed their success to self confidence more than females did; whereas female students considered luck to be important cause for success. This result accords with those reported by many researchers (e.g., Simon & Feather, 1973; Tamirie, 1995; and Griffin et al. 1983).

On the other hand, all the attributions males provided as causes of failure were external factors. The same results have been reported by Weiner & Kulka (1970). Males more than females indicated that lack of "friends' help during study", "parental help and encouragement", "good study habit", and "teacher's competence of teaching", and also "difficulty of the exam" resulted in their failure, but females showed that lack of "quick understanding and memorisation of the material" to be the major causes of failure.

This phenomenon depicts that males tend to internalise while females to externalise the attributes of success. The opposite was observed in the case of failure. Further evidence was obtained by comparing successful and failure students within the same gender on internal-external dimensions of attributions. Statistically significant differences were not procured in the two dimensions for successful males and females, and failure males. In contrast, failure females attributed failure for internal more than external causalities.

As reported by many researchers, the reasons that individuals give to explain their successes or failures have been found out affecting their self-concept, feeling of competence, and social adjustment (Ames, 1978; Ames & Felker, 1979; and Chambers & Abrami, 1991). If this (differenes in attribtuing causes to successes or failures internal-external dimension) between the two genders holds true, there must also be variation in the level of self-efficacy perceptions. As expected, a significant gender difference was obtained in favour of males. Schunk & Lilly (9184), Junge & Dretzke (1995), Ewers & Wood (1993) and Pajares & Miller (1994) have found similar results. Thus, it could not be a wonder if females' self efficacy level is lower than their male counterparts for the fact that they think they failed because they lack some internal qualities helpful for success and probably because they are not expected to achieve high status as the males do by their society (Bar- Tal, 1978) . This would undoubtedly impede their academic performances.

Another worth mentioning result of this study is that both successful males and females have shown insignificant differences in the level of competence feeling. One perplexing investigation is that a significant difference in self-efficacy was not found between successful females and failure males. This could be an indicative that even if failure males judged their self-efficacy to be lower than successful males, it might not be as lower as that of females. However, it is important to note that successful students in both genders revealed a higher level of self-efficacy than those of failure students in the same gender. Probably what Ewers & Wood (1993) have found out might be true in that able students show higher level of self-efficacy than average students do.

Generally, it was failure females who showed the lowest mean score in the test of self-efficacy. In this context, therefore, it should not be a surprise if a remarkable number of females repeat classes or fail to join higher institutions of learning because this is what an individual think of him/herself that determines his/her behaviour and performance.

Finally, the implication of this research is to make school practitioners and other concerned bodies aware of the central role of students' feelings of competence and causal attributions to their academic attainments in their schooling. Since students' perceptions of their capacities and the nature of the attributions they give to explain their actions either hinder or facilitate their academic accomplishments, these variables have to be extensively studied, for they are significant components of motivation and behaviour. As a group, female students showed low level of efficacy and externalise the causes of success. This could impair their performances. Thus, understanding this problem and taking proper measures will help to increase the number of female students' participation in many of the male-dominated areas. Therefore, is seems better to design intervention programs to enhance their feeling of competence as well as start internalising the causes or success. Besides, teachers, parents and the students themselves should be made aware about the impinging effects of lowered perceptions of competence on academic performances and related activities. Training and counselling are effective tools to change such feeling of low efficacy (Schunk & Lilly, 1984) and causal attributions (Ames, 1978; Ames & Felker, 1979).

Furthermore, in order to get a better perspective of these differences, a range of research studies have to be conducted on a large pool of high school students. Emphasis has to be placed on investigating the influence of sex-stereotypes on students' academic self-efficacy, expectations and causal attributions.

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Appendix A

Information Related to your Academic Performances

i) Evaluate your academic performance in the first Semester in terms of success or failure. It is success if you are happy or satisfied with what you have scored though it does not necessarily mean a pass grade. It is failure if you are unhappy or dissatisfied with what you have scored though it does not necessarily mean a failing grade.

Therefore, based on how success and failure are defined above, to which one do you level your results? Indicate it by circling the letter of your choice.

a) Success b) Failure

If you circled success, it means because you had the items listed below you passed the exam. But if you circled failure, it means that because you lack (or have difficulty of getting) the items, thus you failed.

ii) The possible perceived causes of your performance are listed below. The degree of influence of each cause may vary from unimportant to very important: unimportant, less important, important, very important. (In the table below these four levels are, respectively, abbreviated as: UI, LI, I, VI). Indicate the degree of the effect of each factor or perceived cause with a mark " C "

No	Causes (Items)	UI	LI	I	VI
1	Luck				
2	Mood				
3	God's Help				
4	Self Confidence				
5	Sharp Mindedness				
6	Ability in the Subject(s)				
7	Easiness of the Exam(s)				
8	Easiness of the Subject(s)				
9	Language Command				
10	Interest in the Subject(s)				
11	Hard-work (constant effort)				
12	Friend's Help During Study				
13	Parental Help and Encouragement				
14	Planned Study (good Study habit)				
15	Teacher's Competence in Teaching				
16	Teacher's Generosity in Giving marks				
17	Fast in Understanding and Memorisation				
18	Availability of Appropriate Materials for Learning				
19	Intensive and Immediate Effort for Examination				
20	Difficulty of the Exam				

Appendix B

t-test Values, Means, and SDs of Males and Females on Perceived Causes of Success.

Items	Gender				
	Male (n=33)		Female (n=27)		
	X	SD	X	SD	t-test
1	1.909	0.947	2.556	1.311	-2.147*
2	3.182	1.103	3.148	0.989	0.126
3	3.818	0.392	3.704	0.669	0.782
4	3.939	0.242	3.741	0.447	2.067*
5	3.818	0.392	3.593	0.636	1.606
6	3.758	0.614	3.556	0.577	1.311
7	2.364	0.929	2.704	0.953	-1.390
8	2.667	0.816	3.037	0.706	-1.882
9	3.727	0.719	3.667	0.480	-0.386
10	3.697	0.684	3.889	0.434	-1.320
11	3.788	0.650	3.704	0.775	0.449
12	2.879	0.693	2.889	1.188	-0.039
13	3.455	0.754	3.667	0.734	-1.099
14	3.636	0.549	3.519	0.700	0.708
15	3.667	0.595	3.778	0.577	-0.731
16	1.636	1.055	2.148	1.027	-1.898
17	3.758	0.435	3.593	0.501	1.346
18	3.606	0.609	3.556	0.751	0.279
19	2.788	1.053	2.926	0.958	-0.531
20	2.545	0.794	2.516	1.014	0.109

*$p < 0.05$

Appendix C

t-test Values, Means, and SDs of Males and Females on Perceived Causes of Failures.

Items	Gender				
	Male (n=59)		Females (n=71)		t-test
	X	SD	X	SD	
1	2.017	1.042	1.775	0.944	1.375
2	3.068	1.187	3.070	1.080	-0.010
3	3.305	1.103	2.958	0.885	1.950
4	3.746	0.659	3.690	0.767	0.448
5	3.593	0.833	3.704	0.684	-0.819
6	3.627	0.641	3.408	0.821	1.707
7	2.153	0.847	2.113	0.934	0.256
8	2.441	1.103	2.718	0.831	-1.590
9	3.525	0.817	3.577	0.768	-0.371
10	3.814	0.434	3.619	0.900	1.614
11	3.814	0.541	3.634	0.760	1.573
12	2.932	0.926	2.619	0.868	1.974*
13	3.458	0.837	2.282	0.659	8.768***
14	3.644	0.783	3.197	0.804	3.201**
15	3.627	0.717	3.014	0.746	4.765***
16	1.593	0.967	1.690	0.872	-0.595
17	3.432	0.747	3.643	0.188	-2.115*
18	3.576	0.796	3.056	1.040	3.227**
19	2.915	1.055	3.042	1.034	-0.689
20	2.458	0.897	1.901	0.796	3.708**

*p<0.05 ** p<0.01 *** p<0.001

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