The Relationship between Locus of Control and Academic Achievement and Gender in a selected Higher Education Institution in Jordan

ROHATY MOHD MAJZUB
MARWAN ZAID TALLAQ BATAINEH
NORIAH MOHD ISHAK
SAEMAH RAHMAN
Faculty of Education, Universiti Kebangsaan Malaysia
43600 UKM Bangi, Selangor
MALAYSIA
rohaty@yahoo.com
saemahukm@yahoo.com

Abstract: This paper examined the relationship between Locus of Control and academic achievement, and discussed the possibility of gender differences. Past research indicated a positive correlation relationship between internal scores and high academic achievement. Overall, the research regarding gender found males to be more internal and external than females. The sample of this study included 204 first year Yarmouk University students, from four different departments (English, Accounting, Chemistry and Engineering). The multidimensional- multi-attributional causality scales (MMCS) was administered to the respondents of the study. The MMCS were then correlated with academic achievement and gender. The statistical analysis evidenced a correlation between Locus of Control and academic achievement, The internal locus of control were high and positively correlated with academic achievement among the male students (r=.362, p=.000) and positively correlated with external locus of control (r=.208, p=.035). However only the internal locus of control was positively correlated with academic achievement among female students (r=.274, p=.006) and negatively correlated with external locus of control (r=.002, p=.982). The findings showed that males were more internal and external then females. Overall, this study supported the findings of past research supporting a positive relationship between Locus of Control and academic achievement.

Key-Words: Locus of Control, Academic Achievement, Gender

1 Introduction

There is a growing trend around universities in the globe to ensure high ranking and quality outputs measured in terms of quality graduates being produced. To achieve such aspiration university teaching and learning must take into account students’ personality characteristics. The University of Yarmouk is no exception. Educational psychologists and theorists of learning have discussed the varied factors influencing academic achievement. The factors included both academic and non academic factors. The latter included the constructs of internal and external locus of control in learning. Internals believe that outcomes in their lives depend on their own actions and choices whilst externals believe that outcomes depend on the vagaries of chance, fate or powerful other people [1].

Locus of control refers to an individual's generalized expectations concerning where control over subsequent events resides. In other words, who or what is responsible for what happens. Locus of control is an individual's belief system regarding the causes of his or her experiences and the factors to which that person attributes success of failure. It can be assessed with the Rotter Internal-External Locus of Control Scale. Locus of control can be divided into two separate sources of control: internal and external. People with an internal locus of control believe that they control their own destiny. They also believe that their own experiences are controlled by their own skill or efforts. An example would be "The more I study, the better grades I get" [2]. On the other hand, people who tend to have an external locus of control tend to attribute their experiences to fate, chance, or luck.

If students either attribute their successes or failures to having a bad day, unfair grading procedures on their teacher's part, or even God's will, they can be said to have a more external locus of control. These students might say, "It doesn't matter how hard I study. The teacher just doesn't like me, so I know I won't get a good grade." These students generally don't learn from previous experience. Since they attribute both their
successes and failures to luck or chance, they tend to lack persistence and not have very high levels of expectation. [3]

Locus of control is grounded in expectancy-value theory, which describes human behavior as determined by the perceived likelihood of an event or outcome occurring contingent upon the behavior in question, and the value placed on that event or outcome. More specifically, expectancy-value theory states that if (a) someone values a particular outcome and (b) that person believes that taking a particular action will produce that outcome, then (c) they are more likely to take that particular action.

Julian Rotter's [3] locus of control formulation classified generalized beliefs concerning who or what influences thing along a bipolar dimension from internal to external control: "Internal control" is the term used to describe the belief that control for future outcomes resides primarily in oneself while "external control" refers to the expectancy that control is outside of oneself, either in the hands of powerful other people or due to fate/chance. Locus of control: refers to how much one feels in control of his or her environment that is the extent to which he or she believes that his or her behavior influences outcomes [4].

This paper discusses the findings of part of a bigger study that examines the theory of Locus of Control gender and academic achievement among first year Jordanian students from four departments of Yarmouk University. The study was based on the main assumption that locus of control influences students’ behavior and subsequently academic achievement. The students completed the MMCS scale and indicated their gender and accumulative average category. The test administrator then separates the answer sheets, according to student's fields. The (MMCS) scores were correlated with academic achievement and gender.

2 Problem Formulation

The theory of Locus of Control has been extensively researched for the past several decades. The application of this theory to academic achievement and related behaviors has been thoroughly examined. [6] The multidimensional- multi-attributional causality scales (MMCS). The role of gender with regards to Locus of Control is also a popular subject of study. It is imperative to examine the relationship between Locus of Control and academic achievement, while considering the possible effects of gender. To enhance university students learning and achievement one should be sensitive to non-academic factors such as locus of control. This belief is based upon several findings in the literature as described below.

Locus of Control and Academic Achievement

The literature available on Locus of Control and academic achievement was reviewed by Findley and Cooper [7]. They compiled 98 studies (consisting of 275 testable hypotheses) where a Locus of Control and academic achievement measure was compared. A statistically significant positive correlation was found for 193 of the 275 hypotheses. In other words, 70% of these hypotheses found internals to have significantly higher academic achievement than externals. Bar-Tal and Bar-Zohar reviewed 36 studies that examined the relationship between Locus of Control and academic achievement among children, adolescents and adults. They also found a positive correlation relationship between the two variables, regardless of population being examined. [8]

The relationship between LOC and academic achievement is convoluted. Intuitively, students who attribute success to internal factors are likely to expect future successes; students who attribute failure to internal factors may expect future failure unless they consider themselves capable of and actively address those factors. Conversely, attributing success to external factors would make future successes unpredictable and deem the student powerless to address what they perceive to be uncontrollable factors. Within the domain of education, internal LOC has been found to be a positive predictor of academic achievement [9] and external LOC to be a negative predictor of academic achievement [10]. In the present study, LOC is measured using a domain-specific academic LOC scale [10].

According to Ray [11], these conclusions are expected based on Rotter's theory of Locus of Control. An individual with internal control expects to be rewarded for performing specific behaviors. Therefore, the internal individual exerts the effort to achieve academically, and feels great pride when it is obtained. This positive emotional experience, in turn, makes achievement more appealing, which increases the performance of specific behaviors, and strengthens the expectation of reward.

Major literature reviews showed that internals and externals differed in numerous ways, particularly in terms of their cognitive activity and environmental mastery. Because they are more perceptive of their situations, internals seem to exert more control over their lives in part by their knowledge of their environments [6]. That is, internals more readily acquire and utilize information that is relevant to their goal situation even when it seemingly is not relevant.

Rotter [5] had two explanations for this phenomenon. Firstly, as stated before, Locus of Control measures have greatest predictability with novel achievement situations. Secondly, there is the "defensive external" or individuals that adopt an external
perspective as a defense mechanism to protect ego from failure. According to the theory, of Locus of Control, internal individuals believe that their accomplishments and failures are a result of own actions. When internal individuals succeed they feel a sense of pride. However, when they fail, they feel guilt and shame, which is damaging to the ego. Therefore, these individuals are still motivated to achieve academically, but they embody an external perspective. This weakens the correlation between Locus of Control and academic achievement because the Locus of Control scores are not an accurate measure of actual beliefs regarding control.

Park and Kim [12] have conducted two studies to investigate the relationship between behavior patterns, locus of control and academic achievement. The first study analyzed behavior patterns and locus of control in university honored students holding scholarships comparing with low achievers. Findings from the first study revealed that high achievers showed higher internalized locus of control and lower externalized locus of control. The focus of the other study was on interrelationship between locus of control and academic achievement in three groups: Korean, Chinese, and Korean-Chinese students. A 40- items questionnaire relating to locus of control, personal demographics including gender, and accumulative average was used. Findings showed a tendency toward internalized locus of control in favor of Korean students. The study also showed positive relationship between internalized locus of control, academic achievement, and achievement, which was in favor of Korean students too.

Locus of control (Internal-External)

The concept ‘locus of control' derives from social learning theory [5]. Sited in. In his 1966 monograph, J.B. Rotter defined locus of control as the degree of control that individuals believe they have over the outcome of certain situations. When reinforcement is perceived by the subject as following some action, then it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. We have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control.” Thus, the person who believes that he/she has control over his/her life is internally controlled. The person who believes that he/she is controlled by luck, chance, and fate or powerful others are externally controlled.

AL Momani [13] conducted a study aimed at identifying the relationship between locus of control and self-disclosure, and how each is affected by some variables in Yarmouk University students. The sample consisted of 600- students of both sexes from various campus faculties during the university year 1997/1998. The researcher used two scales; Rotter external and internal locus of control-translated into Arabic version and controlled for the Jordanian setting; and Gowrad self-disclosure scale "translated into Arabic version and controlled for the Jordanian setting". Results showed that subjects tended more (75%) to be externalized locus of control. Results also revealed no statistical significant differences in locus of control attributed to economic level of family.

Yaqoub and Maqableh [14] conducted a study aimed at investigating disparity in degrees of locus of control in university population in accordance with some variables (gender, specialty, and educational level). The randomly selected sample was consisted of (721) students of both sexes. Rotter external and internal locus of control translated into Arabic version and controlled for Jordanian setting was administered to subjects. The researcher used T-test, one-way analysis of variance (ANOVA) were used. Findings indicated that females versus males showed greater tendency to externalized locus of control. No statistical significant differences attributable to specialty and educational level variables were showed.

AL Jaberi [15] conducted a study sought to identify the relationship between locus of control, cognitive patterns in Yarmouk University students. The researcher administered Rotter locus of control scale and forms scale (collective puzzle) - translated into Arabic version to fit Jordanian setting. Subjects were 582- students of both sexes representing all scientific majors out of Yarmouk University population during the university year 1992/1993. Findings showed statistical significant differences between locus of control (internal-external) attributed to gender, where females had externalized locus of control more than males.

Gender differences and locus of control

Findley and Cooper’s [7] found male scores to be more internal than females. However, this may be due to social desirability [15]. Based on traditional gender roles, females tend to believe that an internal perspective is inconsistent with female gender roles, and thus is socially undesirable. Stipek and Weisz [15] found females who were high in beliefs of social desirability to have higher external scores than females with low beliefs in social desirability. Therefore, female responses on locus of control scales are influenced by their belief of appropriate gender roles. Thus, locus of control scores of females may not accurately depict actual beliefs.

The main issue in this problem statement would be to examine relationship between Locus of Control and
academic achievement among first year Yarmouk University students. The possibility of gender differences was also explored. The advantages of the study would be to subsequently develop programs to enhance locus of control.

3 Problem Solution

Data for this study was obtained through the sample of 204 first year students aged between 18-24 from four departments namely (Engineering, English, Chemistry and Accounting) from Yarmouk University, Irbid, Jordan. The sampling was stratified, according to gender (male, female), and academic achievement (high, medium, and low achievers) First year students were selected for this study because academic achievement was most diverse in the first year. The students came from various backgrounds in terms of their father’s occupation, years. The variables of this study were (MMCS) scores, academic achievement (GPA), and gender (male or female). Once the data was collected, correlations were examined separately for Locus of Control and academic achievement and Locus of Control and gender. To collect data the researcher requested the admission and registration office in Yarmouk University to get the accumulative average for the students of the study. The researcher translated the questionnaire from English to Arabic then from Arabic to English. The questionnaire was given to four specialists, two professors in Translation and two professors in psychology to evaluate the translated questionnaire. The items of the questionnaire were modified according to the judge’s comments. The items of questionnaire were acceptable by the judges. The Questionnaire was distributed to the sample of the study to collect the students' responses. Data collected were essentially to answer the following research questions:

3.1 Results of the study

Table 3.1 shows a descriptive statistics of the variables.

<table>
<thead>
<tr>
<th>Construct</th>
<th>M</th>
<th>S.d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus of control</td>
<td>3.680</td>
<td>.3625</td>
</tr>
<tr>
<td>Academic achievement</td>
<td>72.58</td>
<td>8.704</td>
</tr>
</tbody>
</table>

Regression analysis was conducted to locus of control. Academic achievement is a criterion toward locus of control. Table 3.2 Show the result of Multiple Regressions with Stepwise Method. The result shows that there is a significant variants (locus of control model) on academic achievement, with the value \( F = 12.634, p = 0.000 < 0.05 \) (factor locus of control model).

By this finding the null hypothesis is rejected and the alternative hypothesis is accepted.

### Table 3.2: Variants of Locus Control Model toward Academic Achievement levels.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus of control</td>
<td>1717.589</td>
<td>2</td>
<td>858.794</td>
<td>12.634</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>13662.97</td>
<td>201</td>
<td>67.975</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>15380.56</td>
<td>203</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant level at 0.05

Based on Stepwise Multiple Regressions analysis conducted, it was found that locus of control variable was extracted as predictor to the academic achievement. Table 3.3 presents the strength of predictor. The multiple regressions shows that \( R^2 = .112 \). The predictor locus of control yielded \( b = 0.144, t = 2.164 \) at significant level \( p = 0.000 < 0.05 \) and contributed almost 2% to academics achievement. This means that if the score of locus of control increases by 1 unit, the academic achievement will increase by 0.144 units.

### Table 3.3 Regression of Locus of control toward Academic Achievement

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>Std Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
<th>R²</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOC</td>
<td>4.00</td>
<td>.185</td>
<td>.144</td>
<td>2.164</td>
<td>.032</td>
<td>.112</td>
<td>2%</td>
</tr>
</tbody>
</table>

To study the possible association of gender on the relationship between locus of control and academic achievement, the researcher divided the sample into two sub samples: male \( (n = 103) \) and female \( (n = 101) \). The same analytic procedures for the entire two sub samples (correlations, bivariate) were conducted for each sub sample. Correlation with achievement: the correlations between each of the (MMCS) subscales and GPA for male and female students are indicated of table 3.4. The pattern of correlations was different for the two genders. The internal locus of control were high positively correlated with academic achievement among the male students \( (r=.362, p=.000) \) and positively correlated with external locus of control \( (r=-.208, p=.035) \). Subsequently only the internal locus of control was positively correlated with academic achievement among female students \( (r=.274, p=.006) \) and negatively correlated with external locus of control \( (r=.002, p=.982) \). The conclusion of this result is rejecting the
null hypothesis and supporting the alternative hypothesis.

Table 3.4 Correlation between academic achievement and locus of control (internal, external) by gender.

<table>
<thead>
<tr>
<th>Gender</th>
<th>R</th>
<th>R2</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>.362**</td>
<td>.13</td>
<td>.000</td>
</tr>
<tr>
<td>Female</td>
<td>.274**</td>
<td>.075</td>
<td>.006</td>
</tr>
<tr>
<td>Male</td>
<td>-2.08</td>
<td>.043</td>
<td>.035</td>
</tr>
<tr>
<td>Female</td>
<td>.902</td>
<td>.004</td>
<td>.982</td>
</tr>
</tbody>
</table>

4 Implication of the Findings

Results found that locus of control construct was indeed related to GPA/ gender or academic achievement as mentioned in past literature. It was also found significant relationship between MMCS scale measure and GPA/ grades. This finding is consistent with a number of recent studies. [16]

Moreover, it also was seen that there were gender differences on (MMCS) scale. This is indeed an exciting trend to note for it contribute support to the assumption that men and women may have similar locus of control orientation regarding general areas but different internal-external orientations regarding more specific areas like academic achievement. For one would expect as we approach the millennium that the population would be more internally directed or self-directed rather than more externally focused or directed towards outcomes in one’s own life. Significant differences were also found between the sexes on the variables of GPA. Lastly upon analyzing the correlation of both gender found that there were indeed apparent differences, mainly, individuals from both sexes. Moreover, both genders possessing high positively correlated internal locus of control with academic achievement. Subsequently only male scores high positively correlated external locus of control with academic achievement. While the female scores negatively correlated external locus of control with academic achievement.

Regarding academic achievement, it seems logical that individuals with an internal locus of control achieve more academically than individuals with an external locus of control. For example, an internal student, who studies hard and does well on a test, will attribute the success to his/her own actions. This student will then continue to study hard, because an expectation to succeed in the future is established. Moreover, the individual feels a positive emotional response of pride for the successes, which strengthens the expectation and the motivation. On the other hand, an external student may study and do well on a test, but may believe the success is due to an easy test, or luck, or a variety of other factors. This student does not attribute success to his/her own actions, and so may not consistently study. This finding is consistent with a number of recent studies mentioned earlier.

Rotter [3] featuring in his new I-E scale measuring locus of control orientations briefly touched upon some sex and socio-cultural differences in the measure. From these samples, he found that sex differences were slight. But in a university of Connecticut sample, means were found to be higher than most of the sample scores compiled in the Midwestern university samples, M=8.72 for males and M=9.62 for females in U. of Connecticut and M=7.71 for males and M=7.75 for females (Rotter, 1966). This finding, depicting women as scoring more external than males.

In a later article by McGinnies [16], a study of sex and cultural differences in locus of control in five countries indicated more interesting findings. According to an analysis of variance, it was found that overall females had higher scores on the externality dimension of the I-E scale than males, sex (F=20.53) and country (F=24.52), P=.001 [19]. Females from Sweden and those from Japan, Australia, the United States, and New Zealand were found to have the greatest external scores according to the country main effects, M=15.59, M=12.07, M=11.54, M=1065, M=10.66, P=.001 respectively. All in all, this gave an indication that females also were overall more external than males even in other socio-cultural areas, although differences did vary from country to country.

The findings has far reaching implications for both theory and practice. In implementing the curriculum and teaching learning processes in the classroom lecturers should plan, implement, monitor and revaluate the curriculum in terms of students affect and locus of control. Locus of control is an important variable to account for in achievement. Thus students should be empowered to be independent, to decide their outcomes of learning and to be able to access knowledge readily and resourcefully. They should be oriented to the differences in the two types of locus of control initially during the orientation week. They should be able to evaluate what it means to be internally directed and how internal locus of control leads to greater success. It is recommended that educationists develop How to Develop an Internal Locus of Control Modules. Students should be encouraged to make choices and that they have the choice to change a situation. Secondly students should brainstorm on alternative ideas to overcome frustrating situations in their lives. Since attitude affects learning they should engage in positive self talk.

As for gender differences in locus of control care should be taken to observe how gender differences necessitate differences in teaching approaches and teaching styles. Again although locus of control can be
attributed to personal characteristics as well as enculturation and parental behaviors awareness of both students and educationists towards this phenomenon should be enhanced. As girls are more externally oriented curriculum activities should emphasis an environment that integrates socialization teamwork and inter dependence. Further research should be able to relate locus of control to the current trend globally that boys underachievement may seem contradictory to achievement. We would expect internally oriented boys to do better. However the opposite seems to be the case.

5 Discussion
A significant positive correlation relationship was found between internal locus of control and academic achievement. Regarding gender, the study found a slight gender difference, with males being slightly more internal and external than females. However, the study does support the hypothesis and the findings of past research evidence for a positive correlation relationship between locus of control and academic achievement in first year university students. Although the correlation may not be high it is an eye opener for educationists and lecturers at the university who have to aspire to increase the ranking of universities. At the macro level university governance and administrators should develop policies regarding coaching mentoring and counseling undergraduates.

Advisors should go beyond the academic field and help students to improve and understand how their perceptions of self and their environment may shape their academic performance. Therefore, advising students could expand to include mentoring them. Academic and personal mentoring of students serves as a conduit to a healthy attitude towards academic work, study habits, orientation to others, colleges, and universities. Jordanian students with these characteristics perform better than those without these traits. Colleges and universities orientation sessions should in include presentations and classes on the variables that effect grade-point averages.

References: