

HARDINESS AND ACADEMIC ACHIEVEMENT AS PREDICTORS OF SELF-EFFICACY IN UNIVERSITY STUDENTS

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ABSTRACT

The study was designed for the purpose of assessing the impact of hardiness and academic achievement on self-efficacy in university students. The study hypothesized that hardiness and academic achievement would predict self-efficacy and that there would be gender differences among these constructs. Also, the mediating role of academic achievement was hypothesized as impacting the association between hardiness and self-efficacy. The study used a correlational research design. Purposive sampling technique was used for selecting 500 participants including 250 males and 250 females in the age range of 18 to 28. Academic motivation, academic self-efficacy and Kobasa hardiness scale were used. Data analysis was done using Pearson product moment correlation, multiple regression analysis, independent sample t test and moderated mediation analysis. The results showed that hardiness was significantly and positively associated with academic achievement and its sub-dimensions and with self-efficacy. Hardiness and academic achievement significantly predicted self-efficacy. There were also significant gender differences that were identified in relevance to self-efficacy. Apart from this, age had a moderating impact in relevance to the relationship between hardiness and self-efficacy via the mediation of academic achievement.

Keywords: *Hardiness, Academic Achievement, Self-Efficacy, Moderated Mediation Analysis*

INTRODUCTION

University education is one of the primary elements that facilitate the students to acquire fulfillment in their career on the way to face the exclusive lifestyles demanding situations. Researchers have proven that academic success relies upon on other constructs which includes gender, self-efficacy, need for achievement, creativity etc. However, there are a number of other factors which have not been assessed in a detailed manner including self-efficacy and hardiness. Bandura and Schunk (1981) and Betz (1989), got here to the belief that self-efficacy impact the selection and dedication in a duty, the power use in acting it, and in an effort to examine academic achievement. Studies have also shown that hardiness is an important construct in the academic domains. It is referred to as the ability to endure and manage difficult life conditions and circumstances. Another relevant construct is academic achievement which is referred to as the extent to which a student or teacher has been able to achieve his or her short and long term academic goals.

Numerous researches and findings support a significant, positive connection among self-efficacy and academic achievement (Lent, Brown, & Larkin, 1987; Locke, Frederick, Lee, Bobko, 1984; Timber & Locke, 1987). Lent, Brown, Larkin (1987) stated that those, who have excessive self-efficacy scores and high scholastic aptitudes, have a tendency to attain more, favorable academic outcomes than those who have lower self-efficacy and aptitude rankings. A examine on self-efficacy and its affect on instructional attainment, the findings of Zimmerman, Bandura, and Martinez-Pons (1992), is another

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incredible studies in this subject matter. The authors gift a conceptual model of self-regulated motivation and educational mastering which illustrates the tested causal paths of how perceived self-efficacy for instructional success in turn impacts their personal goals and grade fulfillment.

Carrying out such goals no longer only requires the talents needed to accomplish that, but the beliefs of self-efficacy to use the ones skills well. Self-efficacy ideals also have an effect on college students' motivation with the aid of the level of attempt they positioned closer to conducting dreams and their resilience to disasters. Previous studies have found that Self-efficacy is a predictive of university grades. Having belief that an individual would carry out successfully in a given direction predicts actual a hit performance in that direction. Lent, Brown and Larkin (1987) discovered "self-efficacy introduced large precise variance past measures of goal ability and fulfillment in predicting next instructional overall performance and endurance" (p. 293). Lecompte, Kaufman, Rousseeuw, and Tassin (1983) and Lecompte, Kaufman, and Rousseeuw (1983) located that an expectation of academic fulfillment has an enormously giant fine relationship with academic success and with low withdrawal costs. Gerdes and Mallinckrodt (1994) explained that those students who achieved good results are more confident about their own abilities and skills to achieve academic success as compare to those students who achieve poor results and withdraws from college.

Latest academic performance research has also considered the attribution styles as a predictor of academic motivation. Attribution style was related to the theory of 'learned helplessness' (Abramson, Seligman, and Teasdale, 1978).

"Learned helplessness is the giving up reaction, the quitting response that follows from the belief that whatever you do does not matter" (Tominey, 1996, p. 5).

Findings of Mbathia showed that (2005) training provide student with particular skills and consequently it permit them to carry out their responsibilities and tasks effectively. Higher overall performance of an individual is, the higher aggressive and outcome the person may have. Many factors have impact on instructional performance, as Owiti (2001) described mind-set results in success and skills are wished for a hit performance. Bandura (1997) showed that highbrow functionality and motivation are strong factors on academic overall performance. According to Mbathia (2005) properly instructional overall performance influence not only college students' pick in essential better college but additionally their admission to university. In keeping with Mento, Locke and Klein (1992), internal rewards for purpose attainment, the pride you acquire due to appearing a hit challenge, can power more potent affects on attempt and fulfillment than outside rewards such as grades or academic performance. As defined by Bandura (1997), self-efficacy beliefs are exceptional with distinctive people; they vary below specific situations, undergo adjustments with time, and boom the instructional achievements as determined with the aid of the following factors: mastery experiences, vicarious experiences, verbal persuasion, and physiological/emotional states.

Choi's (2005) research on educational self-efficacy (ASE) confirmed that route specific capabilities (wooden & Locke, 1987) evaluate academic-self efficacy than fashionable self-efficacy measure. Owen and Froman's (1988) measure of academic self-efficacy that turned into extensively utilized in Choi's take a look at turned into a better degree of educational self-efficacy as it adhered to Bandura's (2006) recommendations for developing a self efficacy measure and would equally compare the equal talents in all college students; the measure has the brought advantage of measuring a bigger array of specific competencies. Examples of the abilities include: writing a great term paper, incomes properly marks in maximum guides, and understanding maximum ideas presented in class. Self-efficacy predicted highbrow performance and directly affected instructional overall performance through cognition (Tenaw, 2013). Even though past overall performance raised self-efficacy, it is student's interpretation of past fulfillment and failures that may be liable for next fulfillment (Tenaw, 2013). Perceived self-efficacy predicted future academic performance better than past achievement (Bandura, 1986; Chemers et al., 2001). Self-efficacy beliefs also contributed to student academic achievement due to the fact they affect concept, system, motivation, and conduct (Bandura, 1997). Scholar academic performance may be fluctuated due to the various belief in self-efficacy which depend upon the overall performance outcome of the beyond revel in (Tenaw, 2013).

Numerous findings imply that self-efficacy correlated with success effects (Bandura, 1997; Pajares, 1996; Schunk, 2012). Self-efficacy additionally correlated with indexes of self-determination, mainly use of effective mastering techniques. Self-efficacy, self regulation, and cognitive strategy use were positively inter correlated and predicted achievement (Pintrich & De Groot, 1990). Students with

excessive self-efficacy for a hit hassle fixing show more performance tracking and persist longer than do students with lower self-efficacy (Bouffard-Bouchard, determine, & Larivee, 1991). Writing self-efficacy correlated positively with students' dreams for direction success, pleasure with ability, grades, and achievement (Zimmerman & Bandura, 1994).

Maddi (1997) stated that personality hardiness consist of three interrelated elements which include dedication (the ability to be committed and dedicated to a task), manage (the notion possible manage or have an impact on events of one's reviews), and task (the feel of anticipation of exchange as a thrilling undertaking to similarly development). A result discovered by way of Pychyl, Lee, Thibodeau, and Blunt of Carlton college (2000) says that lack of self- manipulate should lead to procrastination. But, research confirmed that hardiness is definitely associated with physical and mental fitness and that it mitigated poor health consequences of stressors (Kobasa & Puccetti, 1983; Kobasa, Maddi, & Zola, 1983; Maddi & Kobasa, 1984). Orr & Westman (1990) found out that hardiness is drastically related to psychological properly-being and adjustment.

Significance of the Study

The present study has been designed to contribute to the gap in literature in relevance to the role of hardiness and academic achievement in predicting academic achievement. Also, the research aimed to assess the role of age as a moderating factor in impacting the mediating effects of academic achievement on hardiness and self-efficacy. Apart from this, the study provides insights about the need to promote hardiness and academic achievement in university students in order to achieve benefits in relation to self-efficacy.

Problem statement

In Pakistan, students these days are experiencing higher levels of uncertainty in terms of their educational pursuits. They are under an increasing level of pressure to attain high quality education while ensuring the achievement of high educational attainment. For this reason, it is important to determine whether or not self-efficacy and hardiness have an impact on academic achievement.

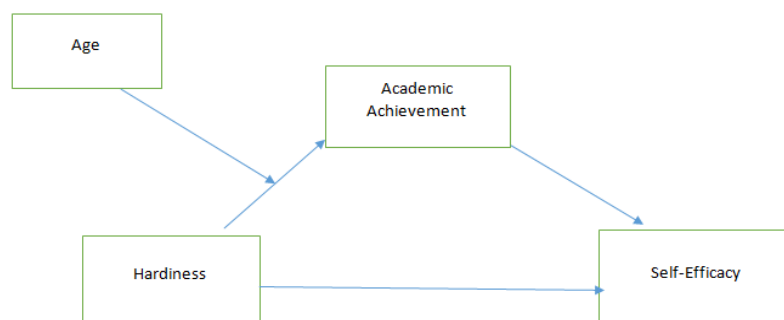
Objectives of the Study

- To assess the role of hardiness and academic achievement in impacting self-efficacy
- To assess gender differences on self-efficacy, hardiness and academic achievement
- To assess the mediating role of academic achievement in the relationship between hardiness and self-efficacy

Hypotheses

- There would be a significant relationship among hardiness, academic achievement and self-efficacy
- There would be significant gender differences among participants on hardiness, academic achievement and self-efficacy
- Hardiness and academic achievement would predict self-efficacy in university students
- Academic Achievement would mediate the association between hardiness and self-efficacy

Proposed Moderated Mediation Model



METHODS

Research Design

Correlation research design was used. This design was employed for the purpose of assessing the relationship between academic achievement, self-efficacy and hardiness.

Sample

The study was conducted during 2015-2017 academic year with the sample of 500 students including 250 males and 250 females from the different universities of Lahore ranging from intermediate to doctoral degree. Age of the participants ranges from 18 to 28 years. Sample selection was done using purposive sampling technique.

Sampling Strategy

Purposive sampling technique was used to collect the data from the students of different universities of Lahore. Both male and female students were included in the study.

Measuring Instruments

Academic Motivation Scale (AMS-C 28)

Academic Motivation Scale Vallerand et al. (1992, 1993) constructed the AMS with seven subscales, which includes three forms of intrinsic motivation (i.e., expertise, accomplishment, and to experience a stimulation), 3 forms of extrinsic motivation (i.e., identified, introjected, and external regulation), and amotivation. The alpha reliability of the scale is 0.83.

Sample Items

1. In order to obtain a more prestigious job.
2. Because I want to have "the good life" later on.

Academic Self Efficacy Scale

The instrument used on this study to measure university self-efficacy turned into the college self-efficacy Scale (Owen & Froman, 1988). The instrument consisted of 33 items and the scale has been organized the usage of a 5-factor Likert-kind scale ranging from (A)-quite a lot to (E) =little or no. The score ranges as 6-55 as low, 56-110 as medium and 111-165 as high. An alpha coefficient of .90 and test retest reliability of .85 become mentioned with an eight week interval (Owen & Froman, 1988).

Hardiness Scale

The construct of hardiness become first delivered by Kobasa (1979), who described it as a resistance useful resource inside the come across with stressful conditions. Hardiness includes three constructs, commitment, challenge and control. The scale consists of 30 items. Cronbach's alpha of the scale ranges from .70 to .85 depending on the sample. The scores range from

Procedure

Permission was taken from the administration of the university. Administration issued the permission letter. After that the data was collected from the different universities of Lahore. The participants were given the demographic form as well. The students were also informed about the purpose of the study. Data was collected from the students by the means of purposive sampling technique.

Statistical Analysis

The SPSS (Statistical package for social science) software program version 21.0 was used to analyze the data. Correlation analysis, Hierarchical multiple regression analysis was used to predict the significant predictors of academic achievement. T-test was used to find out the significant gender differences. One way Multivariate Analysis (MNOVA) was also used to find differences.

Ethical Considerations

Informed consent was obtained and confidentiality of the participants was ensured. The participants were also informed about their right to refuse participation at any time.

RESULTS

Table No. 1 Correlation among Self-efficacy, Academic achievement, Hardiness and its components Control, Commitment and Challenge (N=500)

| | <i>I</i> | <i>II</i> | <i>III</i> | <i>IV</i> | <i>V</i> | <i>VI</i> |
|----------------------|----------|-----------|------------|-----------|----------|-----------|
| Self-efficacy | - | .419** | .188** | .198** | .251** | .255** |
| Academic achievement | | - | .312** | .330** | .382** | .410** |
| Control | | | - | .523** | .502** | .809** |
| Challenge | | | | - | .586** | .850** |

| | | |
|------------|---|--------|
| Commitment | - | .836** |
| Hardiness | | - |

Note. ** $p < .01$, * $p < .05$

Interpretation

Pearson Product Moment correlation was conducted to observe the association into Hardiness and its components, Self-efficacy and Educational achievement. Results showed that there was somewhat moderate notable correlation between Self-efficacy and academic achievement ($r = .419$, $p < .01$) weak but positively significant correlation between Self-efficacy and Control ($r = .188$, $p < .01$). Correlation between Self-efficacy and Challenge was also weak but positively significant ($r = .198$, $p < .01$). Correlation between self-efficacy and commitment positively significant but weak ($r = .251$, $p < .01$). Self-efficacy and Hardiness showed positively significant weak relation ($r = .255$, $p < .01$). Connection between academic achievement with Control, Commitment and Challenge was moderately positively significant ($r = .312$, $p < .01$), ($r = .330$, $p < .01$), ($r = .382$, $p < .01$), whereas With Hardiness somehow moderately positively significant as ($r = .410$, $p < .01$). Results showed good positively correlation between Control, Challenge and Commitment ($r = .523$, $p < .01$), ($r = .502$, $p < .01$), whereas it showed strong correlation with Hardiness ($r = .809$, $p < .01$). Challenge showed good positively significant relation with Commitment ($r = .586$, $p < .01$) whereas with Hardiness showed strong positively correlation ($r = .850$, $p < .01$). Commitment showed strongly positively significant relationship with Hardiness ($r = .836$, $p < .01$).

Table No. 2 Scores on self-efficacy and hardiness as predictors of Academic achievement.

(N=500)

| Predictors | β | 95% CI | |
|----------------|---------|--------|------|
| | | LL | UL |
| Constant | 19.19 | .397 | .452 |
| Self-efficacy | .446* | .343 | .550 |
| Hardiness | .988* | .751 | 1.22 |
| R | .523 | | |
| R ² | .271 | | |

Note. ** $p < .01$, * $p < .05$

Interpretation

Multiple regression analysis was run to find the significant predictors of self-efficacy and hardiness. It was found that scores on hardiness ($\beta = .986$, $p < .01$) significantly predicted the academic achievement. Moreover self-efficacy scores ($\beta = .446$, $p < .05$) also significantly predict the academic achievement. R² for the self-efficacy and hardiness scores was 27 %.

Table No. 3 Mean differences to find Gender differences (N=500)

| Variables | Males (n=253) | | Females (n=247) | | 95% CI | | Cohen's d | | |
|-------------------------|------------------|------|--------------------|------|--------|-------|--------------|------|-------|
| | M | SD | M | SD | t(498) | p | LL | UL | |
| Self-Efficacy | 126.7 | 22.0 | 122.6 | 21.1 | 2.104 | .036* | .267 | 7.86 | 0.19 |
| Hardiness | 50.2 | 10.2 | 49.2 | 8.57 | 1.160 | .246 | -.680 | 2.6 | 0.10 |
| Academic achievement | 125.8 | 28.4 | 122.2 | 29.1 | 1.413 | .158 | -1.41 | 8.69 | 0.125 |

Note. CI=confidence interval, LL=lower limit, UL=upper limit.

Interpretation

Independent Sample t test was done to find out the gender differences on the scores on Self-efficacy and hardiness. Table showed that there were significant gender differences among participants on self-efficacy $t(498) = 2.10$ $p < .05$. However, there were no gender differences in terms of hardiness and academic achievement. It was also found that males scored higher on self-efficacy ($M = 126.7$, $SD = 22$) in comparison to females ($M = 122.6$, $SD = 21.1$).

Table No. 4
Moderated Mediation Analysis
Moderated Mediation Analysis when treating Academic Achievement as the Dependent variable (N=500)

| Predictor Variables | <i>B</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|---------------------|----------|-----------|----------|----------|
| Hardiness (IV) | 1.93 | .33 | 4.85 | .000 |
| Age (Moderator) | 29.50 | 115.83 | 1.86 | .000 |
| Hardiness x Age | -.57 | .31 | -1.80 | .000 |
| R ² | .17 | | | |

Dependent Variable: Self-Efficacy

| Predictor Variables | <i>B</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|---------------------------------|----------|-----------|----------|----------|
| Academic-Achievement (Mediator) | .28 | .03 | 8.50 | .000 |
| Hardiness (IV) | .22 | .10 | 2.10 | .0246 |
| R ² | .18 | | | |

Conditional Indirect Effects at specific levels of the moderator when treating Academic Achievement as a Mediator (N=500)

| Moderator: Age Level | <i>B</i> | <i>SE</i> | <i>p</i> | 95 % CI | |
|----------------------|----------|-----------|----------|-----------|-----------|
| | | | | <i>UL</i> | <i>LL</i> |
| I SD Above the Mean | .38 | .06 | .000 | .27 | .52 |
| I SD Below the Mean | .22 | .08 | .000 | .07 | .42 |

Interpretation

Moderated Mediation was performed using Bootstrapping method by Preacher and Hayes (2008). Results showed that both hardiness and age had a significant direct effect on self-efficacy and also their interaction effect on self-efficacy was also significant ($R^2=.17$, $p<.001$). The results also indicated that the indirect effect of hardiness on self-efficacy via the mediation of academic achievement across varying levels of the moderator i.e. age. It was found that the effect was stronger for high level of age ($\beta=.38$, $p<.01$) in comparison to lower ages ($\beta=.22$, $p<.001$). It was found that academic achievement did significantly mediate the relationship between hardiness and self-efficacy. In addition, it was found that there was a moderating effect of age across hardiness to self-efficacy via the mediation of academic achievement.

Key Findings

It was determined through the investigation that there was a significant relationship among hardiness, self-efficacy and academic achievement. It was also found that hardiness and self-efficacy significantly and positively predicted academic achievement. The study also provided insights about the presence of gender differences among university students on self-efficacy. It was also established that age has a moderating effect on the association between hardiness and self-efficacy via the mediation of academic achievement.

DISCUSSION

The main purpose of the present research was to observe hardiness and self-efficacy as predictors of academic achievement. For current study it was hypothesized that there is a significant association among self-efficacy, hardiness and educational achievements. There is a positive link and association among self-efficacy beliefs and educational performances that has been investigate those students who possess better self-efficacy attitudes will handle the task as something to be practiced. Students having poor self-efficacy may perceive the task as impossible to do, students having strong self-efficacy attempt to broaden a higher amount of knowledge and increase their attempt so as to overcome their failures and setbacks (Pajares & Schunk, 2001). Findings verified the favorable effect of self-efficacy beliefs on attempts, efforts, endurance, and performance and goal settings (Pajares, 2009).

Secondly, it was hypothesized that there is to be slightly correlation between Self-efficacy and Educational performance. Correlation analysis reveals that there is notable association into Self-efficacy

and educational performances ($r = .419, p < .001$). Previous findings powerfully aid the role of self-efficacy on upgrading of student's performance (Bandura & Locke (2003). Strong relation was observed between Self-efficacy and Academic achievement. Staikovic & Luthans (1988) conducted 114 exploratory investigations which had focused on the connection between self-efficacy and the student's academic achievement

Thirdly it was stated that there would be slightly correlation between hardiness and Academic achievement. Pearson correlation was run to find out the results, which shows the significant results ($r = .410, p < .001$).

Further, there was a hypothesis that there would likely to be Gender differences on scores on self-efficacy, Hardiness and academic achievement. The results have shown that there were notable differences between males and females' student's scores among Self-efficacy, Hardiness and Academic motivation and males scored high scores on Self-efficacy, Hardiness and Academic achievement. Lenny's (1977) suggested that females are more likely to display lower self-confidence and self-efficacy beliefs than males when in comparative situations.

Another important finding of the current research was that Self-efficacy and Hardiness are slightly to predict the Academic achievement. Researchers have shown that Motivation strongly influence study strategies, academic achievement, adaptation and fortune in individuals in scholastic fields. (Vansteenkiste et al.2005).

Lastly it was hypothesized that Academic achievement will mediate the relationship between Hardiness and Self-efficacy and indirect effect is going to be conditional on age and is going to be stronger for high level of age in comparison to low level. Moderate mediation analysis has shown that the effect of Hardiness was stronger for high level of age as compared to low level of age. As a study in higher education generally, mature-age students have outperformed young students in first-year academic performance (McKenzie & Gow, 2004), across 3 years of study (Cantwell, Archer, & Bourke, 2001), and have been reported to obtain considerably more First Class and Upper second Class degrees than younger students (Hoskins, Newstead, & Dennis, 1997).

CONCLUSION

This finding has shown that Self-efficacy and Hardiness are considered as the major predictors of the Academic performance. The previous researchers found that self-efficacy is the strongest envision of educational achievement. As student's self efficacy increase, it helps to raise the function of learning. Comparatively, students having poor sense of self-efficacy have fewer outcomes in achievement. Unfavorable results will make them frustrate from learning. Stressful situation is another problem that is faced by the students which affects their academic performance. So students must possess hardiness so they can deal with the stressful circumstances effectively without affecting their academic grades.

Implications

This study has wide implications in educational psychology. It would help the students to seek interventions from the counselors to enhance their self-efficacy beliefs and self-perception so they can perform well in their academic settings. Teachers should promote co-operative learning strategies in classrooms. Mutual interaction and verbal expression among students and teachers should enhance self-efficacy of the learners

Limitations

- The data was collected only from urban population. Students from the rural areas were not a part of study.
- Statistics was collected only from universities in Lahore, so the results of the current study cannot be generalize overly.
- The study is quantitative in nature. In future, a study should be conducted to generate an indigenous perspective on Academic domains.
- The study was conducted on university students studied in the semester system.
- Researcher also faced some difficulties in data collection process in some specific educational universities.
- Another limitation was that the questionnaires were too lengthy.

Recommendations/ Suggestions:

- Government ought to hire instructional psychologist and guidance counselors to motivate the students.
- Regular workshops and seminars should be organized for teaching faculties to inspire and train the students.
- Faculty directors, educational psychologists, steering counselors and parents have to work hard to assist broaden and maintain beautify students' educational self beliefs.
- Teachers should made healthy and supportive pedagogical environment to motivate students.
- Teachers have to display positive attitudes which help to encourage students.
- Educators can enhance motivation (whether or not intrinsic or extrinsic) via supplying them with a feel of belonging and connectedness.

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