Anticipating Academic Progress of Students on the Basis of Self-Discipline and Demographic Variables

Azam Haji Rostam

MA in General Psychology, Faculty of Psychology and Education Science, University of Isfahan, Iran
Hajirostam_azam@yahoo.com

Shole Amiri

Associate professor,Department ofPsychology, University of Isfahan, Iran

Tahere Saeidi

MA in General Psychology, Faculty of Psychology and Education Science, University of Isfahan, Iran

Salar Faramarzi

Assistant professor of Psychology, Department of Children with Special Needs, University of Isfahan, Iran

Abstract

The present study was an attempt to predict academic progress of fifth-grade girl students of elementary schools in Isfahan city based on self-discipline and demographic variables. The research methodology was descriptive correlational. To this end, 196 students were elected from fifth-grade girl students of elementary school by multistage sampling method and in line with the entry requirements of the research. To collect data a demographic questionnaire and a researcher-made self-discipline questionnaire were employed. The obtained data were analyzed through regression statistical methods and correlation coefficients with the aid of SPSS 18 software. The findings revealed that students' academic progress is positively and significantly attributed to their mothers' self-discipline and education; further, there is no significant relationship between the variables of parents' age, father's education, parents' occupation, family's economic status, the number of family members and students' academic progress. The results of stepwise multivariate regression demonstrated that the variables of mother's education and self-discipline were the best and most significant predictors of students' academic progress, respectively. These findings prove the role of self- discipline and mother's education in students' academic progress and highlight the necessity to reinforce students' self- discipline and to elevate mothers' education.

Keywords: academic progress; self- discipline; demographic variables

1. Introduction

Academic performance of students is a construct which has drawn attention for long and abundant pieces of research have been devoted to it. A principal goal of public education organization is better academic progress and all people are decided to identify effective factors on academic progress to adjust and direct each factor in a way that students achieve greater growth and learning. Generally, the term "academic progress" describes the extent of one's institutional achievements that are measured through different academic tests such as Calculus, Dictation, History and so forth (Saeidi, 2010).

Some education specialists classify the effective factors on academic progress into two categories:1-External factors (environmental) as learning situation, school's social atmosphere, emotional atmosphere of class, peer pressure, demographic variables and etc. 2- Internal factors (personal) like intelligence, motivation, interest, expectation, need to excel , success and failure attribution, self-efficacy beliefs, self-discipline and so on. Nowadays it has been recognized that students' academic progress at school not only depends on their intellectual abilities but also on their motivations, attitudes, and emotional reactions (Seif, 1996).

Among the variables, the one which seems to be associated with academic performance is self-discipline. Self-discipline means that an individual commits himself to do a particular assignment or correspond to a specific behavioral

ISSN 2039-2117 (online)
ISSN 2039-9340 (print)

Mediterranean Journal of Social Sciences
MCSER Publishing, Rome-Italy

Vol 6 No 1 S1
January 2015

pattern. Therefore, self-discipline is an emphasis on determination and seriousness beyond desires and gratification and is relatively considered as synonymous with self-control (Duckworth and Seligman, 2006).

The Power and potential of self-discipline in forming a child or even an adult's life path has not to be underestimated; in today's world children who learn self-discipline in low ages enjoy greater abilities. Every child who qualifies as self-disciplined sets some rules for him/herself that even in the absence of parents or other care-takers they behave rationally and appropriately. Self-discipline is one of the most fundamental components for achieving the feeling of responsibility toward behavior. Self-discipline is of significance since it can develop some traits in an individual which lead to formation of a forbearing personality. Self-discipline is that central force and core that influences forbearance. Children who enjoy a forbearing attitude have higher self-esteem and self-worth toward various issues, depict logical goals and expectations for themselves, and nurture decision-making and problem-solving skills within themselves. In fact, self-discipline is related to our abilities to make decision, plan, and take responsibility (Brooks and Goldstein, 2009).

Concentration, inhibiting initial impulse, and delay of gratification are the chief components of self-discipline and each seems to play a pivotal role during a period of a child or an adolescent's life, particularly when children and adolescents confront with dangers (for instance, in an academic progress that is lower than expected, delinquency and etc.). Concentration is attributed to dominance over confusion and concentration even with having distraction, fatigue, and failure as well as directing one's thought to the subject which is being processed. Evident concentration intentionally plays role in maintaining attention. Concentration enables an individual to be adequately, effectively, and progressively hard-working in doing assignment. That is, he/she can stay on an assignment and does not lose it easily and completes it. A child who has low concentration is liable to spend a lot of time in front of his/her books and assignments but his/her learning is significantly lower. Actually, inattentiveness is a predictive sign of not having concentration and consequently results in ower than expected progress (Montzicopoulos, 1995; Row, 1992).

Inhibiting initial impulses is defined as overcoming the tendency to jump to conclusions or to act on impulse. Inhibiting initial impulse is an individual's initial response to a problem or situation, in order to consider alternatives, benefits, and potential costs of a course of an action. Inhibiting initial impulse increases important, prudent, and cautious decisions. Inability in this aspect in long term involves serious and negative repercussions for the child. This impulsivity is closely linked with risky behaviors, aggression, violence, sexual abuse, and delinquency (Donoghue et al., 2000; McCol, 2000).

Delay of gratification is controlling impatience and postponing short-term desired rewards instead of long-term goals. To reach future goals a person typically has to delay immediate gratification. This ability aids the person to continue goal-oriented behaviors for a good future such as academic performance at an expected level (Donoghue, 1993; Schaefer, 1998).

The need to develop self-control and self-discipline from early ages has been and is significant in all cultures and probably has a greater role in societies whose children encounter with more difficulties and stresses. It is clear that a child who is not self-disciplined has low performance when faced with routine obstacles and challenges; thereby he/she suffers from deficiencies in the field of self-confidence, self-esteem, and self-control. Failure in effective solution of hardships and problems disillusions and hinders him/her from another sufficient effort to reach the goal (Brooks and Goldstein, 2009).

Self-discipline helps children to overcome the feelings of fear, anger, envy, and helplessness in a constructive way and to respect others' rights and express their emotions in an appropriate way. As a result, a positive self-image is reinforced in them and the child does his/her personal needs and duties at school and home adequately and accepts the set restrictions. In the present research a variable which is assumed to be associated with child's self-discipline is academic performance. An undisciplined child provokes the teachers to anger by failure to complete assignments, study effectively, and using class time productively and therefore does not accomplish the required academic performance (Lavoie, 2005).

In a paper entitled "Self- discipline: the road to academic success", Fine (2006) points out self-discipline as a determining factor in the field of academic success. He believes that adolescents' underachievement in academic fields somewhat results from teachers' methods, boring books and long hours of classes but a crucial factor which prevents students from their intellectual potential is the inability to use self-discipline.

Mantzicopoulos (1995) and Row and Row (1992) believe that the Inability to concentrate (a self-discipline component) is a predictive factor of lower than expected academic progress of children.

Seligman and Dockworth (2005) in a research on self-discipline and predicting academic performance have dealt with comparing intellectual strengths (e.g., long-term memory, ability to think abstractly and non-intellectual strengths (e.g., motivation, self-discipline) in predicting academic progress of students. They maintain that both strengths definitely contribute to better academic performance, though self-discipline predicts academic performance more robustly than IQ does.

Seligman and Duckworth (2005), Donoghue et al. (2000) and Lynam et al. , (2000) concluded in some pieces of research that low potential in inhibiting impulses (a self-discipline component) and the impulsivity stemmed from that result in risky behaviors, aggression, and violence in adolescence.

Preschool children who have higher delay of gratification ability (among self-discipline components) are more competent in academic abilities, social, verbal, intellectual and attentional competence, planning and to do assignments despite pressure and insufficient time (Donoghue, 1993; Schaefer et al., 1978; Shoda et al., 1990). They believe that the ability to delay gratification can anticipate self-regulatory, cognitive and attentional processes in adolescence (Shoda et al., 1990).

Duckworth and Seligman (2006) stated in a study on the contrasts between girls and boys in the rate of self-discipline that higher self-discipline is positively correlated with higher education and also girls, comparatively, enjoy higher self-discipline. Dockworth and Seligman (2006) reported that girls outperform boys in math performance, not on account of IQ or other intellectual abilities, because girls are more self-disciplined and have found to be at higher levels of ability to delay gratification.

Romer et al. (2010), on the ability of learning self-control in adolescents, argued that those who possess higher abilities to delay gratification are less involved in sensation seeking behaviors (sexual relationships) and risky behaviors (using marijuana, cigarette, and tobacco). Moreover, Duckworth et al. (2011) note that there is moderate convergence among the constructs of executive functions, delay of gratification, self-control and self-discipline

Determining appropriate variables and criteria, to predict academic performance of students, are the most major fields of research that researchers of psychology and educational sciences are engaged in. Among variables which are considered as predictors of academic performance, demographic variables (age, education, income level, parents' occupation, and number of family members, gender, and student's education) can be raised. The studies have demonstrated that demographic variables determine cultural and social environment of families and can influence intellectual abilities of offspring directly or indirectly (Hossein Chari and Kiani,2008).

Majidi (1997) ,with the intention of examining the relationship between some socioeconomic characteristics of family and success as well as academic probation of third-grade students of middle school, showed that academic success of students correlates meaningfully with education level of parents, family income, place of living, parents' occupations, birth order and number of family members.

Numerous studies have introduced demographic variables as influential factors on academic performance (Amerizadeh, 2002; Majidi, 1997, Hossein Chari and Kiani, 2008; Bakhtiarpour, 2008). To examine enhancing academic acheivement level of students, thus, it can be claimed that predicting factors such as demographic variables are of significant importance. Though self-discipline is a fresh and interesting topic for all, few researchers have dealt with it. With the studies carried out it became clear that investigation on the field of examining the relationship between self-discipline and academic performance has attracted little attention. Finally in today's world, the academic performance is important for competitiveness and development communities. Therefore, In this study, the contribution of self-discipline and demographic variables in predicting academic performance were investigated.

2.   Research Methodology

Given the variables under investigation and the method of data collection, the methodology was correlational descriptive

2.1   Statistical population and Sample

Statistical population of the research encompassed all fifth-grade girl students of elementary schools in Isfahan city in academic year 2011-2012. Sampling method was multi-stage random type.

Initially, throughout educational districts of Isfahan one district was randomly chosen and subsequently three elementary schools were chosen at random from all girl elementary schools of that district and all fifth-grade students of the three elementary schools, totally 196 students, were chosen as the sample.

2.2   Instrument

1)Researcher-made self-discipline questionnaire: to design this questionnaire the following steps were performed. The first step in designing a questionnaire is writing attitudinal questions; the questions were made by asking parents on the extent of observing discipline by their child in having their books and homework neat and organized and doing them on time, discipline and order in personal things and necessary clothes, frequent missing of things, managing time, taking

priorities over doing things, impulsive behaviors and etc.).The questionnaire consisted of 50 questions.

The answer to each question is done in a five-point Likert scale ranging from completely agree to completely disagree. Earning higher score means lower self-discipline. Reliability of the questionnaire was 0.93, calculated by Alpha Cronbach through performing on 50 students. Content validity of the test was examined and verified by 3 specialist masters of University of Isfahan. 2)To measure academic performance the average grade of the first semester scores of the academic year 2011-2012 was used. 3)Demographic information questionnaire was made use of to obtaining information on age, education, parents' occupation, number of family members, economic status of family, and other individual and family information.

2.3 Research procedure

After selecting the sample group the questionnaires were distributed among the students' parents at the class and following the completion, the data were coded, analyzed and interpreted by SPSS 18 software.

2.4 Statistical data analysis and interpretation methods

To determine the contribution of each self-discipline and demographic variables in predicting academic performance of statistical methods, correlation and multiple regression analysis was used
Statistical method included correlation coefficient and multivariate regression analysis.

3. Results

3.1 Demographic and self-discipline variables are correlated with academic performance

Table (1): the correlation of self-discipline, mothers' education and occupation with academic performance

Row		Academic performance		
		correlation	common variance	Significance level
1	Self-discipline	0.195	3.8	0.006
2	Mother's education	0.199	3.9	0.005
3	Mother's occupation	0.146	2.1	0.0141

Analyzing and interpreting the data through Spearman test (table 1) illustrates that correlation coefficient between mother's education and academic performance of children are 0.199 (R= 0.199) with P value (significance) of 0.005 and as P value is smaller than significance level of α = 0.05, H0, that means no relationship is rejected and therefore a meaningful relationship exists between mother's education and academic performance of children.

Given the way the points cluster and the slope this issue has been confirmed. Furthermore, positive correlation coefficient and the slope of the Trend Line demonstrate that a direct relationship exists between these two variables. Moreover, coefficient of determination (common variance) between mother's education and academic performance of children is 3.9 or in other words, mother's education accounts for 3.9 per cent of the changes of academic performance of children. Correlation coefficient between mother's occupation and academic performance of children is 0.146 (R= 0.146) with P value (significance) of 0.041 and as P value is smaller than α= 0.05, H0 that means no relationship is rejected ,thus a significant relationship exists between mother's occupation and academic performance of children.

This has been confirmed considering the way the points cluster and also the Trend Line. Furthermore, positive correlation coefficient and the slope of the Trend Line reveal that there is a relationship between these two variables. Coefficient of determination (common variance) likewise between mother's occupation and academic performance of children are 2.1 or in other words, mother's occupation accounts for 2.1 per cent of the changes of academic performance of the children. Besides, no significant correlation was shown between other demographic variables like parents' age, father's education and occupation, economic status of family, number of family members and the degree of academic performance of children.

Analyzing and interpreting data through Pearson test (table 1) show that correlation coefficient between two variables of self-discipline and academic performance of children is 0.195 with P value (significance) of 0.006 and as P value is smaller than α=0.05, H0 which refers to no relationship is rejected and hence a significant relationship exists

between self-discipline and academic performance of children at fifth-grade of elementary school in Isfahan city. This is confirmed according to the way the dots cluster as well as the Trend Line. Additionally, positive coefficient correlation and the slope of the Trend Line are displays of direct relationship between these variables. Coefficient of determination (common variance) between self-discipline and academic performance is 3.8 or in other words, 3.8 per cent of the changes for academic performance is explained by self-discipline.

3.2 Demographic and self-discipline variables are significant predictors of academic performance

Table (2): Anticipating academic performance on the basis of demographic and self-discipline variables

step	Index variable	Anticipating factor	R	R2	Non-standard coefficient		Standard coefficient	T	P
					B	standard error	β		
Step 1	Academic performance	mother's education	0.199	0.039	0.185	0.066	0.199	2.824	0.005
Step 2		Mother's education			0.181	0.064	0.195	2.812	0.005
		Self-discipline	0.276	0.076	0.005	0.002	0.191	2.761	0.006

Academic Performance=0.195 mother's education+0.191 self-discipline

The results of step-wise regression analysis so as to anticipate academic performance based on demographic variables along with self-discipline illuminated that among all variables under investigation in the first step, mother's education with regression coefficient of 0.199 can predict %3.9 of academic performance. As P value is smaller than significance level of α=0.05, null hypothesis is rejected and accordingly mother's education can anticipate academic performance.

In the second step self-discipline has been added to mother's education and with correlation coefficient of 0.276 they can anticipate % 7.6 of academic performance. That is, self-discipline and mother's education totally predict %7.6 of academic performance and as P value is smaller than significance level of α=0.05, null hypothesis is rejected and consequently mother's education and self-discipline can anticipate academic performance.

Other variables as a result of not having correlation with academic performance or overlap with other variables have been excluded from the equation. In line with this, regression equation coefficients for anticipating academic performance are derived as follows and all coefficients are statistically significant and prove that this equation can anticipate academic performance of students.

Self-discipline 0.005+ mother's education 0.18+19.12= academic performance

4. Discussion and Conclusion

The purpose of this study was to examine the proportion of self-discipline and demographic variables in anticipating academic performance of girl students at fifth-grade of elementary school in Isfahan city. The findings of the research revealed that a positive and meaningful relationship exists between academic performance and self-discipline and self-discipline can anticipate the changes associated with academic performance effectively.

The results of the current research confirm Brooks and Goldstein's (2009) findings. They believe that self-discipline can assist children in having better academic performance and a positive and meaningful relationship exists between self-discipline and academic performance. The findings also accord with Fine's results; Fine (2006) came to the conclusion that a principal factor which prevents students from benefiting maximum potential of their intelligence to reach better academic performance is the inability in self-discipline. The results are also consistent with what Seligman and Dockworth (2005) mentioned in their investigation as the role of self-discipline in anticipating academic performance.

They reached to the conclusion that both intellectual abilities (including long-term memory and the ability to think abstractly) and non-intellectual abilities (including motivation and self-discipline) surely influence academic performance of students. Nevertheless, self-discipline is a greater predictor of academic performance compared with IQ. In another study, Duckworth and Seligman (2006) claimed, on the role of gender differences in self-discipline, that higher self-discipline is positively and meaningfully correlated with higher education.

Mantzicopoulos (1995) and Row (1992) both concluded in separate studies that concentration, a form of self-discipline, is associated with academic performance of students and reinforcing self-discipline (concentration) can improve students' academic performance. It seems that Instructional package of this investigation could lead to better academic performance of students by reinforcing self-discipline components. Such investigations can pave the way for teachers and parents in advancing better academic performance of students.

Another result of this research reflected that there is a positive and meaningful relationship between mother's

education and academic performance and mother's education can effectively anticipate the changes related to academic performance. This outcome is consistent with the results of Majidi (1997), Amerizadeh (2002), Hossein Chari and Kiani (2008), Bakhtiarpour (2008) and Khayer (1997) studies. Conducted studies in Iran have shown that parents' education is one of the major criteria that determines the cultural and social environment of families and can affect children's abilities and beliefs whether directly or indirectly. Khayer (1997) points up the role of variables like the income level, degree of education, and parents' occupation on the extent of academic progress of children.

In the present research the only predictive factor of, relevant to, children's academic performance among demographic variables is the level of mothers' education and other variables including parents' age, father's education, parents' occupation, number of family members, and economic status of families showed no meaningful relationship with academic performance and probably it stemmed from low distribution level of these variables among participants' families.

The research results concerning the fact that no relationship exists between economic status of families and academic performance of children Consist with the results of Bakhtiarpour research (2008). Studies in this respect show diverse results; some studies have demonstrated that those who are from low-class and lower economic status exhibit weaker academic performance but in some investigations the relationship between economic status of families and academic performance has not been confirmed.

According to the result of the research mother's education is likely to influence different aspects of children's lives pervasively. To elucidate the above-mentioned studies it has to be said that educated mothers provide a more suitable condition , even before birth, for raising their children and they apply more effective interventions in a variety of aspects like nutrition, health care, education, and even in children's interrelationships and endeavor to cooperate with their children as well as teachers actively.

This study similar to other studies in the field of Humanities has met some limitations. For example, average grade of students' first-semester scores cannot be the best criteria for academic progress. It seems that in the case that piloted tests of academic progress exist, the results will be more reliable. To generalize the results, it is also suggested that future investigations be implemented for boy students.

References

Amerizadeh, M. (2002). Examining the relationship between personal charecteristics of mothers and progress motivation of students and its effect onacademic performance of middle-school students of Isfahan county (unpublished MA dissertation). Faculty of Psychology and Educational Sciences, University of Isfahan.

Bakhtiarpour, S. (2008). Predicting academic performance of students of University of Ahvaz based on intelligence, education history and demographic variables. New Findings in Psychology, 12 (7), 81-94.

Brooks, R., & Goldstein, S. (2009). Raising a self-disciplined child. New York: McGraw Hill .

Duckworth, A. L., Seligman, M. E. P. (2005). Self- discipline outdoes IQ in predicting academic performance of adolescents. Psychological Science, 16, 939-944.

Duckworth . A. L., Seligman M.E.P(2006). Self- discipline gives girls the edge. Journal of educational psychology 98(1)198-208.

Donoghue, L., Zimmerman, R., Gupp.P, Novak, S, colon,s & Abell , R(2000). Sensation seeking impulsive decision-making and risky sex. Personality & individual difference, 28, 1079-1091.

Duckworth, A. L., & Kern, M. (2011). A meta-analysis of the convergent validity of self- control measures. Development of psychology, 45 (3) , 250-268.

Fine, C. (2006). Self- discipline: the road to academic success. Australian, June, 14.

Hossein Chari, M., & Kiani, R. (2008). Relationship between some demographic variables and perceived self-efficacy in social interactions with peers among junior high school students. Iranian Journal of Psychiatry and Clinical Psychology, 14 (2), 184-191.

Lavoie, R. (2005). It's so much work to be your friend (helping the child with learning disabilities find social success). New York: a touchstone book.

Lynam, D., Caspi, A., Moffit, T., Wikstroem, P., Loebe, R., Novak, S. (2000). The interaction between impulsivity and neighborhood context of offending: the effects of impulsivities stronger in pooper neighborhoods. Journal of Abnormal psychology, 109, 363-547.

Majidi, B. (1997). A survey on the relationship between some socioeconomic characteristics of families and educational success and failure of third-grade middle school students of Meyaneh county in the academic year 1995-1996 (unpublished MA dissertation). Shahid Beheshti University.

Mantzicopoulos , P.Y.M,(1995). A comparison of boys and girls with attention problem: Kindergarten through second grade. American Journal of orthopsychiatry, 64, 522-533.

Mccol,M.D(2000). Personality traits of impulsivity and sensation seeking and their relation to high-risk sexual behavior in males. Dissertation abstracts international, 60(8-13), 4237.

Romer, D., Duckworth, A. L., Sznitman, S., & Park, S. (2010). Can adolescents learn self- control? Delay of gratification in the

development of control over risk taking preview science, 11 (3), 319-330.

Row , K.J& Row,K.S(1992).The relationship between inattentiveness in the classroom and ready achievement : part B: An explanatory study. Journal of the American academy of child& adolescent psychiatry, 31,357-368.

Saeidi, Z. (2010). Teaching effect with the aid of multi-media programs on learning self-regulation, self-efficacy and academic performance of girls' high school students of Izeh county and its comparison with traditional method (unpublished MA dissertation). Faculty of educational sciences and psychology, University of Isfahan.

Seif, A. A. (1996). Methods of measurement and educational evaluation. Tehran: Ravan Publication.

Schaefer, E. S. (1978). A circumflex model for maternal behavior. Journal of Abnormal and Social Psychology, 59, 226-235.

Shoda, Y., Mischel, W., & Peake, P. K. (1990). Predicting adolescent cognitive and self- regulatory competencies from preschool delay of gratification. Developmental psychology, 26 (6), 978-980.