

# DEVELOPMENT OF A SELF-REGULATION PACKAGE FOR ACADEMIC PROCRASTINATION AND EVALUATION OF ITS EFFECTIVENESS

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## Abstract

**Background:** Procrastination is a common phenomenon that is mainly observed in school settings. Recognized as a self-regulatory failure, procrastination is believed to adversely affect students' academic achievements. **Aim:** To develop a self-regulation package in order to predict academic procrastination, and to evaluate its effectiveness. The package was developed from 3 sources: Self-regulation components predicting academic procrastination developed in a previous study, opinions of psychologists and teachers contacted during the study, and the literature. The package helped students in the following ways: to recognize the reasons for their academic procrastination; to improve their motivation to decrease academic procrastination; to learn how to set goals and how to organize their lessons; to use metacognitive strategies to manage time/ study environment and to regulate their efforts. **Methods:** Sixty-six students were randomly assigned to experimental (n=33) and control (n=33) groups. The students in the experimental group were taught the self-regulation package over ten sessions. To evaluate the effectiveness of the package, all students were asked to complete the Motivated Strategies For Learning questionnaire (MSLQ) and the Procrastination Assessment Scale-Student (PASS) before, immediately after and 21 days after instructions with the self-regulation package. **Results:** The mixed ANOVA showed statistically significant ( $p < 0.001$ ) effectiveness of self-regulation package for all subscales of academic procrastination in the experimental group. **Discussion:** The findings are discussed with regard to prior research on self-regulated learning and procrastination. Implications for school psychologists and teachers also are presented and discussed.

*Keywords:* Academic procrastination, self-regulation package

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## **1. Introduction**

Procrastination is regarded as a behavioral habit which is prevalent in different societies and is increasingly growing. This habit is along with postponing duties and tasks and has unpleasant consequences (Blunt, 1998). Rosario, Costa, Nunez, Gonzalez-Pienda, Solano, and Valle (2009) believe that although procrastination might happen in all daily activities, but procrastination in doing school assignment is more frequent. Solomon and Rothblum (1984) define academic procrastination in postponing academic tasks including preparation for taking exams, preparing paper during the semester, official tasks related to school and continuous presence in classes. Procrastination leads to high degree of anxiety and depression in the student and reduces its self- esteem (Lay, 1992; Lay & Schouwenburg, 1993; Lay & Silverman, 1996). Consequently, the reports of students of their procrastination indicate negative meaningful difference with their academic performance (Beswick, Rothblum & Mann, 1998). Generally, the researches done in this filed indicate that procrastinators have less motivation to become successful (Lum, 1960; as cited in Steel, 2007). Burka and Yuen (1982, p. 32) noted that those who have serious problems with procrastination generally tend to attribute their difficulties to personality flaws, such as being lazy, undisciplined, or not knowing how to organize their time (as cited in Senecal, Koestner, and Vallerand, 1995). However, according to them, procrastination is a way for expressing inner controversies and preserving self- esteem against susceptibility. Solomon and Rothblum (1984) assert that although students consider different reasons for their negligence, most of them relate it to fear of failure (including anxiety in performance, perfectionism and lack of self- esteem). Recent researches speak of other motivational factors which are related to academic negligence. These studies offer some ways to regulate individual behaviour which is effective on academic achievements and results, among them are the feeling of curiosity, persistence, learning, performance, affect and self-esteem (Vallerand & Bissonette, 1992; Vallerand et al., 1992 quoting from Senecal et al., 1995). The most comprehensive theory about regulation the behavior of people is self-regulation theory mentioned by Deci and Ryan (2000, 1991, 1987, 1985) Steel (2007) considers procrastination a common and frequent form of failure in self-regulation. Self- regulating learning is that kind of learning in which individuals begin and guide their efforts themselves instead of relying and depending on teachers, parents or educational bodies for getting knowledge and skills (Zimmerman, 1989). Unfortunately, students in schools not only lack sufficient basic knowledge of effective guidelines but also they don't know how to select and evaluate these guidelines when have not good educational functioning and correct false guidelines (Dembo & Eaton, 2000; Win Stein, Husman, and Dierking, 2000; Zimmerman, 2002). It seems necessary to try to create some solutions which

reduce procrastination in students. When adolescents learn self-regulating skills and as a consequence learn how to deal with their procrastination, they gain important skills (Dembo & Eaton, 2000). In this research it is tried to regulate the educational package based on self-regulating solutions of Iranian students which is predictor of educational procrastination (Motiei, Heydari, & Sadeghi, 2012), the comments of expert groups of psychologists and research background not based on the researchers done in western cultures but based on Iranian students' functioning.

## **2. Research Questions**

- i. Is self-regulating educational package effective on decreasing educational procrastination?
- ii. Is self-regulating educational package reliable and stable on reducing educational procrastination?

## **3. Research Methods**

The sample of the present study is all students educating in first grade of high school in Tehran city. For teaching self-regulating package, multi-steps sampling has been used.

### *3.1. Research Executive Steps*

In the first step of the research, the relation between self-regulating items and educational procrastination (Motiei et al., 2011) has been investigated. Then after investigation of filled questionnaires' items and studying prepared programs in other countries, and by use of the questionnaire which experts in procrastination have filled the educational package has been prepared. In final stage, after coordination with Education System of postal area 10-Tehran city, a girl school has been selected randomly. Referring to the specified school and negotiating with the school authorities, 66 students who postponed doing their assignments and personal works and recognized by school as students with weak functioning were introduced and divided into two groups of test and control. First the pre-test were taken from them and educational package were taught to test group within 10 sessions. After teaching, post-test was taken from both groups. After 21 days, follow-up test was taken from both groups, control group was specified to waiting list for self-regulating teaching.

### 3.2. Data Collection

#### 3.2.1. The questionnaire of motivational guidelines for learning

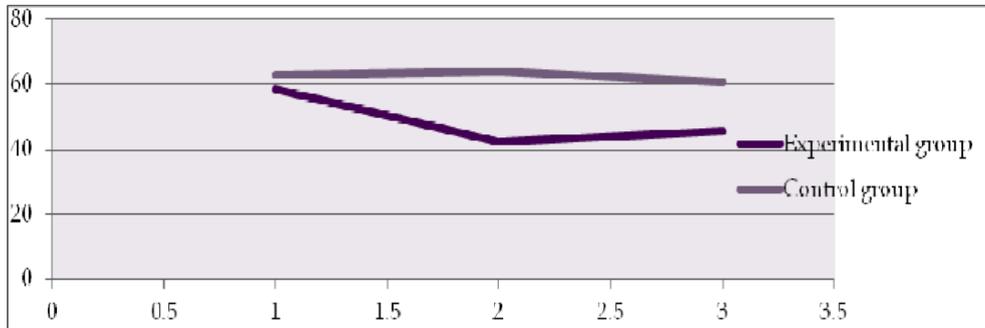
In order to investigate the cognitive and emotional self-regulation guidelines, the questionnaire of emotional guideline for learning has been used. This questionnaire includes two scale of "motivational beliefs" (31 article) and "Self-Regulated Learning Strategies" (50 articles) which is totally 80 articles. The raw material of this questionnaire is close end questions with 7 options in which the subjects respond to based on 7-extreme Likert scale based on their academic function (1- Never is true for me, to 7- Completely true). Alpha Cronbach coefficients related to 15-items micro tests of motivational strategies of learning in Pintrich et al. (1991) have been 0.7 in most items. This study has been done on 380 subjects which is indicative of high validity of this questionnaire. For their self-regulation scale, Khademi and Noshadi (2006) have reported internal consistency of 0.65 to 0.81. In the present study, the results of calculation for estimation of self-regulation questionnaire validity indicates that Alpha coefficient is in an acceptable level (Alpha= 0.91).

#### 3.2.2. Academic Procrastination Scale

This scale has been constructed by Solomon and Rothblum. The evaluation scale for Persian version of academic procrastination contains 27 items which investigate three elements: elements include preparation for examinations, preparation for doing assignments, preparation for final papers. In Dehghan's study (2009), the reliability of test is 0.79 through Alpha Cronbach. Solomon (1998) has reported the coefficient of 0.84 for validity of test through internal consistency validity. Dehghan (2008) has reported 0.78 for the internal consistency validity of preparation for paper. In Ali Madad (2009) study, for determining the validity, the correlation of the final number has been used considering all questions whose correlation coefficients have been meaningful in  $p < 0.01$ . In present study the calculation of Alpha Cronbach has been estimated 0.86 which is acceptable.

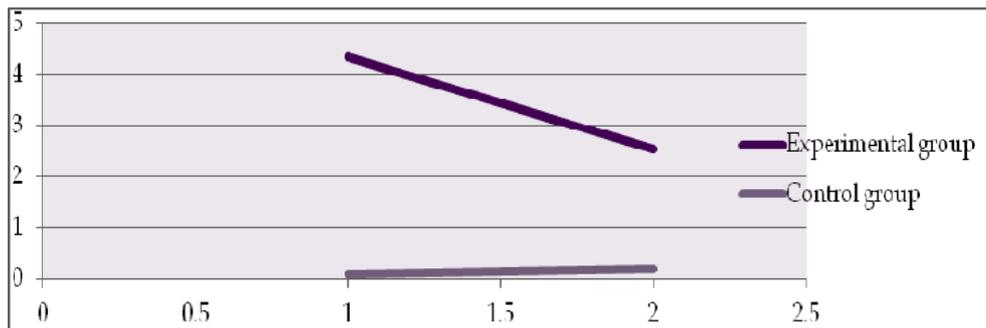
## 4. Findings

The effectiveness of educational package on procrastination has been investigated with Mixed Anova. The results of Kerwit Mochly test indicate that when  $\chi^2 = 53.6$ , degree of freedom is 2 and in meaningful level is less than 0.001,  $H_0$  is rejected and Kerwit term is not at work. So, in anova table related to total score of educational procrastination, the values related to Green House- Geisser are presented.



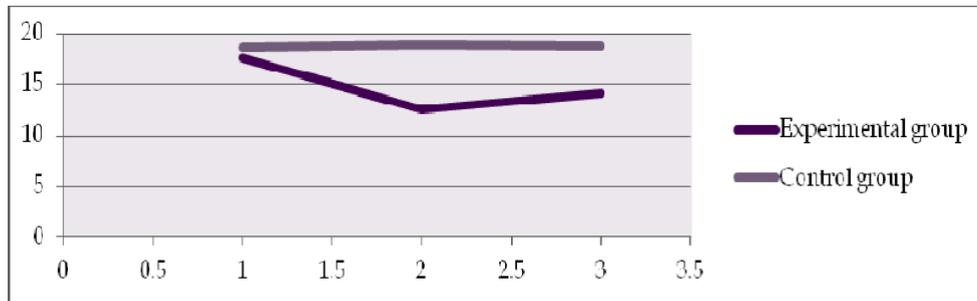
**Figure 1.** Mean value of education procrastination score in post-test and follow-up test

Figure 1 indicates that the mean value of education procrastination score in post-test and follow-up test of test group is meaningfully less than control group, this is indicative of effectiveness of test application (executing self- regulating educational package for reducing educational procrastination).



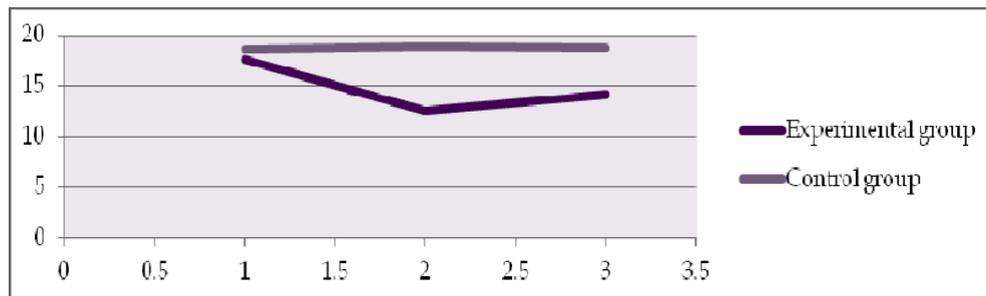
**Figure 2.** Mean value of procrastination variation in post-test and follow-up test

Figure 2 shows that the mean value of procrastination variation in post-test and follow-up of test group is meaningfully more than control group, which indicates the effectiveness of test application (executing self- regulating educational package for reducing educational procrastination) on procrastination in preparation for test.



**Figure 3.** Mean score of procrastination in doing assignments in post-test and follow-up test

Figure 3 shows that the mean score of procrastination in doing assignments in post-test and follow-up test of test group is meaningfully less than control group, which is indicative of effectiveness of test application (executing self-regulating educational package for reducing educational procrastination) on procrastination of doing homework and assignments.



**Figure 4.** Mean score of procrastination in doing educational projects in post-test and follow-up test

Figure 4 shows that the mean score of procrastination in doing educational projects in post-test and follow-up test of test group is meaningfully less than control group which indicates the effectiveness of test application (execution of educational package of self-regulating for reducing educational procrastination) on doing educational projects.

## 5. Conclusions

Based on research findings, the results of pre-test, post-test and follow up were shown in test and control group, educational package leads to reduction of procrastination in all three items of preparation for test, doing assignments and doing term projects. Also, it meaningfully reduces the total score of educational procrastination. These findings confirm previous

researches which show that self-regulation lead to reduction of educational procrastination (Rakes & Dunn, 2010; Senecal et al. 1995; Steel, 2007; Van Earde, 2000; Wolters, 2003). In self-regulating educational package for reduction of educational procrastination the focus was on teaching self-regulating items predicting educational procrastination and motivating students according to experts. It seems that self-awareness education (Dembo & Eaton, 2010), social imitation and giving feedback to students (Eslavin, 2009) can help promoting motivation in students and so reducing educational procrastination. Also, according to previous studies teaching self-regulating items which are predictor of educational procrastination could reduce educational procrastination in students. An external motivation like getting good marks keeps students motivated to a great extent (Wolters, 1998). Deci and Rayan (1991) believe that in order a society to have good functioning, the members of that society should do some activities that have not internal motivation for doing them and don't enjoy them. First, an external regulation of behaviour is needed, but it is hoped that it will become internal through time. Internalization is defined as a process which individuals actively change external regulation to internal regulation. Thus, it seems that teaching students how to change this external valuation to internal valuation can be effective. Sancal et al. (1995) argues that students who have internal motivation for study are less procrastinator. It seems in the present educational package, teaching internal and external valuation to students help them to have external regulation of behaviour and change this external regulation to internal regulation, so as proved in previous findings, procrastination decreases in them. According to Zimmerman (2004), short term goals facilitate reaching long term educational goals and also setting short term goals help much educational progress. It seems that determining these goals in present educational package has helped reducing of their educational procrastination. On the other hand, many researchers consider meaningful negative relation of cognitive and meta-cognitive solutions with educational procrastination (e.g., Havel & Watson, 2007; Kervin, et.al. 2011; Wolters, 2003). Students who don't procrastinate are well-informed of their learning through meta-cognitive solutions (self-questioning, self-supervising and self-evaluating), while procrastinators make use of these solutions less often. This finding is consistent with previous findings. Students who have meta-cognitive self-regulation have more educational motivation and are more successful than their peers (Pintrich, 2003). Wolters (2003, 2004) argues that not using meta-cognitive solutions leads to high degree of procrastination in students. Also, Havel, and Wanton (2007) believe that making use of learning and meta-cognitive solutions by students reduces procrastination in students. In order to gain meta-cognitive self-regulation students are required to be familiar with different solutions of extending, mental review, and organizing and problem-solving skills so that, when necessary, they can change the solutions

according to their goals (Pintrich, 2004). It seems that these solutions have been able to reduce students' procrastination to a great extent. Hawel and Watson (2007) report that non proper organizing leads to procrastination. It seems that regardless of proper education, perfectionist students spend much time for organizing the materials, which is not done in proper way. As an example they spend long hours preparing outline and ignore the main subject.

It might happen that if the student gains some skills like time management, s/he faces fewer problems in organizing educational matters and organizing in this situation can become negative predictor of educational procrastination. Creating challenging tasks in different ways can be useful regardless of increase of time pressure. In one way, time management is one of the self-regulating items which its negative meaningful relation with educational procrastination has been proved in previous findings (e.g., Lay & Shunberg, 1993; Dambo & Iyton, 2000; Van Arde, 2000). Teaching time management in present package along with self-regulating items has been able to help reducing educational procrastination. Planning can reduce procrastination in students to a great extent. In referring to the significance of time management, Smith (1994) explains: "you control your life with time management". This sentence can best explain why time management is a significant item of self-regulation. Developing time management skills indicate strong correlation with educational achievements of schools (Foulgin & Neson, 1995), increase of self-esteem (Ferari, 1994), lower level of acquired inability (Kline, Van der Plog, 1994), more competence feeling (Higbee & Dwinel, 1992). Rix and Dun regard effort regulation as the negative meaningful predictor of educational procrastination; it seems than making use of their solutions has helped reduction of educational procrastination of students in this research package. Efforts regulation helps students to continue their efforts in order to make use of learning solutions (Garci, Mc Cachi, 1991 as cited in Rix & Dun, 2010). In overall, theoretical and research principles related to effectiveness of self-regulation on reducing educational procrastination and results obtained from applying educational package prepared in research confirm effectiveness of self-regulating educational package on reduction of educational procrastination.

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