
Relationships between Motivational Beliefs and Active Procrastination: The Mediating Role of Self-Regulation

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ABSTRACT

This study examined the mediating role of self-regulation strategies in the relationships between motivational beliefs (self-efficacy, intrinsic goal orientation, and extrinsic goal orientation) and active procrastination. A total of 426 pre-service teachers studying in colleges of education in Northern Nigeria participated in the study. A descriptive correlation research design was employed to address the research objectives. Two instruments, namely the 'Motivated Strategies for Learning Questionnaire (MSLQ)' and 'Active Procrastination Scale' were utilized to assess respondent's levels of procrastination, motivational beliefs, and self-regulation. Pearson correlation and Structural Equation Modeling (SEM) were conducted to investigate the relationship between the motivational beliefs variables and active procrastination among the participants. Finding from the study indicates that the respondents demonstrate a moderate level of active procrastination. Findings also revealed that there were significant relationships between respondents' motivational beliefs (self-efficacy, intrinsic goal orientation, and extrinsic goal orientation) and active procrastination. Analysis using SEM indicated that there were indirect effects of self-efficacy and extrinsic goal orientation on active procrastination through self-regulation strategies as the mediator. Findings further show that there is no significant causal relationship between intrinsic goal orientation and active procrastination. Implications of the study and suggestions have also been offered.

Keywords: procrastination; self-regulation strategies; pre-service teachers; motivational beliefs.

INTRODUCTION

Procrastination, a behaviour that is characterized by postponing, delaying, putting off, or avoiding tasks that ought to be done to a later time, appeals to researchers in the past few decades. It is conceptualized as an intentional delay of an intended course of action, in spite of an awareness of negative outcomes which, often, results in unsatisfactory performance (Ferrari, O'Callaghan, & Newbegin, 2005; Steel, 2007). Steel (2007) observed that procrastination is extremely prevalent to the extent that almost all persons procrastinate; and some have made it a way of life. In essence, procrastination pervades all spheres of human life in the general and specific populations. In specific population, for instance, procrastination is a prevalent practice

among college and university students. Estimates indicate that 75% to 95% of college students are found to be procrastinating, with about 50% of them consistently and problematically procrastinate (Knaus, 2000; Ferrari et al., 2005).

Earlier researches regarded procrastination from maladaptive view point with relatively negative consequences. Procrastination is found to be related with low levels of academic self-efficacy and self-esteem (Hannok, 2011; Wolters, 2003), lower task value beliefs (Gropel & Steel, 2008), lower life satisfaction (Klingsieck, Fries, Horz, & Hofer, 2012), and effects on personal health (Sirois, Melia-Gordon, & Pychyl, 2003; Sirois, 2007). In addition, from self-regulated learning perspective (Pintrich, 2000; Zimmerman, 2008), procrastination is now considered

to be the lack of self-regulated performance which involves cognitive, affective and behavioural components (Cao, 2012; Wolters, 2003). In this sense, Steel (2007) viewed procrastination as an embodiment of self-regulation failure. Despite the fact that researchers have been making considerable efforts in describing its negative and harmful consequences, the prevalence of procrastination seems to be increasing (Cao, 2012).

However, a few researchers suggested that engaging in academic procrastination may be beneficial (Choi and Moran 2009). Chu and Choi (2005), for example, reported that some students benefit from working under time pressure and intentionally choose to procrastinate. Going along this alternative perspective, some researchers see procrastination as functional, adaptive, and beneficial (Choi & Moran, 2009; Klassen, Krawchuk, & Rajani, 2008). Tice and Baumeister (1997), in contrast, found that engaging in procrastination provides short term pleasure but long term stress and illness. Although procrastination has been studied in terms of its negative consequences, Chu and Choi (2005) highlighted that active procrastination has positive implications for individuals in terms of their self-efficacy beliefs, stress coping, and performance, among others. Therefore, the purpose of the present study was to examine self-regulation and motivational beliefs variables of self-efficacy, intrinsic and extrinsic goal orientations as predictors of active procrastination; and whether self-regulation plays mediating role in these relationships.

Motivational Beliefs

Motivational beliefs model, as developed by Pintrich, Roeser and De Groot (1994), consists of three general motivational components: expectancy, value, and affect. The expectancy component comprises of self-efficacy; the value component consists of goal orientation and task value beliefs; and affect component is represented by test anxiety.

Self-efficacy and Procrastination

Bandura (1986) described self-efficacy as “people’s judgements of their capability to organize and execute courses of action required in attaining designated types of performances” (p.391). That is, the individuals’ beliefs about their ability to perform are critical in human behaviour and motivation. Specifically, self-efficacy theory (Bandura, 1997) assumes that what individuals believe about themselves strongly influences their task choice, level of effort, persistence, resilience, and how well they subsequently perform. Many researches (e.g., Hen & Goroshit, 2014; Steel, 2007) have shown that self-efficacy is a strong and consistent predictor of procrastination. For instance, Hannok’s (2011) findings indicated a significant negative relationship between self-efficacy beliefs and procrastination. From active procrastination perspective, Chu and Choi’s (2005) study established that active procrastinators, who see procrastination as a positive learning strategy, have higher levels of self-efficacy in comparison to passive procrastinators who view procrastination in a traditional negative way.

Goal Orientations and Procrastination

Two general goal orientations have been proposed (Pintrich, 2003) for most models that concern the reasons or purposes individuals are pursuing when approaching and engaging in a task. These are intrinsic and extrinsic goal orientations. Student with intrinsic goal orientation focuses on mastery and learning, while those with extrinsic goal orientation approach the task with a specific concern about grades or pleasing others (Pintrich et al., 1994). Many studies have indicated that motivation plays a significant role in academic procrastination. For instance, students with intrinsic reasons for pursuing their studies were less likely to procrastinate; in contrast, those with extrinsic reasons were more likely to procrastinate (Cao, 2012; Lee, 2005). Howell and Watson (2007) investigated the relationship between procrastination and achievement goal orientation (mastery and performance goals) among undergraduate students. The results of this study indicated significant negative relationship between

procrastination and mastery goal orientation. However, correlation was not found between procrastination and performance goal orientation. On their part, Chu and Choi (2005) reported that non-procrastinators and active procrastinators among undergraduate students were found to demonstrate higher level of extrinsic motivation than passive procrastinators; no significant difference was found in intrinsic motivation.

Self-Regulation Strategies and Procrastination

Self-regulation involves the way people employ the use of internal and external cues to determine when to begin, when to sustain, and when to terminate their goal-directed behaviours. Zimmerman (2000) considers self-regulation as a process of cognitive engagement, which is cyclical in nature, where purposive behaviour is planned, adapted and evaluated. This is further enunciated by Pintrich (2000) in which self-regulation is referred to as the ability of students to monitor, control, and regulate their own cognitive engagements and actual behaviour. From academic point of view, self-regulation involves the degree to which students are meta-cognitively, motivationally, and behaviourally active participants in their own learning process (Zimmerman, 2008). According to Pintrich (2000), self-regulatory activities mediate the relationships between personal and contextual characteristics and actual achievement or performance. Wolters (2003) asserted that deficits in self-regulatory behaviours, such as cognitive strategy use and monitoring important aspects of learning, result in an avoidance of tasks – a prelude to procrastination. Thus, students' motivation and the extent to which they engage in procrastination behaviour were also significantly related with their learning strategies (Pintrich, 2000; Zimmerman, 2008). Research shows that students who tend to procrastinate were found to be not able to effectively manage their learning by being unable to select and use effective strategies that required effort and time to develop (Howell & Watson, 2007; Steel, 2007; Wolters, 2003); thus,

resulting in experiencing low academic achievement or performance (Onwuegbuzie, 2004).

The Present Study

The present study explores the relationship between self-regulation and motivational beliefs variables of self-efficacy and goal orientations in relation to active procrastination from self-regulated learning perspective. Specifically, this study aims to investigate whether self-efficacy, intrinsic goal orientation, extrinsic goal orientation, and self-regulation can predict active procrastination among pre-service teachers in colleges of education in North-Western Nigeria. Based on past research findings, the researcher hypothesized that self-efficacy, goal orientations, and self-regulation would be positively related to active procrastination. In addition, since most of the models of self-regulated learning assumed that self-regulatory activities are mediators in the relationships between personal and contextual characteristics and actual achievement or performance (Pintrich, 2000), it is hypothesized that self-regulation strategies would mediate the relationships between self-efficacy, intrinsic goal orientation, extrinsic goal orientation, and active procrastination. Following are the objectives of the study: (1) to determine the level of active procrastination among pre-service teachers in colleges of education in North-Western Nigeria; (2) to explore the relationship between motivational beliefs (self-efficacy, intrinsic goal orientation, and extrinsic goal orientation), self-regulation strategies and active procrastination; and (3) to determine the mediating effect of self-regulation strategies on the relationship between self-efficacy, intrinsic goal orientation, extrinsic goal orientation and active procrastination.

METHODOLOGY

This study utilizes a descriptive correlational research design to address the research objectives. Data were analyzed using descriptive and inferential statistics. A total of 426 pre-service teachers from three colleges of education in North-Western Nigeria participated in the study. The respondents included

223 males (52.3%) and 203 females (47.7%). Their ages ranged from 19 to 33 ($M=22.12$, $SD=2.67$). They were all in the final year of their training programme. A multi-stage cluster sampling was used to select the sample for this study. In the first stage, from the existing twelve colleges of education in the North-West zone of Nigeria, which served as the accessible population for this study, three colleges were randomly selected from which the sample was drawn.

The present study employed the use of two instruments to measure respondents' levels of motivational beliefs and active procrastination. These measures are "Motivated Strategies for Learning Questionnaire (MSLQ)" and "Active Procrastination Scale". The Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991) was used to measure the respondents' levels of self-efficacy, intrinsic goal orientation, extrinsic goal orientation, and self-regulation. It is a self-report instrument designed to assess college students' motivational orientations and their use of different learning strategies for a college course (Pintrich et al., 1993). It is widely used in educational research (Rotgans & Schmidt, 2010) for the measurement of a large number of motivational and self-regulated learning constructs. All items were scored on a 4-point Likert type scale, from 1 ("Strongly Disagree") to 4 ("Strongly Agree"), which was a slight modification of the original scale. The 8-item self-efficacy scale, a component of the MSLQ, was used to assess participants' levels of self-efficacy. Example of the items includes "I believe I will receive excellent grades in most of my courses." The reported coefficient alpha reliability of the scale is .93. The alpha reliability for the self-efficacy scale for this sample was .81.

The total score of the 4-item MSLQ's intrinsic goal orientation scale was used to assess the levels of intrinsic goal orientation of the respondents. Sample item include "The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible". The reported coefficient alpha reliability of the scale is .74; and for this sample was .73. Also, the extrinsic goal orientation subscale

of the MSLQ consists of 4 items used to measure the respondents' levels of extrinsic goal orientation. Sample item for this scale include "I want to do well in this course because it is important to show my ability to my family, friends, employer, or others." The reported Cronbach's alpha reliability estimate was put at .62 (Pintrich et al., 1991); and in the present sample the reliability for MSLQ's extrinsic goal orientation was .71.

In addition, the self-regulation level of the respondents was measured by the use of the items from the metacognitive, time management and effort regulation subscales of the MSLQ. Accordingly, the self-regulation scale used for this study consists of 22 items, some of which include "When reading for this course, I make up questions to help focus my reading" (Metacognitive); "I make good use of my study time for courses" (Time Management); and "Even when course materials are dull and uninteresting, I manage to keep working until I finish" (Effort Regulation). For this sample, the Cronbach's alpha reliability estimate for self-regulation scale was .72.

Choi and Moran's (2009) Active Procrastination Scale was used to assess the respondents' level of active procrastination. It is a 16-item scale designed to measure four defining characteristics of active procrastinators. These four dimensions are outcome satisfaction (e.g., "If I put things off until the last moment, I'm not satisfied with their outcomes" [Reversed]); preference for pressure (e.g., "It's really a pain for me to work under upcoming deadlines" [Reversed]); intentional decision to procrastinate (e.g., "I intentionally put off work to maximize my motivation"); ability to meet deadlines (e.g., "I have difficulty finishing activities once I start them" [Reversed]). All the items were scored on 4-point Likert type scale from 1 ("Strongly Disagree") to 4 ("Strongly Agree"). Composite score of these four subscales was used to assess the overall level of the tendency of individuals towards active procrastination. The reported Cronbach's alpha reliability estimate was put at .80; and in this study the reliability was .77.

RESULTS

To address the first objective, the mean scores of the respondents' levels on active procrastination, as the dependent variable of the study, were analyzed and are presented. According to Table 1 below, frequency distribution of the respondents levels of active procrastination shows

that 5 or 1.2% were at the low level, 264 representing 62.0% were in the moderate level, while 157 (36.9%) were found to be at the high level. This, therefore, indicates that majority of the respondents for this study were at the moderate level of active procrastination ($M=49.18$, $SD=8.76$).

Table 1: Distribution of the Respondents Levels and Mean Score for Active Procrastination

	Frequency	Percentage (%)	Mean Score	Std. Deviation
Active Procrastination			49.18	8.76
Low (20.00-34.66)	5	1.20		
Moderate (34.67-49.32)	264	62.00		
High (49.33-64.00)	157	36.90		

Pearson correlations were calculated to address the second objective which explores the relationship between motivational beliefs (self-efficacy, intrinsic goal orientation, and extrinsic goal orientation), self-regulation strategies and active procrastination. The correlation analysis in Table 2 shows that active procrastination scores were significantly related to self-efficacy ($r=.17$), intrinsic goal orientation ($r=.19$), extrinsic goal orientation ($r=.25$), and self-regulation ($r=.38$). Furthermore, self-regulation strategies was found to be significantly and positively related to both intrinsic and extrinsic goal orientations ($r=.41$ and $.62$ respectively), and self-efficacy ($r=.59$).

Table 2. Correlations of the variables of the study (n = 426)

Variables	1	2	3	4	5
1. Active Procrastination	-				
2. Self-Efficacy	.17**	-			
3. Intrinsic Goal Orientation	.19	.45**	-		
4. Extrinsic Goal Orientation	.25**	.52**	.43**	-	
5. Self-Regulation Strategies	.38**	.59**	.41**	.62**	-

Note. ** $p < .01$.

To address the third objective, which is to determine the mediating effect of self-regulation strategies on the relationship between self-efficacy, intrinsic goal orientation, extrinsic goal orientation and active procrastination, SEM was employed. The overall structural model provided a good model fit with fit indices in an acceptable range: $\chi^2=322.926$; $DF=164$; $\chi^2/DF=1.969$; $GFI=.93$; $CFI=.96$; $NFI=.93$; and $RMSEA=.05$. The standardized regression weights for the indirect effects (see Table 3) show that there is an evidence of mediating effect of self-regulation strategies on the relationship between self-

efficacy and extrinsic goal orientation on active procrastination. The estimate indicates that there is significant effect of self-efficacy ($\beta=.263$, $p < .05$) and extrinsic goal orientation ($\beta=.225$, $p < .05$) on self-regulation; and that self-regulation, in turn, significantly affects active procrastination ($\beta=.440$, $p < .05$). However, the findings show that there is no significant causal relationship between intrinsic goal orientation and active procrastination. Table 2 below presents the standardized regression weights for the structural paths.

Table 3. Standardized Regression Weights for *a* and *b* Paths

Structural Path	a-path	b-path
Self-Regulation Strategies ← Self-Efficacy	.263*	
Self-Regulation Strategies ← Intrinsic Goal Orientation	-.033	
Self-Regulation Strategies ← Extrinsic Goal Orientation	.225*	
Active procrastination ← Self-Regulation Strategies		.440*

Note: * $p < .05$

DISCUSSION

The main objective of the present study was to examine motivational beliefs (self-efficacy, intrinsic goal orientation, and extrinsic goal orientation) and self-regulation as predictors of active procrastination among pre-service teachers in colleges of education. Also, the study looked into the mediating role of self-regulation in these relationships. There were two major findings from this study.

The first major finding was that all the variables of the study were found to be related. In other words, there were positive relationships between motivational beliefs variables (self-efficacy, intrinsic goal orientation, and extrinsic goal orientation) and active procrastination. These findings were found to have both supported and contradicted earlier findings. For example, Chu and Choi's (2005) findings were in line with the results of this study as they found significant positive relationship between self-efficacy and active procrastination. In addition, Cao (2012) found that active procrastination positively predicts self-efficacy. However, Gendron's (2011) study found no significant relationship between self-efficacy for learning and performance and active procrastination. Similarly, Seo (2013) reported that self-efficacy did not predict active procrastination. Again, the findings of this study were consistent with the observation that students who have strongly believed in their ability to excel tend to start their academic tasks early (Steel, 2007; Wolters, 2003). The positive correlation found between self-efficacy and active procrastination in this study might be explained by the influence of other interrelated variables, such as self-regulation strategies involved in the study. As Seo (2008) suggests procrastination

depends on the complexity of interaction among intrapersonal factors. Hence, students with high sense of self-efficacy may tend to actively procrastinate under the influence of some other factors such as self-regulation or task value beliefs.

Moreover, the finding of this study that intrinsic goal orientation is not a predictor of active procrastination was supported by the findings of Chu and Choi (2005). That is, there was no direct relationship between intrinsic motivation and active procrastination. Also, among the three groups (active, passive, and non-procrastinators) studied, Cao (2012) found active procrastinators to have reported the lowest level of intrinsic motivation, "suggesting that they were the least motivated to study for the reasons such as challenge, curiosity and mastery in the class" (p. 537). These results, however, contradicted the findings of earlier investigations (Ferrari, 1993; Schraw, Wadkins, & Olafson, 2007) where the adaptive values associated with procrastination had been examined. For instance, according to Schraw et al. (2007), students reported that when they procrastinate course material become more engaging, interesting, and less boring. Related to this, Corkin, Yu, and Lindt (2011) observed that students who delay actively may not be intrinsically engaging in academic tasks. This is because, if the aim is to master the task, students probably would not intentionally plan to postpone the work to a deadline. Also, the findings of this study demonstrated that there is positive and significant relationship between extrinsic goal orientation and active procrastination. These results contradict the findings of Chu and Choi (2005) that no significant relationship between extrinsic goal orientation and active procrastination.

The second major finding of this study was that self-regulation strategies mediate the relationship between self-efficacy, extrinsic goal orientation and active procrastination. The findings of this study show that self-efficacy is indirectly related to active procrastination through self-regulation. This complex relationship between procrastination, self-regulation, and self-efficacy was first introduced by Bandura (1997). Bandura posited that when sufficient levels of ability and motivation exist, students' levels of self-efficacy beliefs have direct bearing on the way and the manner in which they initiate task; the way they expend effort in terms of self-regulation, and their academic attainment. Furthermore, from social cognitive theory of self-regulation perspective, Bandura (1991) emphasize that self-efficacy is a "major mechanism of self-directedness that exerts strong impact on human thoughts, affect, motivation, and action" (p. 257). Bandura (1991) further suggests that individuals' beliefs in their efficacy has effect on the type of choices they make, how much effort they expend in a particular task, and how long they persevere in the face of difficulty; and that self-beliefs of efficacy affect self-regulatory processes of one's performances and their outcomes. Thus, the findings of this study show that students' self-efficacy beliefs are related with their self-regulation strategies which, in turn, relate with active procrastination. In this sense, students who are high in self-efficacy beliefs tend to use more self-regulatory strategies and achieve satisfactory outcomes.

Furthermore, the findings of this study indicated that extrinsic goal orientation is indirectly related to active procrastination through self-regulation strategies. These findings are in line with Chu and Choi's (2005) model of procrastination where they suggested that active procrastinators, relatively, reported high levels of extrinsic motivation; and that of Cao (2012) findings which demonstrated that active procrastinators reported higher extrinsic motivation than non-procrastinators. They further maintained that active procrastinators depend on extrinsic source of motivation, such as setting of deadlines to perform (Cao, 2012; Chu & Choi, 2005).

Thus, the findings of this study demonstrate that extrinsically goal orientated students tend to actively procrastinate through their ability to apply self-regulation strategies for the attainment of desirable outcomes.

CONCLUSION AND IMPLICATIONS

The findings of this study established the mediating effect of self-regulation in the relationship between self-efficacy, extrinsic goal orientation, and active procrastination; this underscores the importance of self-regulation in procrastination research. The results essentially lend a strong support to the theory of self-regulated learning which assumed that "self-regulatory activities are mediators between personal and contextual characteristics and actual achievement or performance" (Pintrich, 2000, p. 453). This, further, attests to the fact that procrastination is characteristically a failure in self-regulation (Steel, 2007). Thus, one important theoretical implication of this study is its focus on self-regulatory activities in relation to procrastination research. In practice, the significant role played by self-regulation in relation to procrastination, as demonstrated by the findings of this study, could be of great help. Ability to self-regulate plays an important role in the dynamics of procrastination. As such, self-regulation may be a key to understanding procrastination. In this regard, active procrastination, contrary to the Chu and Choi's (2005) claim that it is a 'positive' form of procrastination, may be a form of self-regulation strategy employed by individuals to attain desirable outcomes. Therefore, for better understanding of active procrastination, the focus of future research should be on examining its relationship with self-regulation strategies.

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