Moderating Roles of Hardiness and Self-Efficacy in the Relationship between Flow and Academic Procrastination on Academic Performance: A Structural Equation Model Approach

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ABSTRACT

Academic procrastination is common among students and is due to various reasons. One of the reasons can be difficulty level of the task. To involve in the task and experience a deep sense of enjoyment, there should be balance between students' skills and task challenges which is a characteristic of flow. The present study aimed to find out the moderating role of Hardiness and Self-efficacy in the relationship between Flow and Academic Procrastination on Academic Performance. For that 170 undergraduate students were taken from different streams using stratified random sampling method. Procrastination Scale, Dispositional Flow Scale, Hardiness Scale and Self-efficacy scales were used to measure the proposed variable in the model. Results showed a significant negative relation between academic performance and procrastination and a positive relation between Academic Performance, flow, and Self-efficacy. However, there seems no significant relationship between academic performance and hardiness. Structural equation modeling results reveal that procrastination has a significant direct effect on performance and that self-efficacy plays a moderating role in the relationship between flow and procrastination on academic performance, whereas hardiness is non-significant. Hence, it can be concluded from the SEM analysis result that model can be partially accepted. The implications of the study suggest designing the syllabus to match the abilities of all the students, training to elude procrastination and to increase a student's level of self-efficacy.

Keywords: *Hardiness, Self-efficacy, Flow, Academic Procrastination, Academic Performance*

Wellbeing is integral to the education process. Mental and physical wellbeing are good predictors of academic performance. According to a report from the National Center for Clinical Infant Programs, confidence, curiosity, intentionality, self-control, relatedness, capacity to communicate and ability to cooperate are the key elements which will provide students the knowledge of how to learn to reach out success in academics. But there are numerous factors

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which could possibly distract a student from persevering success. Schraw, Wadkins, & Olafson, (2007) stated that the majority of the students submits their assignments before the dateline, there are some who do hand in their work late or do not hand it in at all. There are multiple reasons as to why the work was not handed in on time, most of the time the reasons given are illegitimate or not plausible (Ferrari, Driscoll, & Diaz-Morales, 2007). Particularly researchers have noted academic procrastination as a prominent cause for the aforesaid problem. Procrastination is the action of delaying or postponing something. Academic procrastination can be described as unnecessarily delaying academic activities that one ultimately intends to complete, to the point of creating emotional discomfort (Solomon & Rothblum, 1984). Academic procrastination usually tends to have negative consequences. Procrastination has been considered a self- handicapping behavior that leads to wasted time, poor performance, and increased stress (Steel, 2007). Investigators such as Ferrari *et al.,* (2007); Ferrari and Tice (2000); Ferrari, Johnson, and McCown, (1995) have often depicted procrastinators as lazy or self-indulgent individuals who are unable to self-regulate. In contrast, non-procrastination has been associated with high efficiency, productivity, and superior performance, and non-procrastinators are often described as organized and highly motivated individuals.

Procrastination is something individuals deal with, on a daily basis. Students often spend their time distracted and hence a given task remains incomplete. It has been estimated that over 70% of students engage in procrastination (Ellis & Knaus, 1977). According to Ferrari, Johnson, and McCown (1995) there are some major cognitive distortions that lead to academic procrastination are (a) Overestimate how much time they have left to perform tasks, (b) Overestimate how motivated they will be in the future, (c) Underestimate how long certain activities will take to complete and (d) Mistakenly assume that they need to be in the right frame of mind to work on a project. Although both the practical literature and the academic literature have associated negative connotations to procrastination, investigators have found that procrastination can induce some short-term benefits. For example, Tice and Baumeister (1997) reported that compared with non-procrastinators, procrastinators experience less stress and have better physical health when deadlines are far off. In this sense, procrastination can be seen as a strategy that they use to regulate negative emotions, thereby making the individual feel better, at least temporarily (Baumeister, Heatherton, & Tice, 1994). Moreover, in principle, whether a person does a task far ahead of a deadline or only slightly ahead of it does not necessarily affect the quality of the work (Jaffe, 2013). Therefore, practically speaking, procrastination does not necessarily have a negative impact on the effectiveness of the task performance. In a similar vein, Knaus (2000) argued that not all delays lead to negative out-comes. For example, delays resulting from the time that was spent planning and gathering vital preparatory information can be beneficial (Alexander & Onwuegbuzie, 2007; Howell & Watson, 2007; Choi & Moran, 2009). Many people claim that even when they start to work at the last minute, they can still finish on time and that they tend to work better and faster or generate more creative ideas under time pressure. Based on the common conception that poor structuring, indiscipline impedes performance, it

would seem as an important way that increases procrastination, but it cannot be said that procrastination is just due to poor time management or structuring work. A study by Solomon, Laura (1984); Burka and Yuen (2008), indicate that procrastination is not solely a deficit in study habits or time management, but involves a complex interaction of behavioral, cognitive, and affective components towards a given task.

As already mentioned that procrastination may depend on the task, it requires an individual to be involved in the task to get the optimum result. A task that is defined as either too easy or difficult depending on skill may challenge the student's desire to work towards the result. If students perceive their skills to be in accordance with the task given, they are said to be in a state of flow. Csikszentmihalyi (1992) stated that an imbalance between skills and challenges leads to either boredom or anxiety, whereas the match of skills and challenges lead to flow. In essence, flow is characterized by complete absorption in what one does and optimal experience. Csikszentmihalyi (1990, 1997) and his colleagues defined optimal experiences as those that are accompanied by a merging of action and awareness, strong concentration on the task at hand, and a loss of awareness of time. At such times, people concentrate so hard on the current task that they forget about time and the world around them: They are thoroughly engrossed. Further, these activities are accompanied by positive emotions. They termed this quality of experience "flow."

Flow is the mental state of operation in which a person performing an activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. Csikszentmihalyi and other researchers have suggested that procrastination among successful college students may have little impact on performance because it allows them to achieve a sustained level of flow (Lay, Edwards, Parker, & Endler, 1989; Schraw,Wadkins, & Olafson 2007). Schraw, Wadkins, and Olafson(2007) suggested that peak work experience is one of the adaptive aspects of procrastination. In their study, respondents indicated that procrastination ultimately increases the likelihood of achieving a deep state of flow because procrastinators work under pressure for an extended period of time in which all of their resources are focused on one goal. Nakamura and Csikszentmihalyi (2002) suggested a flow channel along which, as opportunities for action (tasks) relative to skills dropped off and as challenges increasingly exceeded the capacities for action, a region of boredom matched a region of anxiety, as challenges increasingly exceeded capacities for action could lead to procrastination. It was found that a high level of procrastination was associated with a low incidence of the flow state. They also found that procrastinators experienced a greater sense of challenge and peak experience immediately prior to examinations which interfere with one's performance (Lee, 2005). Choi & Moran (2009) revealed that time pressure resulting from procrastination can create a feeling of stress and anxiety and can disturb the flow for few students whereas for others it creates a feeling of challenge. Hinske et al., (2007) gave a few aspects that determine rewarding and challenging experience in an individual and they are (a) Concentration (b) Clear (c) Immersion (d) control and (e) challenge.

The ability to view obstacles as a normal mode of life, genuine interest and curiosity about the task and the self-control can make a person more focused towards working. Hardiness is an aspect of personality that affects the way individuals view and behave in stressful situation (Luthar, Cicchetti, & Becker, 2000). People high in hardiness tend to see the world as interesting and meaningful one and they actively involved in various activities around them. Challenge, commitment and control are the three components of a cognitive appraisal process termed as Hardiness (Kobasa, 1979).Kobasa,Maddi, and Kahn (1982) defined Personality Hardiness as "a constellation of personality characteristics that function as a resistance recourse in the encounter with stressful life events". Maddi (1997) stated that Personality Hardiness is composed of three interrelated elements such as Commitment (the ability to feel deeply involved in activities of life), Control (the belief one can control or influence events of one's experiences), and Challenge (the sense of anticipation of change as an exciting challenge to further development). A result found by Pychyl, Lee, Thibodeau, and Blunt of Carlton University (2000) says that lack of self-control could lead to procrastination. However, studies showed that hardiness is positively related to physical and mental health and that it mitigated negative health outcomes of stressors (Kobasa & Puccetti, 1983; Kobasa, Maddi, & Zola, 1983; Maddi & Kobasa, 1984). Orr & Westman (1990) revealed that hardiness is significantly related to psychological well-being and adjustment. Kobasa (1979) stated that effects of hardiness on mental health are mediated by appraisal and coping mechanism.

As mentioned before, procrastination could lead to poor performance that could affect one's idea about themselves and their skills. Self-efficacy describes students' beliefs about whether they are capable of successfully accomplishing a particular task, activity, or assignment (Bandura, 1997). Wäschle, Allgaier, Lachner, Fink, and Nückles (2104) revealed that vicious circle of procrastination and a virtuous circle of self-efficacy. Students who recorded high levels of procrastination assessed their goal achievement as being low. As a consequence of low goal achievement, they reinforced procrastination. Students who recorded high levels of self-efficacy assessed their goal achievement as being high. As a consequence of high goal achievement, self-efficacy increased. High self-efficacy students reported higher academic aspirations and pursuits than low self-efficacy students. They also spent more time in homework, and primarily associated learning activities with optimal experience says a study by Bassi, Steca, Fave, Vittorio (2007). Self-efficacy mediated the effect of perceived goal achievement on procrastination. It is assumed that students who perceive the tasks to be equivalent to their capacities have a higher feeling of efficacy. According to a study by Rudina Shkullaku, European University of Tirana (2013), there is a strong positive relationship between self-efficacy and academic performance. Therefore, it can be stated as disturbed flow causes procrastination, which in turn causes anxiety prior to examination thus hindering performance.

Academic procrastination could be due to various reasons and is on the rise. Tasks, assignments remain pending due to it. The need for this study is to check if a student perceiving challenges at

hand to be too difficult or easy compared to his skills leads to academic procrastinating and if hardiness and self-efficacy affects the relation between flow and the student's academic procrastination. Based on common conception that students who keep their work pending till the last minute may fare poorly compared to those do not wait till the last minute, it can be used to find out if academic procrastination in the end affects a student's academic performance, the results of which can be implicated to students. Another need is to fill the lack of knowledge between the variables.

METHODS

The study adopted a predictive descriptive survey design which included both an examination of the relationship among model constructs as well as an evaluation of the ability of the model to determine the student's academic performance. The sampling consisted of 250 undergraduate students both males and females (51.8% female, 48.1% male) of different streams. Participants were selected by random sampling method and administered four self-report Inventories viz., hardiness scale, dispostional flow state scale, procrastination scale and self-efficacy. During the administration, appropriate instructions were given to them by stating the aim and objectives of the proposed study. Before proceeding to the main study, due permission was obtained from the concern college authority. The participants were assured that the individual anonymity of the individual responses will preserved and only the summarized results were reported.

Measures
Hardiness Personality
Eighteen item Hardiness questionnaire developed by Maddi and Kobasa (1984) was used to measure hardiness personality (ability of individuals to turn stressful circumstance into growth inducing experiences). All the items are rated on a four point scale (0= not at all true; 3= very true). The scale consists of three dimensions:

(i) **Commitment** measures the extent to which individuals seek involvement rather than withdrawal. Commitment contains a vital motivational quality that compels the individual to persist in pursuing a goal even in the fact of repeat obstacles, for example, "*By working hard, you can always achieve your goal*".

(ii) **Control** deals with the extent to which individual strives to exert over their circumstances rather than feeling powerless. Perception of control or the degree to which a stressor is seen as under an individuals' control are thus important in the appraisal of threat (e.g., "*Most days, life is really interesting and exciting for me*".

(iii) **Challenge** measures the extent to which individuals strive to learn from experiences rather than feeling threatened, one of the examples of an item is "*My mistakes are usually difficult to correct*".

Dispositional Flow State Scale

Disposional flow sate scale is developed by Jackson and Eklund, (2004) and it consists of 36-item which measures the nine dimensions of flow: challenge-skill balance, action-awareness merging, clear goals, unambiguous feedback, concentration on task, sense of control, loss of self-consciousness, time transformation, and autotelic experience. Each item will be rated according to the respondent experience in a predetermined activity on a 5-point Likert scale ranging from 1 (never) to 5 (always). Jackson and Eklund (2004)provide sufficient evidence to suggest that DFS-2 is a suitable tool for studying flow dispositions. In a previous study using DFS-2 involving 386 participants aged between 17 and 72 years old, the internal consistency of the instrument was reported to range from .81 to .90, with a mean alpha of .85 (Jackson & Eklund, 2002). Another cross validation study done on the instrument that involved 574 respondents revealed reliability estimates of .78–.86, with a mean alpha of .82 observed (Jackson & Eklund, 2002). The instrument is deemed to have good construct validity based on the results reported in the various studies (Jackson & Eklund, 2004).

Procrastination Scale

The scale was developed by Tuckman (1991) which measure procrastination tendencies. Although to the largest extent, this scale was widely used to measure academic procrastination (Klassen & Kuzucu, 2009). The scale was reported with a reliability of $\alpha = .86$ whereas other studies found that an average reliabilities of $\alpha = .89$ (Lay 1986; Steel, 2010). The procrastination Scale consists of 16-items which are scored on a four point Likert scale (i.e. 1 = that's me for sure, 2 = that's my tendency, 3 = that's not my tendency, 4 = that's not me for sure). For Example *"I postpone starting in on things I don't like to do."*

Self-Efficacy Scale

The Generalized Self-Efficacy Scale (GSES) developed by Matthias Jerusalem and Ralf Schwarzer (1992), consists of 10-item designed to assess optimistic self-beliefs. This is the belief that one can perform a novel or difficult task, or cope with adversity in various domains of human functioning. Perceived self-efficacy facilitates goal-setting, effort investment, persistence in the face of barriers and recovery from setbacks, for example *"I can always manage to solve difficult problems if I try hard enough."*

Academic Performance

The Researcher collected students' term's marks and aggregated the marks to measure their academic performance.

RESULTS

Table 1, Mean, SD, and Correlation coefficient of Academic Performance, Procrastination, Flow, Self-Efficacy and Hardiness

	Constructs	Mean	SD	1	2	3	4	5
1	Academic Performance	69.20	12.40	-				
2	Procrastination	37.44	8.10	-.51**	-			
3	Flow	116.75	18.35	.68**	-.73**	-		
4	Self-Efficacy	27.35	5.06	.47**	-.592**	.64**	-	
5	Hardiness	29.46	4.62	$.09^{ns}$	-.17*	$.14^{ns}$	.20**	-

*. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed). Ns – Not significant

From the above Table 1, the first column of the correlation coefficients showed the bivariate relationship between the criterion variable and independent (i.e. Flow and Procrastination) and moderating variables (i.e. Self-Efficacy and Academic Performance). The results revealed that independent measures were significantly correlated with each other, for instance, the flow was moderately and positively correlated with the criterion variable (r = .68, p < .01). While the "procrastination" (r= -.51, p < .01) was negatively correlated with academic performance.

The moderating variables such as Self-efficacy and Hardiness was also included in the analysis, the results shown that self-efficacy was positively inter-correlated with independent and criterion variables (i.e. Academic Performance, r = .47; Flow r = .64; Procrastination r = -.51; and Hardiness r = .20). Further, the results indicated that hardiness factors failed to show a statically significant relationship with other variables, except self-efficacy (r = .20).

Table 2, Standardized and unstandardized path coefficients and significance level of direct path of study variables

Regression paths	Standardized Path coefficient (β)	Unstandardized Path coefficient (β)	Standard error	Critical Ratio (t-value)	Sig
Flow ---➤ Procrastination	- .614	- .62	.064	-9.630	***
SF ---➤ Procrastination	- .188	- .19	.065	-2.912	**
FL x SF ---➤ Procrastination	- . 166	- .17	.050	-3.297	***
HRD ---➤ Procrastination	- .060	- .06	.050	-1.211	*Ns*
FL x HRD ---➤ Procrastination	- . 095	- .10	.054	-1.764	*Ns*
Procras ---➤ Acad Perf	- .508	- .51	.066	-7.660	***

* p < .05, ** p < .01, *** p < .001, NS – not significant
SF – Self-Efficacy, FL – Flow, HRD – Hardiness, Procras – Procrastination, Acad Perf – Academic Performance

Table 2 shows that the path coefficient between the Independent, moderating and outcome variable. The results revealed that Flow (β = - 0.614, t-value = -9.630) has a significant direct effect on Procrastination. Similarly, self-efficacy (β = - 0.18, t-value = - 2.912) have exceeded the significant level of t-value (1.96) which implied that the constructs had a significant effect on the procrastination. Contrarily, the hardiness factor (β = - 0.06, t-value = -1.211) shows an insignificant relation relationship with procrastination.

Further, self-efficacy shows a moderate significant relationship between flow and procrastination with β value of -.166; t value of -3,297 and which, in turn, significantly influence the students' academic performance (i.e. β = - 0.614, t-value = -9.630). While looking the hardiness score on the above table 2, it can be inferred that the variable failed to produce a moderating effect on flow and procrastination. Further, the result has been depicted in the following figure 1.
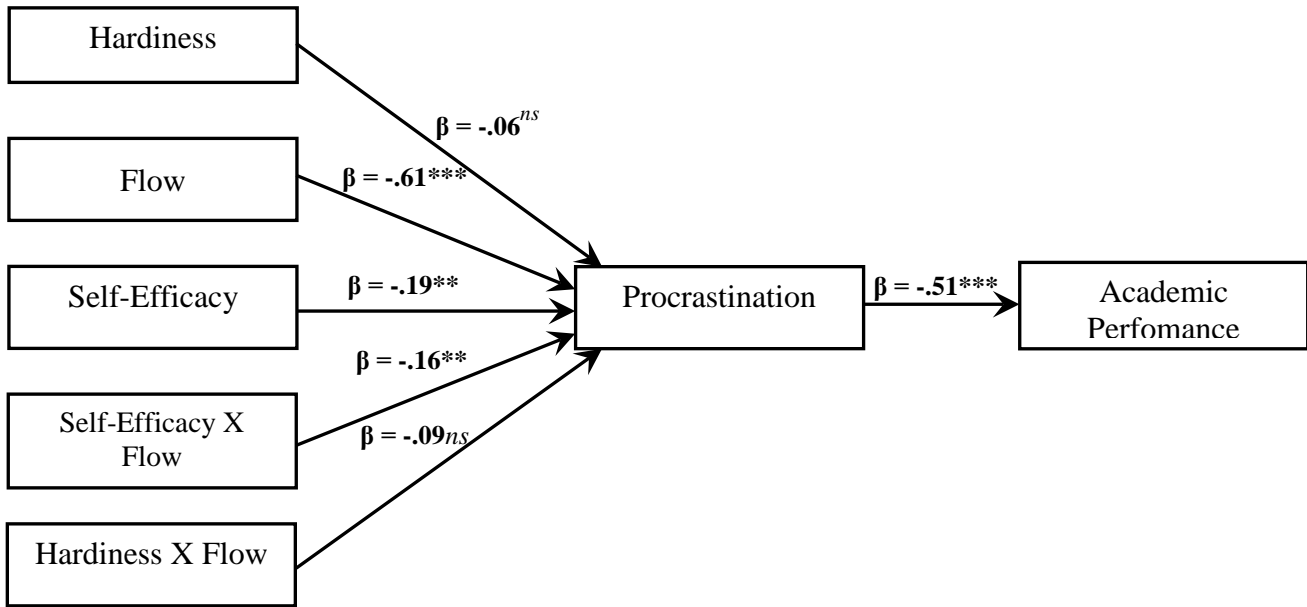
Fig 1 The conceptual model represented in the form of a path model and a visual depicting regressions estimated reported in the table 2.

Table 3, Goodness-of-Fit Indexes for Structural Equation Models

χ^2 (df)	SRMR	GFI	AGFI	CFI	RMSEA
55.091(5)*	0.052	.926	.893	.853	.043

Note. N= 170; SRMR = Standardized Root Mean Square Residual (values < .06 suggest a very good fit, values > .10 suggest a poor fit); GFI = Goodness-of-Fit Index (values close to 1.0 suggest a perfect fit, values close to 0 suggest a poor fit); CFI =Comparative Fit Index (values > .90 suggest a good fit); RMSEA = Root Mean Square Error of Approximation (values < .05 suggest a very good fit, values > .10 suggest a poor fit). *p < .01.

Table 3, displayed the result of goodness of the fit for the study variable showing various fit indices such as χ^2 = 55.091 (p = 0.00), SRMR = .052, RMSEA = 0.43, GFI = .926, AGFI = .893, and CFI = .853, which suggested that model exhibits the adequate fit.

DISCUSSION

In the present era, academic performance is given a lot of importance in every context. Be it for an application for further studies or a job, academic performance is one of the main reasons a candidate is preferred over the others. Other than the known factors of the bio-psycho-social model like intelligence, socio-economic status, motivation, etc., what are the other factors that affect a student's performance?

This study was conducted with an interest to find out how hardiness and self- efficacy can moderate the relationship between flow and academic procrastination that could bring about a

change in the academic performance. From the results, we can conceptualize that there exists a significant relationship between the chosen variables of the study. However hardiness has a non-significant relationship with academic performance and procrastination. The dimensions of flow are positively correlated with academic performance and all the dimensions except action awareness and time transformation which non-significant, are negatively correlated with procrastination. Researchers have found that challenge-skill balance was a significant predictor of procrastination (Kim& Seo, 2013). One of the plausible reasons for procrastination is helplessness in the face of complexity, which can be seen in terms of inability to match one's skills to the challenges- flow in short. Nakamura and Csikszentmihalyi (2002) suggested that when a person's skill is higher than the challenge, it could lead to boredom which is another factor for procrastinating.

The control dimension of hardiness is positively related to academic performance and negatively related to procrastination. The other dimensions of hardiness, commitment and challenge have a non- significant relation with both academic performance and procrastination.

From the path model, it is evident that flow and self-efficacy have a direct effect on procrastination. Regression coefficient value reveals that self -efficacy plays a moderating role between flow and procrastination which in turn directly affects academic performance. Burka and Yeun (2008) suggest that the constant thought of, "what If I am unable to cut it" leads to procrastination. Fear of failure intensifies and the student feels it is better not to work at all than to fail. Students miss deadline, are faced with stress and waste their time instead of working on goals (Solomon, Rothblum & Murakami, 1984) explains the effect of procrastination on performance. The other chosen moderating variable, hardiness has no significant effect on procrastination according to results. It is also seen that hardiness does not play a moderating role in the relation between flow and procrastination on academic performance. It is assumed that undergraduate studies other than honors program require students to take up subjects other than their area of interest (e.g. If a student wants to take up psychology, he will also have to take up economics, journalism, literature etc.). Sometimes students take up subjects other than their interests due to various reasons like finance, family pressure, etc. This may hinder their commitment towards studies overall and they may also have a sense of helplessness and loss of control over their situation thus affecting their performance. This study hypothesized that there will be a significant effect of the proposed model on the student's academic performance. Though hardiness does not seem to act as a moderating variable, self–efficacy does. Hence the use of this model can contribute to a student's performance other than other factors.

IMPLICATIONS

Students' first and foremost have to be educated about procrastinating and must be given training to elude procrastinating since more than 70% of the student population, procrastinate (Ellis and Knaus, 1977) Teachers, from the model can help students in any grade increase their

performance. The main idea for the teachers and significant others is to increase the child's self-efficacy. This can be done through various ways like: (a) *Mastery experiences* – students' successful experiences boost self-efficacy, while failures erode it. This is the most robust source of self-efficacy; (b) *Vicarious experience* - observing a peer succeed at a task can strengthen beliefs in one's own abilities; (c) *Verbal persuasion* - teachers can boost self-efficacy with credible communication and feedback to guide the student through the task or motivate them to make their best effort and (d) *Emotional state* -a positive mood can boost one's beliefs in self-efficacy, while anxiety can undermine it. A certain level of emotional stimulation can create an energizing feeling that can contribute to strong performances. Teachers can help by reducing stressful situations and lowering anxiety surrounding events like exams or presentations.

It is also necessary for the teachers and parents understand the child's performance ability. Every time the child performs well, be it a small step or a big step, he/must be appreciated instead of being looked over. Teachers must also understand that individuals have different capacities and hence must introduce subjects and topics in a way that all students can comprehend easily. This will enhance their skills in facing challenges. Students are not the only ones who have to be trained. Syllabus' have to be designed in such a manner that every child/student should be able to master the subject and students must be given an option to pursue what they love.

REFERENCES

Alexander, E. S., & Onwuegbuzie, A. J. (2007). Academic procrastination and the role of hope as a coping strategy. *Personality and Individual Differences*, *42*(7), 1301-1310.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bassi, M., Steca, P., Delle Fave, A., & Caprara, G. V. (2007). Academic self-efficacy beliefs and quality of experience in learning. *Journal of Youth and Adolescence*, *36*(3), 301-312.

Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. Academic Press.

Burka, J. B., & Yuen, L. M. (2008). *Procrastination: Why you do it, what to do about it now*. Da Capo Press.

Choi, J. N., & Moran, S. V. (2009). Why not procrastinate? Development and validation of a new active procrastination scale. *The Journal of social psychology*, *149*(2), 195-212.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper Perennial

Csikszentmihalyi, M. (1997). *Finding Flow. The psychology of engagement with everyday life*. New York: Basic Books.

Csikszentmihalyi, M., & Csikszentmihalyi, I. S. (1992). *Optimal experience: Psychological studies of flow in consciousness*. Cambridge university press.

Ellis, A., & Knaus, W. J. (1977).*Overcoming procrastination*. New York: Signet Books.

Farr, V. (2003). *The Role of Celebration in Building Classroom-Learning Communities*. Unpublished PhD Dissertation, East Tennessee State University.

Ferrari, J. R., & Tice, D. M. (2000). Procrastination as a self-handicap for men and women: A task-avoidance strategy in a laboratory setting. *Journal of Research in Personality*, 34(1), 73-83.

Ferrari, J. R., Driscoll, M., & Diaz-Morales, J. F. (2007). Examining the self of chronic procrastinators: Actual, ought, and undesired attributes. *Individual Differences Research*, 5(2), 115-123.

Ferrari, J. R., Johnson, J. L., & McCown, W. G. (1995). *Procrastination and task avoidance: Theory, research, and treatment*. Springer Science & Business Media.

Hinske, S., Lampe, M., Magerkurth, C., & Röcker, C. (2007). Classifying pervasive games: on pervasive computing and mixed reality. *Concepts and technologies for Pervasive Games-A Reader for Pervasive Gaming Research*, *1*, 11-38

Howell, A. J., & Watson, D. C. (2007). Procrastination: Associations with achievement goal orientation and learning strategies. *Personality and Individual Differences*, *43*(1), 167-178.

Jackson, S. A., & Eklund, R. C. (2002). Assessing flow in physical activity: The Flow State Scale-2 and Dispositional Flow Scale-2. *Journal of Sport and Exercise Psychology, 24,* 133–150.

Jackson, S. A., & Eklund, R. C. (2004). *The flow scale manual.* Morgantown, WV: Fitness Information Technology.

Jaffe, E. (2013). Why wait? The science behind procrastination. *Observer, 26,* 12-16.

Jerusalem, M., & Schwarzer, R. (1992). Self-efficacy as a resource factor in stress appraisal processes. *Self-efficacy: Thought control of action*, 195-213.

Kim, E., & Seo, E. H. (2013). The relationship of flow and self-regulated learning to active procrastination. *Social Behavior and Personality: an international journal*, *41*(7), 1099-1113.

Knaus, W. J. (2000). Procrastination, blame, and change. *Journal of Social Behavior and Personality, 15,*153–166.

Kobasa, S. C. (1979). Stressful life events, personality, and health: an inquiry into hardiness. *Journal of personality and social psychology*, *37*(1), 1.

Kobasa, S. C., & Puccetti, M. C. (1983). Personality and social resources in stress resistance. *Journal of Personality and Social Psychology, 45,* 839–850.

Kobasa, S. C., Maddi, S. R., & Zola, M. A. (1983). Type A and hardiness. *Journal of Behavioral Medicine, 6,* 41–51.

Kobasa, S., Maddi, S. & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology, 42* (1), 168-177.

Lay, C. H., Edwards, J. M., Parker, J. D., & Endler, N. S. (1989). An assessment of appraisal, anxiety, coping, and procrastination during an examination period. *European Journal of Personality, 3,*195–208.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child development*, *71*(3), 543.

Maddi, S. R. (1997). Personal Views Survey II: A measure of dispositional hardiness. In C. P. Zalaquett & R. J. Woods (Eds.), *Evaluating stress: A book of resources.* New York: Univ. Press.

Maddi, S. R., & Kobasa, S. C. (1984). *The hardy executive: Health under stress.* Homewood, IL: Dow Jones-Irwin.

Nakamura, J., & Csikszentmihalyi, M. (2002). Theconstruction of meaning through vital engagement. In C. Keyes & J. Haidt (Eds.), *Flourishing* (pp. 83–104). Washington, DC: American Psychological Association.

Orr, E., and Westman, M. (1990). Does hardiness moderate stress, and how?: A review. In Rosenbaum, M. (ed.), *Learned Resourcefulness: On Coping Skills, Self-Control, and Adaptive Behavior,* Springer, New York.

Pychyl, T. A., Lee, J. M., Thibodeau, R., & Blunt, A. (2000). Five days of emotion: An experience sampling study of undergraduate student procrastination. *Journal of Social Behavior & Personality*, 15(5), 239-254.

Schraw, G., Wadkins, T., & Olafson, L. (2007). Doing the things we do: A grounded theory of academic procrastination. *Journal of Educational psychology, 99*(1), 12.

Shkullaku, R. (2013). The relationship between self–efficacy and academic performance in the context of gender among Albanian students. *European Academic Research, 1 (4)*, 467-478.

Solomon, L. J., & Rothblum, E. D. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of counseling psychology, 31*(4), 503.

Steel, P. (2007). The nature of procrastination: a meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological bulletin, 133*(1), 65.

Tice, D. M., & Baumeister, R. F. (1997). Longitudinal study of procrastination, performance, stress, and health: The costs and benefits of dawdling. *Psychological science*, 454-458.

Tuckman, B. (1991). The development and concurrent validity of the procrastination scale. *Educational and Psychological Measurement*, 51, 473-480.

Wäschle, K., Allgaier, A., Lachner, A., Fink, S., & Nückles, M. (2014). Procrastination and self-efficacy: Tracing vicious and virtuous circles in self-regulated learning. *Learning and Instruction, 29,* 103-114.