

Overview of the Dissertation Process within the Framework of Flow Theory: A Qualitative Study

Esra Cakmak^a

Yıldız Teknik University

Ozge Oztekin^d

Eskişehir Osmangazi University

Sabiha Isci^b

Eskişehir Osmangazi University

Sahin Danisman^e

Eskişehir Osmangazi University

Fatma Uslu^c

Çukurova University

Engin Karadag^f

Eskişehir Osmangazi University

Abstract

The purpose of this study is to examine the flow of doctoral students who are also research assistants and in the dissertation process. The study was designed using the case study method. The case undertaken in the study was the dissertation process. Eleven participants were selected into the study using maximum variation sampling. Face-to-face, semi-structured interviews were conducted with the participants. Descriptive analysis was used to analyze the transcripts. The descriptive analysis of the data identified four main themes: (i) personal characteristics, including tackling challenges, sense of responsibility and planned work habits; (ii) interest in the field, including decision making about postgraduate education, satisfaction from postgraduate education, the fit between the doctoral field and the student's interests and skills, and academic goals; (iii) emotional attachment, including enjoyed stages of the dissertation process, feelings aroused by the dissertation, and concentration on the dissertation process; and (iv) living the flow.

Keywords: Flow theory • Dissertation process • Attachment to the job • Case study

a Esra Cakmak, College of Education, Yıldız Teknik University, Esenler, Istanbul 34210 Turkey
Email: ecakmak@yildiz.edu.tr

b Sabiha Isci, College of Education, Eskişehir Osmangazi University, Meşelik, Eskişehir 26480 Turkey
Email: sabish_1989@hotmail.com

c Fatma Uslu, Çukurova University, Balcalı, Sarıçam, Adana 01330 Turkey
Email: fuslu@cu.edu.tr

d Ozge Oztekin, College of Education, Eskişehir Osmangazi University, Meşelik, Eskişehir 26480 Turkey
Email: osgeoztekin@hotmail.com

e Sahin Danisman, College of Education, Eskişehir Osmangazi University, Meşelik, Eskişehir 26480 Turkey
Email: sahin.danisman@gmail.com

f Corresponding author

Assoc. Prof. Engin Karadag (PhD), College of Education, Eskişehir Osmangazi University, Meşelik, Eskişehir 26480 Turkey

Research areas: Educational research methodological characteristics; Meta-analysis; International comparison educational research [TIMSS, PISA ...]; Organizational behavior; Leadership

Email: engin.karadag@hotmail.com & enginkaradag@ogu.edu.tr

Time is a silent saw.

Emmanuel Kant

The purpose of doctoral training, located at the center of academic practices, is to allow students to conduct independent studies, to interpret scientific phenomena from a wide and deep perspective and to gain the ability to determine the steps needed to reach a new synthesis (Stubb, Pyhältö, & Lonka, 2011). Doctoral education consists of the following basic processes: (i) course work, (ii) advisor assignment, (iii) proficiency exam, (iv) dissertation proposal, (v) evaluation of the dissertation by the dissertation monitoring committee and (vi) dissertation defense. Katz (1997) stated that strategies should be identified for the effective and productive completion of the doctoral process, which consists of several steps. He also added that for PhD education to be successful, students must have various skills, such as academic writing, research, practice, time management, and planning. Doctoral education is a process that requires not only the students but also the faculty and advisors to engage in planning. The literature's recommendations for the successful completion of the process include limiting the number of students under the responsibility of the advisor (Noble, 1994), providing economic support to students (Bowen & Rudenst, 1992), organizing workshops for the academic development of students (Atwell, 1996) and determining a common time for the selection of research topics (Vekkaila, Pyhältö, & Lonka, 2013).

As seen from the statements above, various stakeholders have responsibilities for the implementation of the doctoral dissertation process. Doctoral students, who prove themselves in terms of academic achievement, are faced with various challenges in the dissertation process; these challenges arise from their own work strategies or from other stakeholders (Vekkaila et al., 2013). A review of the related literature found that students are constantly in troublesome situations during their doctoral education (Hyun, Quinn, Madon, & Lustig, 2006), have a high rate of attrition (Gardner, 2007; Golde, 2005), leave the doctoral track as a result of encountering negative experiences (Chiang, 2003) or halt their education (Stubb et al., 2011). Wright (2003) stated that in the dissertation process, students encounter various problems, such as difficulties with their advisors and colleagues, the inability to balance academic life and personal life and financial difficulties in addition to the academic

challenges that they face. The motivation and focus levels of doctoral students, who face all these challenges, should be high in order to complete the dissertation process (Vekkaila et al., 2013). Csikszentmihalyi (1990) stated that individuals can direct their full energy toward a target if they physically and mentally force their own limits to achieve challenging targets and consciously focus their attention on the defined target. Individuals who have such an experience will have a high level of motivation and *flow* experience.

Flow Theory

Flow theory addresses the process of healthy individuals' engagement in activities that may improve their cognitive skills. It includes feeling a sense of control, having a high level of concentration on the work performed, enjoying cognitive pleasure, and having harmony between the skills and the performed tasks (Csikszentmihalyi, 1990). Csikszentmihalyi argues that it is possible for an individual to achieve happiness by controlling his inner life. He stated that an individual can maintain control of his inner life and can live the most enjoyable moments in his life by directing his attention to realistic goals and matching his skills with the challenges he encounters. In such a case, an individual who completely focuses on his work will live the flow experience and will recognize that he has control over the actions that he performs. An individual who recognizes that he has control over the achievement of his goal is aware of the challenges that he will encounter and his existing capabilities (Csikszentmihalyi, 1997). According to Csikszentmihalyi (1990), flow experience is closely associated with positive emotions, a high level of concentration, intrinsic motivation and the sense of control. Schüler (2010) stated that individuals experience intrinsic motivation in activities that are within their interests; they entirely focus on these types of activities. The autotelic experience, which Csikszentmihalyi (1997) has described as intrinsic motivation, is a significant feature of flow experience. According to the studies that have revealed a positive relationship between flow experience and intrinsic motivation, individuals have intrinsic motivation for the activities that they perform through their free will and thus experience flow (Csikszentmihalyi & LeFevre, 1989; Graef, Csikszentmihalyi, & McManama-Gianinno, 1983). Extrinsic motivation prevents the flow experience because it is a source of concern (Csikszentmihalyi, 1997). Concern, which is a negative experience,

places stress on individuals and leads individuals to strive for an external reward.

Some features of flow theory are considered as the sub-dimensions of flow experience. These can be listed as follows: (i) a clear purpose, (ii) equal and high level of skills and challenges, (iii) focused attention, (iv) control, (v) loss of self-consciousness, (vi) feedback, (vii) a change in the perception of time and (viii) autotelic experience (Csikszentmihalyi, 1990; Novak & Hoffman, 1997; Novak, Hoffman, & Yung, 2000).

- (i) A clear purpose: Individuals know exactly and clearly what they want to do, and they are consistent when performing the relevant action.
- (ii) Equal and high level of skills and challenges: The difficulties encountered and the qualifications needed to address these challenges are compatible with each other. During flow experience, if the challenge is overly high compared to the individuals' skill level, they feel concern. In the opposite case, they become bored.
- (iii) Focused attention: Individuals direct their attention and energy to the action that the activity requires and fully focus on the task at hand.
- (iv) Control: Individuals' control over the activity process. Individuals who experience flow during the process are aware that they can reach excellence, they do not experience a fear of failure, they feel strong and they dominate the activity.
- (v) Loss of self-consciousness: Individuals do not consider their ego. Individuals with active consciousness are not aware of active awareness. Individuals do not care how they are viewed and what people around them think about them.
- (vi) Feedback: If feedback about tackling the challenges is received instantly and clearly, individuals can experience pleasure and focus more on the activity.
- (vii) A change in the perception of time: During the activity process, time is considered to flow faster or slower. The reason for this change in the perception of time is the focus of attention.
- (viii) Autotelic experience: Autotelic experience refers to intrinsic activity. For individuals who live autotelic experience, the realization process of the activity is enjoyable and only intrinsic values are important.

Flow theory, which is an activity-based happiness theory, argues that healthy individuals enjoy their experience during the activity without realizing it. By accumulating activities that are appropriate for the purpose of their life, they both achieve their personal development and reach happiness with a sense of control over the activity, which occur in their consciousness. The relevant literature shows that flow theory is used in diverse disciplines, such as positive psychology (Park & Peterson, 2009), sport psychology (Jackson & Ecklund, 2002), educational psychology (Rathunde & Csikszentmihalyi, 2005), organizational psychology (Nielsen & Cleal, 2010), organizational effectiveness (Hoefer, 2008), technology addiction (Cooper, 2009), motivation (Havitz, 2005; Schuler, 2010), job performance (Fullagar & Kelloway, 2009), distance education (Belchior, 2007) and marriage (DuPree, 2007), with various variables examined.

Studies conducted in the flow theory and educational sciences have concentrated on areas such as music and dance education (Csikszentmihalyi & Robinson, 1990), advisor education (Whitmire, 1991), educational technologies (Konradt & Sulzer, 2001), and educational administration (Zimbardo, 2005). Although several studies (Gardner, 2007; Golde, 2005; Wright, 2003) have demonstrated the experiences of doctoral students during the dissertation process, which is a very difficult period, no research has determined students' flow experiences in this process. Bowen and Rudenstein (1992) revealed that less than half of the students enrolled in a doctoral program in the United States graduate from that program. Although there is no such data in Turkey, releasing, ending or postponing the doctoral process due to a variety of reasons is quite common. Therefore, determining the cases or the parts of the dissertation process for which students experience flow and a high level of focus, obtaining information about their life during the dissertation process and examining their motivations may be significant for identifying the factors that aid in the successful completion of the dissertation process. Revealing students' life in this process and identifying their motivations will help stakeholders to identify strategies for the effective completion of the process. In terms of the development of a qualified dissertation and an efficient dissertation process, the discovery of flow experiences in the dissertation process and other factors associated with it is considered to be significant in guiding both the students who will experience this process and relevant institutions that play a crucial role in this process. Accordingly,

in this study, the experiences of doctoral students who work as research assistants in the education faculty discipline have been examined within the framework of flow theory.

Method

Research Design

This study employs the case study method, which is a qualitative research approach. A case study is described as an in-depth examination, detailed definition and interpretation of one or more cases (McMillan & Schumacher, 2006). The case is a system with defined boundaries, and there are some interactions between the components constituting the system. In case studies, one of the most important goals of the researcher is to determine the particular and unique aspects of the particular case (Christensen, Johnson, & Turner, 2011). The case that is addressed in the current study is the *dissertation process*. A PhD program for students with a Master's degree consists of a course period, qualifying exam, dissertation proposal and dissertation; the work of the students who successfully pass the qualifying exam and submit a dissertation proposal is examined by the monitoring committee on a regular basis (Higher Education Council, 1996).

Sampling

Eleven (11) research assistants who were in educational sciences and teacher training disciplines and in the dissertation process participated in the study. To identify the participants, the "Work-Related Flow Inventory" (Bakker, 2008), which was adapted to Turkish by the researchers, was used. The Work-Related Flow Inventory consists of thirteen (13) items and three factors, namely, (i) absorption of the dissertation, (ii) enjoyment from the dissertation and (iii) intrinsic motivation. To select participants, first the inventory was applied to 22 research assistants who were working in education faculties of two universities, one in Central Anatolia and the other in the Marmara Region, and who were in the dissertation process. Then, the sub-scale scores were calculated. In this context, the scores obtained from each factor were taken into consideration, and eleven (11) research assistants were selected for the working group using maximum diversity sampling. Table 1 presents the data of the participants. Sub-scale scores of the "Work-Related Flow Inventory" were used to ensure the maximum diversity of the study sample. We aimed to reveal the differentiation of the doctoral students' experiences (each having different flow experiences) in the dissertation process by selecting participants with diverse sub-scale scores. Because it is quite difficult to obtain diversity for all variables and most of the research assistants who were in the dissertation process were women and single, diverse sub-scale scores could not be achieved for gender and marital status.

Table 1
Participants and their Characteristics

Participant	Gender	Age	Marital Status	Department	Dissertation Period*	PhD**	Absorption of the dissertation	Enjoyment from the dissertation	Intrinsic motivation
K1	Female	29	Single	Primary School Math Education	6	Other	High	High	Low
K2	Female	30	Single	Educational Administration and Supervision	3	Other	Low	High	High
K3	Female	30	Single	Class Teacher	4	Other	High	Low	Low
K4	Female	31	Married	Educational Administration and Supervision	6	Same	High	Low	High
K5	Female	33	Married	Science Education	4	Other	High	High	High
K6	Female	30	Single	Educational Administration and Supervision	4	Same	Low	High	Low
K7	Female	31	Married	English Language Education	1	Other	High	High	High
K8	Female	32	Married	Computer & Inst. Tech. Education	8	Other	Low	Low	Low
K9	Female	27	Single	Computer & Inst. Tech. Education	3	Other	High	High	Low
K10	Female	30	Single	Computer & Inst. Tech. Education	1	Other	Low	Low	Low
K11	Female	36	Single	Computer & Inst. Tech. Education	6	Other	Low	High	Low

* Dissertation term represents the participants' period in the program from the moment they start dissertation.

** This section represents the universities in which participants undertake their PhD.

Data Collection Tools and Procedure

The study's data were collected using a semi-structured interview form. To prepare the interview form, first, the relevant literature was reviewed and a semi-structured draft interview form, consisting of 19 questions, was developed. Then, two experts were consulted, one was a faculty member who worked on flow theory in the past and the other was a faculty member who worked in the area of qualitative research and taught this subject at the postgraduate level. According to their recommendations, two questions were combined and three were excluded. To test the intelligibility of the items in the semi-structured interview form, pilot interviews were conducted with two (2) randomly selected research assistants who were in the dissertation process. After these interviews, some items were reorganized and a question was added; then, the interview form was finalized. The interview form consisted of 16 open-ended questions. Two examples of questions included in the final form are as follows:

- (1) What can you say about your sense of responsibility? How do you behave when there is a task that you have to do?
- (2) During your dissertation process, can you tell the moments that you indulged in working and you didn't recognized how the time had passed?

Following the development of the interview form, face-to-face interviews were conducted with the participants. The duration of the interviews was approximately 30 minutes, and they were recorded to audiotape. Participants were informed about the purpose of the study while audio recording was in progress and were given the opportunity to ask additional clarifying questions if they did properly understand the interviewer's questions. In the data analysis process, first, written transcripts of the interviews were created. During the transcription of the data, each utterance was written by the researchers without any correction. To analyze the data obtained from the study, *descriptive analysis* was used to reveal the opinions and experiences of the doctoral students concerning their flow experiences of the dissertation process. Themes and sub-themes were formed by coding the analyzed data; the findings are discussed according to these themes and sub-themes.

Validity and Reliability

Some measures were taken to ensure the validity and reliability of the study. To ensure the internal validity of the study, the following steps were taken: (i) while developing the interview form, related literature was reviewed and a conceptual framework was built; after the interviews, the opinions of the participants were transferred to written form. The transcripts of interviews were sent back to the participants, who were asked to check them for accuracy; thus, the confirmation of the participants was received; (ii) questions in the semi-structured interviews form, posed to understand the participants and their opinions, were considered as a whole and initial themes for descriptive analysis were created; (iii) internal validity of the themes and sub-themes, created via descriptive analysis, was evaluated considering heterogeneity criteria. Regarding the external validity of the study, the applied procedures were explained in detail in the methodology section under the titles of design, participants, and data collection tool and data analysis.

To ensure the internal validity of the study, the following steps were taken: (i) findings obtained at the data analysis stage were first examined directly without any comments, which formed a basis for further interpretations and explications; (ii) themes of the data analysis were identified based on the conceptual framework. To ensure the external validity of the study, the following steps were taken: (i) the researchers disclosed what was done in the process in detail; (ii) the researchers saved the raw data and analysis, which may be examined by others to allow approval in the future.

Findings

In this section, the findings about the flow of the doctoral students, who were also research assistants, are presented under the following four themes: (i) *personal characteristics* (tackling the challenges, sense of responsibility and planned work habits); (ii) *interest in the field* (decision making about postgraduate education, satisfaction from the postgraduate education, the fit between the doctoral field and the student's interests and skills, academic goals); (iii) *emotional attachment* (enjoyed stages of the dissertation process, feelings aroused by the dissertation, concentration on the dissertation process); and (iv) *living the flow*.

Personal Characteristics

Tackling the challenges, sense of responsibility and planned work habits sub-themes were reached based on the doctoral students' opinions about the personal qualities required for this process.

Tackling the Challenges: The interviews showed that the participants in the dissertation process often struggled against challenges; they gained a fighter identity partly because of their profession and partly as a result of life conditions. However, another important finding is that this process was neither easy nor without stress. Many participants expressed that in the dissertation process, they experienced moments of despair and became stressed. Participants got the motivation that they needed to manage this situation from their work or from their personality features. Some participants connected the power of struggling to their intrinsic motivation, and other participants emphasized that "everybody can make simple things" and, thus, struggling differentiated them from others. For example, participants stated the following:

"I usually prefer to go on because I'm a bit stubborn." (K2)

"I have a profession that I wanted to have, I'm where I wanted to be, this motivates me, that's why I continue to fight." (K1)

Regarding the participants' opinions about tackling the challenges, most of them viewed themselves as individuals who were undaunted when faced with difficulties and challenging. The opinion of most of the participants about tackling the challenges was that they accepted the difficulties and attempted to cope with them. Tackling the challenges was not always an easy process; however, sometimes the greatest challenge that they faced was accepting the challenge as it was. Some participants who viewed struggling as a requirement of their profession expressed this in the following way:

"I go on even with the challenges because this is my profession. We have no alternative such as leaving doctorate. If we were teachers, maybe we could do it, we have many friends who got bored and left the fight but we don't have the chance of quitting..." (K1)

"Acceptance is the only trouble when faced with the difficulty; everything goes more smoothly after accepting it..." (K1)

Sense of Responsibility: Regarding the findings about the sense of responsibility, all participants argued that they had a sense of responsibility. Some participants stated that the high sense of

responsibility sometimes prevented them from doing their jobs, which is quite interesting. The most striking example of this is that some participants tackled faculty jobs before the work they had to do for their dissertation. Some respondents expressed that they assigned the priority to the responsibilities related to their jobs; if necessary, they attempted to meet the deadline even without sleeping. They placed their dissertation as the second priority:

"If I have to do a job, and if I'm doing someone else's job, it comes first; I can put my own business a little more to the second priority. I can postpone it if it's something for me." (K6)

"My sense of responsibility is high. My priorities change. My job may come before school. I'm more responsible to my job." (K10)

In contrast to these findings on the sense of responsibility, some respondents prioritized themselves and even avoided jobs that they did not feel provided them with any benefits even though their sense of responsibility was high. In addition to a participant who stated that she did not want to take responsibility, claiming that the effort was wasted because she thought she could not receive anything in return, another participant said:

"I mean, I don't want to take responsibility for the drudgery of the faculty. Because it has no return to me, they try to establish a commitment towards the institute, but I cannot feel it. If I can get something in return, maybe, I don't know, maybe I'm a pragmatist, but I don't want to undertake the responsibility of something with no return, at least something that will not have any contribution to me or to the faculty."

Participants also said that having a high sense of responsibility may have a disturbing effect on them:

"It is very stressful and tiring, as I said before, your private life becomes your professional life. Everything can be deleted for me, I mean when I'm locked to a responsibility, I don't see other things. This is actually not a pleasant thing, but I'm very sensitive about my responsibilities." (K1).

Planned Work Habits: It was observed that participants had diverse opinions about planning their work, which is one of the important components of the dissertation process. Some of the participants valued planning, whereas some of them worked without planning. However, those who did not work according to a plan emphasized the necessity of planning. In addition, participants who did not have a tight plan stated that they

formed a scheme in their mind and regulated their tasks according to this frame. Respondents indicating that they often did not make a plan underlined that planning negatively affected their motivation and limited them:

“I feel stuck when I have a plan; however, I feel more creative when I work without a plan; I work more peacefully, in a more flexible way, I work more comfortably.” (K3)

“Of course, in the dissertation process, we have to have a concrete plan, but at the moment, I proceed according to the plan in my head. In addition, if I make a plan in my head and if it fails, my motivation breaks down.” (K2).

“Order, plan, program kill creativity after a certain point, of course, it is a very good thing for people who can do it, but if it exerts force on you, you should not stick to it.” (K1).

One participant stated that following plans in doing jobs depends on people’s personality traits. He claimed that the “planned work brings success” belief prevalent in the society may not be right for everyone and expressed his lack of planning as below:

“Throughout my life, people have told me that I should make a plan while studying. They said that I would feel comfortable if I make plan and I inevitably spent my energy on it, but personally I’m not a person who follows plans, I have never been.” (K1).

The results of the interviews showed that participants did not view planning as a habit but, rather, as a characteristic. Some participants stated that this fact increased their motivation; some of them stated that they wanted to be deliberate but that due to their lack of planning, they had to do a large part of their work at the last moment and, thus, worked inefficiently. Another participant connected the lack of planning with her ever-changing spirit and argued that she could not work every day with the same productivity.

“In case of unplanned practice, you either fail or become ineffective or you cannot reach the point that you want to be. If you lack plans, you cannot conduct a successful research study since you don’t know what you are targeting...” (K5)

“I get bored. My emotions change so quickly. I have to feel ready. I cannot stand up and work just because it is written on the plan.” (K9).

It is interesting that the participants who stated that they did not work very deliberately usually had a plan in their mind. In addition, they emphasized

that they had formed a general frame for what they had to do, and this frame was flexible and subject to change if needed. They rationalized this fact by stating that they could not overcome different and large number of workloads without a plan. Some of them attempted to structure the tasks to be done by preparing a work schedule:

“I cannot say that I work in a very planned way, but when I wake up in the morning, I make a quick schedule such as I have to do this and that today at work. But, I don’t make an agenda such as on Monday I’ll perform this and that.” (K3).

The results of the interviews showed that most participants engaged in unplanned work. However, a participant stated that unplanned work made things difficult and that she felt obliged to follow a certain plan as below:

“I feel it facilitates time management extensively. It is better to see what will be done and when. It allows me to use time effectively.” (K7).

Interest in the Field

Decision making about postgraduate education, satisfaction from postgraduate education, the fit between the doctoral field and the student’s interests and skills, and academic goals sub-themes were identified under the *interest in the field* theme.

Decision Making about Postgraduate Education:

Most of the participants expressed that they decided to undertake postgraduate education when they were at the license level. While participants said that they made informed decisions about postgraduate education, there was variation in the reasons for this decision. The study found that family affected the decision of some students, whereas some of them independently decided to undertake postgraduate education. The majority of the participants claimed personal development as the fundamental reason. Considering the main purpose of postgraduate education, this is a quite expected result.

“I always researched new things, I expanded my knowledge, I did additional work, I wanted to be different. I thought that undertaking postgraduate education or PhD will feed my character better.” (K2).

The reasons for engaging in postgraduate education were an interest in studying at university and unwillingness to be a teacher after graduating from the education faculty program. Participants stated that the professional status of scholarship is the

best option among their vocational choices; they said that this belief affected their decision-making process concerning postgraduate education. One of the participants stated that she wanted to see herself in a different position than others and expressed her view as below:

“It will be a bit cocky to say it but when you communicate with other people, you notice that you’re different in some aspects, their humor level doesn’t suffice, you want to learn different things, your capacity attempts to move further.” (K2).

In addition, one participant thought that his job satisfaction with teaching would be low based on his experiences during the license period and, consequently, decided to undertake postgraduate education. The opinions of some other participants who could not find what they were looking for in the teaching profession and who wanted to improve themselves are below:

“The low job satisfaction of the teachers that I observed in the training that I did before completing school has made me more willing to undertake postgraduate education. I realized that I could not continue in the national education system.” (K9).

“My previous profession was teaching. In fact, I love being in the world of education. However, when I was teaching, I said to myself that this cannot go on forever. I thought about what else I can do and started postgraduate education.” (K11).

Unlike the participants above, one participant stated that the love of reading that began in her childhood affected her decision to undertake postgraduate education; she expressed the situation as below:

“I don’t know why, but I love reading. It has always been so since I was little. My relatives who see me after many years say that there was always a book in my hands. I was reading books under a tree when we went on a picnic, I had such a childhood, and I always loved reading very much.” (K4).

Satisfaction from Postgraduate Education:

Participants who stated that they were satisfied with their current postgraduate education area said that they would not change their disciplines even if an opportunity was offered; this opinion was based on the fit between the area and their interests and skills. In addition, one of the participants emphasized that the discipline excited her and she would have the opportunity to make changes in the area, as expressed below:

“Regarding the education, the most exciting part is the teaching dimension. Because it is more experimental, nested within the school, a department where I can realize more change. Thus, I would like to continue my discipline.” (K1).

In contrast to this statement, another participant said that in such a case she would change her field and continue her postgraduate education in a different area:

“If I was to begin postgraduate education over again, I would definitely study sociology. I’m doing my PhD in classroom teaching; I think it is closely related to sociology, psychology and philosophy fields. I see that these areas were not sufficiently emphasized. Thus, if I was to begin over again, I would definitely change my discipline and study sociology.” (K3).

We observed that the lack of fully defined knowledge accumulation and boundaries of the field were reasons for students to change their area of study:

“In addition, there are natural pains of educational administration, I mean if we are a science or not. We both deal with education-related processes and administration. We try to handle two areas at the same time ... we suffer from this. Sociological issues seem to be more solution-oriented. Thus, it is more convenient.” (K2).

The Fit between the Doctoral Field and the Student’s Interests and Skills:

Participants felt that they were an appropriate match to the doctoral field in terms of interests and skills and believed that they fulfilled the requirements of the field. Even some participants stated that their field did not bring as large of a workload as other areas and that any person could do a PhD in this field. A participant stated that her interests and skills matched with the doctoral field; she expressed her opinions as below:

“I feel that my PhD field appeals to my overall opinions, perspective, skill and interests. It is not a very specific area, I can look a little more generally.” (K6).

In addition to those stating that the PhD field matched their interests and skills, many participants underlined their own shortcomings. The most commonly mentioned shortcoming was lack of foreign language proficiency, which was discussed in detail under “the difficulty of the dissertation process” theme, and lack of application due to a lack of teaching experience was among the other mentioned shortcomings. One participant stated

that the lack of knowledge of practical teaching experience posed problems for her:

“I felt that lack of teaching experience had a negative effect on my PhD. Because we learned a lot of things here in theory, but we do not know much about the problems encountered in practice.”

Academic Goals: The results of the interviews found that some of the participants only set short-term goals, some of them identified long-term goals, and some of them had no academic goals. Participants who set short-term goals wanted to finish their dissertations and successfully pass the defense before completing their academic coursework. Participants advocating this view stated that they would advance in their academics more comfortably after the dissertation defense. It can be observed that respondents who indicated their priority as completing the dissertation appeared not to have concerns about title and promotion; these participants related their desire to complete the dissertation with having the opportunity to work more independently in the area that they prefer.

Some participants stated that their first goal was to complete the dissertation, whereas some of them stated academic goals toward promotion in the field, such as being promoted in the field, having a title, and being a well-known and reputable academician of the discipline. K9 expressed these feelings saying, “I came with an academic goal because I like the dignity”, whereas K7 said, “I want my name to be famous in the area that I’m working”.

In contrast to the statements above, some respondents emphasized that their long-term academic goals were not title or promotion; the main goal was to be a qualified academician. Participants advocating this view expressed that title and promotion were intrinsic features of scholarship; that any individual could be an associate professor or professor; and that the main point was to be a qualified academician, train qualified students and make scientific contributions to the field.

“At the moment, we don’t instruct a course, we don’t have a class of our own. I would like people to say about me ... (pronounce her name) is really a good teacher, students say that the class was not idle, we really have learned the following lessons or we experienced such things about life. Indeed, I would like to do a good job. Papers and maybe a book, which can be read after many years, but those are not the things that I set as goals. Of course, to achieve it, I’ll try to do my best, just to be able to say, ‘yes, I did a good job.’” (K1)

In addition to the participants who set short- or long-term goals, some participants did not set any academic goals. These participants stated that life does not consist of only academic life; they emphasized the importance of living happily and that they could change their direction according to different options that they would face in life.

Emotional Attachment

Enjoyed stages of the dissertation process, feelings aroused by the dissertation, concentration on the dissertation process sub-themes were identified according to the doctoral students’ opinions about *emotional attachment* to the dissertation process.

Enjoyed Stages: When participants were asked about the stages of the dissertation process that they enjoyed, their opinions showed differences. K11, who stated that she enjoyed the methodology and data analysis part of the dissertation, expressed her opinion as, “After data entry, the analysis stage was pretty exciting”; similarly, K9 explained her reasons for preferring the data analysis part as follows:

“I mostly enjoyed data analysis. I enjoy playing with numbers. The results are expected and can be explained, I love this part very much. It is easier because it is concrete.”

Unlike participants who enjoyed the methods and analysis, the pleasure of the application stage was expressed as “Application part ... it’s very enjoyable after everything has finished (K11)”; K3, who stated that the application part made her happy, expressed her opinion as below:

“It seems that I liked being in the school and being with the students. I liked to be with students when I go to class after preparing the course plans. Students come, hug me. They say, ‘Welcome my teacher.’ Maybe it’s because I started scholarship directly without teaching, but I like the application part more.”

K6, stating “We rather like to focus on results”, enjoyed the discussion part more because she had the opportunity to compare her results with the results of previous studies; she said humorously:

“For me, the most enjoyable stage is the completing stage... I like discussion, where we can debate our results, what happened in other studies, outcomes, inputs. The most enjoyable part is discussion except the conclusion, completion.”

K5, who encountered some difficulties at the application stage, stated that “the level of anxiety

was high because I didn't know what I would meet"; thus, she most enjoyed the literature review. She expresses her views as follows:

"I enjoyed the literature review very much. I don't know, but this may be because of acquiring new knowledge after writing the introduction part. I prefer the introduction and methodology to the application part because application at school is really challenging. In addition we are not familiar with it, I usually worked in higher education; I rarely worked in primary education. It is new to me; thus, the literature review is better for me."

Feelings Aroused by the Dissertation: When the question "what do you feel while writing the dissertation" was posed to the participants, the answers were similar. Most of the participants said that they become happy when they reveal things related to their dissertation. Their awareness that the product obtained as the result of the writing process is an outcome of their labor contributes to their satisfaction and helps them to feel better.

"I get happier after completing each stage. Maybe because of getting closer to finishing; the motivation increases with the completion of each part ... People get happier by advancing to the end. There is a product that you have made, you create a product, it makes you happy as well" (K5)

"When I think of the things that I've done, actually doing something or writing a sentence makes me happy because you moved a step closer to the end." (K6)

Rather than feeling happy, one participant stated that she sometimes experienced stiffness when writing the dissertation and suffered hardship in producing a product, which made her feel bad; she expressed this as below:

"Comes a feeling of weariness ... I have something in mind, but I cannot write it. I cannot transfer it to writing. On those days, I'm so bored, I mean the days staying for hours and not being able to write two words. Then, I read such a surfeit of information, I read the same thing several times for writing, I get so bored..." (K4)

Participants were asked what they would feel when they completed their dissertation; their answers were quite interesting. One of the participants expressed the sadness that she would feel because of the emotional connection that she had established with the work, as below:

"It may seem weird, but when this day arrives, I will probably cry... I probably established an emotional relationship with my work; I'll get pretty upset when it is over. It is the same feeling when you feel after reading a very good novel or when you watch a movie and you say I wish it wouldn't have finished ... Thus, I may be very emotional at the beginning.... However, of course, I will be very happy." (K4)

Similarly, a participant who assigned a great meaning to her dissertation expressed the surprise that she would encounter because the dissertation had covered a large part of her life:

"(I'll feel) As a child whose sugar was taken away from his hand, you canalize everything to this process ... It seems that we will feel like a mother who has just given birth when we complete our dissertation. I'm not sure but the feeling that we'll experience after binding and publishing it will be weird, 'wow, did I write this?'" (K2)

It is understood that the doctoral dissertation mentioned above is valuable to the participant. In addition, she sincerely admitted how much her doctoral dissertation meant to her by likening it to "a newborn baby". Similarly, one participant who stated the importance of the dissertation in her life said that even the idea of eliminating the anxiety that the dissertation had created was relaxing and expressed her views as below:

"Even reflecting it is nice; definitely a burden will be removed. You constantly think about it, you have a concern in your mind all the time, it is the dominant thought. Getting rid of it, relaxing makes me happy." (K5)

K10, approaching the issue from another angle, emphasized that the completion of the dissertation is a beginning rather than an end and that there would be new challenges to overcome:

"I'll get relaxed, but then again a job searching process will start. The loop will restart with the initiation of the career planning process."

Of note, this participant could not experience the happiness that she deserved due to academic concerns. The most important reason for her to engage in a challenging process was her concern for the future.

Concentration on the Dissertation Process: When participants were asked to evaluate their concentration on the dissertation process, some of them said that their attention could be disturbed immediately, whereas some of them mentioned that

it was not a problem for them and that they could concentrate well in all cases and in all circumstances. There were many different reasons for their experience of concentration problems. One of the main reasons for doctorate students' disturbance, i.e., the high workload, was mentioned as below:

"I can confess that I have some concentration issues. In addition, the divergence of the tasks due to overload, it disturbs you so much. There are always small tasks intervening during the day, you cannot get concentrated. It disturbs you so very much. Thus, concentration is a problem." (K6)

"It is very much related with external factors. I encountered many problems at work last year. I couldn't concentrate." (K9)

K2, who associated the concentration problem with her personal factors rather than external factors, explained this as "in fact, too much comfort disturbs concentration", whereas K4 made the following self-criticism:

"I'm not a person who can concentrate easily. Many things may disturb me. Therefore, I create my own excuses, such as it should be quiet, finally after 12 pm, when I don't have anywhere to run, I sit and study. The concentration issue is a real concern for me."

The despair and anxiety of the participants sometimes led to concentration problems. K1 implied this in one of the most comprehensive narratives:

"My concerns ... Instantly, I think that I won't be able to do it or the result will not be something nice, or I'll get criticized for the result, then the anxiety increases and I get disengaged from the system."

Some participants stated that they did not encounter concentration issues. K1 implied that "Regarding my whole life, doctoral courses and dissertation is the period where I experienced the highest concentration level"; she explained that she enjoyed the process. K3 also stated that she did not have concentration problems: "I don't have any problem with concentration... if I want to study. When I want to study, I can work, focus even when my room is crowded or I listen loud music." K6 expressed the following:

"I feel that my concentration is good. I am a person who likes studying as long as I have time, thus my concentration is high. In fact, when I focus on something, I usually don't leave without finalizing it."

The participants were asked to identify the stages at which they concentrated the most; the findings showed that their opinions were diverse. Most of the participants stated that they concentrated more at the literature stage, whereas some of them emphasized that the application, discussion and conclusion parts required more concentration. A few participants stated that all stages of the dissertation required the same level of concentration, which they experienced during their own dissertation process.

One participant emphasized that the topic selection stage, which is one of the crucial points, required more concentration:

"At the beginning, while identifying the topic, because the topic that you have selected is something that determines the application as well. Thus, I feel that the concentration and work should be greater. I did it this way." (K5)

K8 stated that following the identification of the dissertation topic, the most important stage is application; she expressed her views as follows: "After identifying research problems, one needs to be concentrated on the implementation step. I think this is the part where the dissertation is captured". K9 discussed her dense concentration during the literature writing stage as follows: "You have to concentrate on the literature, you should dig and go further"; similarly, K10 explains, "Literature requires a bit more focus because writing is not simple". Considering the importance of the theoretical and conceptual framework, which form the basic lines of the dissertation, the importance that the participants assigned to the literature part can be understood more easily. K3 drew attention to collecting and reviewing resources before reaching the writing stage:

"While collecting the resources related to my topic, finding the papers, I look at the references of the paper and discover the ones related to my topic. I concentrate on the writing stage. However, first, I concentrate on collecting and reviewing resources."

K1, rather than considering various stages of the dissertation separately, stated that each stage requires the same level of concentration and, thus, a distinction between phases cannot be made:

"I should say that all stages of my dissertation took a long time. I mean, planning, application, the next stages will be the same... I mean all are similar for me; I cannot distinguish stage by stage."

Discussion

In this study, the flow experience of doctoral students who were also research assistant and in the dissertation process was examined. The results of the analysis were grouped under four themes, i.e., *personal characteristics, interest in the field, emotional attachment and living the flow*.

Flow theory argues that the likelihood of living the flow experience is higher for individuals who have an autotelic personality, in other words, individuals who give more importance to intrinsic rewards than extrinsic rewards (Csikszentmihalyi, 1990). According to the results of the study, the flow experience of participants who struggle with challenges and who have a high sense of responsibility is higher. Similar to this finding, previous studies revealed that individuals who actively participate in the learning opportunities available to them and who tackle the challenges of the activities without losing the desire to work experience flow (Salanova, Schaufeli, Martínez, & Bresó, 2010; Schaufeli, Martínez, Marques Pinto, Salanova, & Bakker, 2002; Schaufeli, Salanova, González-Romá, & Bakker, 2002). Individuals should organize their behaviors and be aware of their personal characteristics; in other words, they should possess self-sufficiency (Bandura, 1988). It is possible for individuals who are aware of their personal characteristics to focus their concentration and energy on the targets and fulfill their responsibilities with the autotelic experience that they have. Therefore, the likelihood of living the flow experience is higher for individuals who have a character that accepts challenges and who aim to acquire intrinsic motivation for the activities that they perform. Thus, there is a significant relationship between the awareness of personal characteristics and skills and flow experience (Basom & Frase, 2004). The current study revealed that individuals without a planned work habit experience flow more often than others. As implied by the statements above, individuals' internal processes have a greater effect on their flow experience than do their external processes. Planning can be viewed as an external coercion by individuals who set a plan and who feel that they are obliged to adhere to that plan, which prevents them from immersing in their work.

According to the results of the interest in the field theme, participants who are not satisfied with their postgraduate area, who feel that their PhD field is not relevant to their interest and skills and who have not identified an academic goal do not

experience flow during the dissertation process. To experience flow in the educational field, the issues that students work on should be appropriate for their skills. The literature states that the activity that individuals performed and these individuals' skills should be balanced to live flow experience; this phenomenon is defined as *flow channel* (Csikszentmihalyi, 1975). If the performed activity is perceived as quite above an individual's skills, the individual becomes worried and cannot enter the flow channel. In addition to the individuals' interests and skills, setting long-term academic goals and clearly defining them is an important determinant of flow experience (Csikszentmihalyi, 1990). According to these statements, individuals who do not have interest in the working area, who feel that the working area does not fit with their interests and skills or who do not set clear goals for the future do not experience flow; this finding is in accordance with the literature. It can be said that the intrinsic motivation of individuals who feel that their skills do not fit with the working area would be low; consequently, they would not experience the flow channel.

In addition to personal characteristics and interest in the field themes, it can be argued that emotional attachment plays an important role in individuals' flow experience. The emotional attachment theme consists of three sub-themes, namely, enjoyed stages of dissertation process, feelings aroused by the dissertation, and concentration on the dissertation process. When participants were asked about the stages of the dissertation process that they enjoyed, their opinions showed differences. Some of them enjoyed analysis and application, whereas some of them enjoyed the discussion and literature review stages. Although they enjoyed different stages of the dissertation, it is clear that all participants felt happy when they produced a product related to the dissertation. Similarly, Vekkaiala et al.'s (2013) study on doctoral students' commitment to their dissertation revealed students feel effective, satisfied, happy and more resistant to the challenges that they face while working on the dissertation. It can be said that this happiness and satisfaction are based on the flow experience. Csikszentmihalyi (1975) emphasized that people experience real satisfaction and happiness when they are in a state called flow. Happiness does not occur spontaneously; rather, it is formed as a result of struggle that is appropriate for individuals' interests and skills (Csikszentmihalyi, 1975). The happiest moment of flow occurs when individuals completely immerse themselves into

the activity, and all else is insignificant and they are fully concentrated on the task or activity (Csikszentmihályi, 1990).

Flow experience is closely associated with positive emotions, high levels of concentration, intrinsic motivation and sense of control (Csikszentmihályi, 1990). Schüler (2010) expressed that individuals experience intrinsic motivation during activities that are related to their interests. The examination of doctoral students' (who were also research assistants) concentration showed that different opinions. Some of them do not see concentration as a problem, whereas others consider it to be a large obstacle. It has been observed that people who encounter difficulties in concentrating on the dissertation also have difficulties in experiencing flow. Consequently, we can deduce that individuals have to concentrate on the work at hand to experience flow. While working on their dissertation, participants forget all else around them and do not recognize how the time passed, which is one of the interesting findings of the current study. The study conducted by Vekkailaa et al., (2013) on doctoral students seems to support this finding. This study observed that doctoral students were indulged in their dissertation and did not perceive things other than their dissertation. Similarly, Csikszentmihályi (1990) emphasized that during flow, individuals focus on their tasks and they do not recognize how the time has passed. Although there are few studies about the dissertation process and flow in the education field, studies featuring computer games (Chen, 2007), music and dance (Csikszentmihályi & Robinson, 1990), addiction to technology (Cooper, 2009), language education (Guan, 2013), alpinism, composers, chess players, basketball players (Csikszentmihályi, 1975) and the perception of time (Park & Peterson, 2009) emphasize that participants experience full concentration during the flow process and forget the sense of time.

The review of studies on flow showed that every individual may not experience flow, some individuals enter into flow more often, and some circumstances may increase the likelihood that an individual will experience. In this context, it has been concluded that some components are needed for flow. According to flow theory, (i) a clear purpose,

(ii) equal and high level of skills and challenges, (iii) focused attention, (iv) control, (v) loss of self-consciousness, (vi) feedback, (vii) a change in the perception of time and (viii) autotelic experience are the components that are necessary to experience flow (Csikszentmihályi, 1990; Novak & Hoffman, 1997; Novak et al., 2000). Based on this knowledge, it can be argued that individuals who struggle against challenges, who are responsible and who do not set a strict plan experience flow more often. In addition to personal features, an individual's working environment influences his/her flow experience. The current participants agreed that they had greater concentration in quiet environments, especially at night. Accordingly, it can be said that silent environments facilitate individuals' experience of flow. In addition, individuals whose doctoral field fits their interests and skills, who have a clear goal and who enjoy the dissertation process experience flow more often. These obtained findings seem to support the components of flow theory and many studies in the literature (Chen, 2007; Csikszentmihályi, 1975; Csikszentmihályi & Robinson, 1990; Cooper, 2009; Guan, 2013; Park & Peterson, 2009; Salanova et al., 2010; Schaufeli, Martinez, et al., 2002; Schaufeli, Salanova, et al. 2002; Vekkailaa et al., 2013).

Flow theory addresses the process of individuals' engagement in activities that may improve their cognitive skills through feeling a sense of control, having high concentration on the work done, enjoying cognitive pleasure, and having harmony between the skills and the performed tasks (Csikszentmihályi, 1990). The examination of the dissertation process within the frame of flow theory is significant in terms of revealing the conditions that lead to flow and what should be done to make this process more effective.

In the current study, the flow experience of research assistants who were in the dissertation process, worked in the education faculties discipline, and were differentiated according to their sub-scale scores of the "Work-Related Flow Inventory" was examined. We present the findings under the framework of flow theory. In future studies, the flow experience of doctoral students who are in the dissertation process can be examined while ensuring diversity in the sample's faculty, gender, marital status, age, dissertation period and vocation variables.

References

- Atwell, E. (1996). Comparative evaluation of grammatical annotation models. *ICAME Journal*, 24, 25-46.
- Bakker, A. B. (2008). The work-related flow inventory: Construction and initial validation of the WOLF. *Journal of Vocational Behavior*, 72(3), 400-414.
- Bandura, A. (1988). Self-efficacy conception of anxiety. *Anxiety Research*, 1, 77-98.
- Basom, M. R., & Frase, L. (2004). Creating optimal work environments: Exploring teacher flow experiences. *Mentoring and Tutoring*, 12, 241-258
- Belchior, P. (2007). *Cognitive training with video games to improve driving skills and driving safety among older adults* (Doctoral dissertation). University of Florida, Florida.
- Bowen, W., & Rudenstine N. (1992). *In Pursuit of the Ph.D.* New Jersey, NJ: Princeton University Press.
- Chen, J. (2007). Flow in games (and everything else). *Communications of the ACM*, 50(4), 31-34.
- Chiang, K. (2003). Learning experiences of doctoral students in UK universities. *International Journal of Sociology and Social Policy*, 23, 4-32.
- Christensen, L. B., Johnson, B., & Turner, L. A. (2011). *Research methods, design, and analysis*. New York, NY: Allyn & Bacon.
- Cooper, K. (2009). *Go with the flow: Examining the effects of engagement using flow theory and its relationship to achievement and performance in the 3-dimensional virtual learning environment of second life* (Doctoral dissertation). University of Central Florida, Florida.
- Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. San Francisco, CA: Jossey-Bass.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY: Harper and Row.
- Csikszentmihalyi, M. (1997). Flow and education. *The NAMTA Journal*, 22, 3-35.
- Csikszentmihalyi, M., & LeFevre, J. (1989). Optimal experience in work and leisure. *Journal of Personality and Social Psychology*, 56, 815-822.
- Csikszentmihalyi, M., & Robinson, R. E. (1990). *The art of seeing: An interpretation of aesthetic encounter*. California: Getty Center for Education in Arts.
- DuPre, W. J. (2007). *Examining marriage and family therapists in non-traditional areas of application: An ecological systems theory of creativity approach* (Doctoral dissertation). Kansas State University, Kansas.
- Fullagar, C. J., & Kelloway, K. E. (2009). Flow at work: An experience sampling approach. *Journal of Occupational and Organization Psychology*, 82(3), 595-615.
- Gardner, S. K. (2007). "I heard it through the grapevine:" Doctoral student socialization in chemistry and history. *Higher Education*, 54, 723-740.
- Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education*, 76, 669-700.
- Graef, R. M., Csikszentmihalyi, M., & McMannama Gianinno, S. (1983). Measuring intrinsic motivation in everyday life. *Leisure Studies*, 2, 155-168
- Guan, X. (2013). A study on flow theory and translation teaching in china's EFL class. *Journal of Language Teaching and Research*, 4(4), 785-790.
- Havitz, M. E. (2005). Enduring involvement situational involvement and flow in leisure and non-leisure activities. *Journal of Leisure Research*, 37, 152-177.
- Higher Education Council. (1996). Lisansüstü eğitim ve öğretim yönetmeliği. *Resmi Gazete*, 22683. 01.07.1996.
- Hoefler, J. (2008). *Coherence in the public school principalship: A case study on the extent to which elementary school principals' goals, values, vision, self-efficacy, and standardized test scores are linked to their daily behaviors* (Doctoral dissertation). The Claremont Graduate University, California.
- Hyun, J. K., Quinn, B. C., Madon, T., & Lustig, S. (2006). Graduate student mental health: Needs assessment and utilization of counseling services. *Journal of College Student Development*, 47, 247-266.
- Jackson, S. A., & Ecklund, R. C. (2002). Assessing flow in physical activity: The Flow State Scale-2 and Dispositional Flow Scale-2. *Journal of Sports & Exercise Psychology*, 24, 133-150.
- Katz, E. (1997). Key players in the dissertation process. *New Direction for Higher Education*, 90, 1-15.
- Konradt, U., & Sulz, K. (2001). The experience of flow in interacting with a hypermedia learning environment. *Journal of Education Multimedia and Hypermedia*, 10, 69-84.
- McMillan, J. S., & Schumacher, J. S. (2006). *Research in education: A conceptual introduction*. Massachusetts, MA: Allyn & Bacon.
- Nielsen, K., & Cleal, B. (2010). Predicting flow at work: Investigating the activities and job characteristics that predict flow states at work. *Journal of Occupational Health Psychology*, 15, 180-190.
- Noble, K. A. (1994). *Changing doctoral degrees*. Buckingham: Open University Press.
- Novak, T. P., & Hoffman D. L. (1997, July). *Measuring the flow experience among web users*. Paper Presented at Interval Research Corporation, Vanderbilt University, Tennessee, USA.
- Novak, T. P., Hoffman, D. L., & Yung, Y.-F. (2000). Measuring the customer experience in online environments: A structural modeling approach. *Marketing Science*, 19, 22-42.
- Park, N., & Peterson, C. (2009). Achieving and sustaining a good life. *Perspectives on Psychological Science*, 4, 422-428.
- Rathunde, K., & Csikszentmihalyi, M. (2005). Middle school students' motivation and quality of experience: A comparison of Montessori and traditional school environments. *American Journal of Education*, 111(3), 341-371.
- Salanova, M., Schaufeli, W.B., Martinez, I., & Bresó, E. (2009). How obstacles and facilitators predict academic performance: The mediating role of study burnout and engagement. *Anxiety, Stress, & Coping*, 26, 1-18.
- Schaufeli, W. B., Martinez, I., Marques Pinto, A., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students: A cross national study. *Journal of Cross-Cultural Psychology*, 33, 464-481.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71-92.
- Schüler, J. (2010). Achievement incentives determine the effects of achievement-motive incongruence on flow experience. *Motivation and Emotion*, 34, 2-14.
- Stubb, J., Pyhältö, K., & Lonka, K. (2011). Balancing between inspiration and exhaustion: PhD students' experienced socio-psychological well-being. *Studies in Continuing Education*, 33, 33-50.
- Vekkaila, J., Pyhältö, K., & Lonka, K. (2013). Focusing on doctoral students' experiences of engagement in thesis work. *Frontline Learning Research*, 2, 12-34.
- Whitmire, A. J. (1991). *Correlation of optimal experience and counselor development* (Research Report: ERIC Document Reproduction Service No: ED375337).
- Wright, T. (2003). Postgraduate research students: People in context? *British Journal of Guidance & Counselling*, 31(2), 209-227.
- Zimbardo, P. G. (2005). Optimizing the power and magic of teaching. *Journal of Social and Clinical Psychology*, 24, 11-21.