DOCTORAL STUDENTS' EXPERIENCES OF FEELING (OR NOT) LIKE AN ACADEMIC

Esma Emmioğlu*	Gaziosmanpaşa University, Tokat, Turkey	esma.emmioglu@gmail.com
Lynn McAlpine	University of Oxford, Oxford, UK	lynn.mcalpine@mcgill.ca
Cheryl Amundsen	Simon Fraser University, Burnaby, Canada	camundsa@sfu.ca

* Corresponding author

ABSTRACT

Aim/Purpose	This paper examined the balance and meaning of two types of experiences in the day-to-day activity of doctoral students that draw them into academia and that move them away from academia: 'feeling like an academic and belonging to an academic community;' and 'not feeling like an academic and feeling excluded from an academic community.'
Background	As students navigate doctoral work, they are learning what is entailed in being an academic by engaging with their peers and more experienced academics within their community. They are also personally and directly experiencing the rewards as well as the challenges related to doing academic work.
Methodology	This study used a qualitative methodology; and daily activity logs as a data collection method. The data was collected from 57 PhD students in the social sciences and STEM (Science, Technology, Engineering, and Mathematics) fields at two universities in the UK and two in Canada.
Contribution	The current study moves beyond the earlier studies by elaborating on how academic activities contribute/hinder doctoral students' sense of being an academic.
Findings	The participants of the study generally focused on disciplinary/scholarly rather than institutional/service aspects of academic work, aside from teaching, and regarded a wide range of activities as having more positive than negative meanings. The findings related to both extrinsic and intrinsic factors that play important roles in students' experiences of feeling (or not) like academics are elaborated in the study.
Recommendations for Practitioners	Supervisors should encourage their students to develop their own support networks and to participate in a wide range of academic activities as much as possible. Supervisors should encourage students to self-assess and to state the activities they feel they need to develop proficiency in.

Future Research	More research is needed to examine the role of teaching in doctoral students' lives and to examine the cross cultural and cross disciplinary differences in doctoral students' experiences.
Keywords	doctoral education, academic culture, workplace learning, doctoral students' academic activities

INTRODUCTION

Doctoral students have experiences that affirm or strengthen their feelings of seeing themselves as academics as well as experiences that result in not feeling like an academic. The affirming experiences, from our perspective, provide a sense of progress since doctoral work is emulating academic work wherein doctoral students themselves increasingly feel drawn into an academic community. Such feelings are representative of experiencing a positive academic climate, which is seen to be influential in doctoral success (McAlpine & Norton, 2006; Solem, Hopwood, & Schlemper, 2011; Solem, Lee, & Schlemper, 2009). When individuals feel themselves as valued, needed, and involved they also feel they belong to a community. Sense of belonging is seen as an important element in maintaining and sustaining one's relationships with others and acknowledged as a basic human need (Hagerty, Williams, Coyne, & Early, 1996). It is defined as "the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment" (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992, p. 177). Based on this definition, doctoral students' sense of belonging to the academia is closely related to feeling as an integral part of the academia and, therefore, feeling themselves to be academics. Throughout their education, doctoral students will have positive experiences that make them feel as an insider of an academic community, which might make them feel like academics. However, doctoral education can also be a bumpy road; experiences that disrupt or reduce students' feeling like an academic or belonging to an academic community are also to be expected and, on the positive side, may develop resilience and provide useful insights into academic work and academia as a workplace. However, if there are too many challenging or negative experiences, these may lead individuals to disengage (McAlpine & Amundsen, 2011).

Billet (2002) defines the workplace as an environment in which individuals learn key elements of their practice. Workplace learning takes place by participating in everyday work activities or guided learning strategies, and, therefore according to Billet (2002), there is no separation between engaging with work and learning. In this study, we think of academia as a 'workplace', doctoral studies as 'academic work', and engaging with academic work as 'workplace learning'. Our aim was to understand students' experiences of learning and engaging with academic work that prompted feeling or not feeling like an academic/belonging or not belonging to an academic community and their explanations of these feelings.

Qualitative studies of doctoral experience often draw on retrospective recall of earlier events (e.g., Cotterall, 2015; Lepp, Remmik, Karm, & Leijen, 2013; O'Meara, Knudsen, & Jones, 2013). However, in this study, we wanted to capture the influence of day-to-day experiences over time. In an earlier study (McAlpine, Jazvac-Martek, & Hopwood, 2009) on which this study builds, we reported the use of weekly activity logs to capture the day-to-day challenges and difficulties as well as the significant experiences reported in 84 logs completed by 23 education doctoral students in two institutions in Canada. In this analysis, we focus on log questions related to feeling like an academic or not feeling like an academic/belonging or not belonging to an academic community. The results demonstrate the formative role of cumulative day-to-day activities in contributing to positive experiences of belonging and feeling like an academic; generally, many reported activities lying outside the formal aspects of the doctorate. Yet, at the same time students reported tensions in the very sorts of activities they often found significant and positive in feeling like an academic or belonging to an academic community. Solem et al. (2011) used a modification of our weekly activity log to analyzed 285 logs from 53

Master's and PhD geography students in 9 institutions in the U.S. Again, it was often the informal activities not directly related to their programs that students reported engendered a sense of belonging, though such events could also create anxiety. This analysis, in comparison to previous studies, drew on a much larger pool of weekly activity logs, a broader range of disciplines, and logs from two universities in Canada and two in the UK. Our goal was to see the extent to which the findings in the previous studies were challenged, corroborated, or modified. In this study, we investigated the following research questions:

- What kind of activities do doctoral students report make them:
  - feel like an academic and feel they belong to an academic community?
  - not feel like an academic and feel excluded from an academic community?
- How do doctoral students explain why these activities make them:
  - feel like academics and feel they belong to an academic community?
  - not feel like academics and feel excluded from an academic community?

THEORETICAL BACKGROUND

> "To know is also to feel one's own knowing - to realize and identify oneself as a knower."
> (Neumann, 2006, p.383)

As stated by Green (2005) "doctoral education is as much about identity formation as it is about knowledge production" (p.153). Since Green made this statement, there has been an abundance of research on doctoral student identity (e.g., Barnacle & Mewburn, 2010; Cotterall, 2015; Holley, 2009; McAlpine, 2012; McAlpine & Amundsen, 2009) and academic identities (e.g., Churchman & King, 2009; Harris, 2005; McLean, 2012; Smith, 2010; Watson, 2011). However, there has been little attention paid to how everyday experiences may strengthen or reduce students' feelings of feeling like an academic or belonging to an academic community. We frame this analysis through the notion of workplace learning.

The workplace learning literature derives from social constructivist and cognitive learning theories. In his early work, Billet (1996) compared these two perspectives and discussed how social and personal aspects of learning complement each other in explaining workplace learning. He stated that these two perspectives could not provide a basis for explaining workplace learning on their own, but they together provide the basis for understanding workplace learning. The social worlds of individuals provide norms, practices, and purposes for learning and the personal worlds provide individuals' cognitive experiences such as what people know and how they make sense of their experiences (Billet, 2009). Based on this view, Billet's later work (i.e., 2001, 2006, 2010) mainly focused on three themes to explain the mechanism of workplace learning: workplace affordances, subjectivity, and agency.

Workplace affordances, which are the guidance and the readiness of the workplace to afford opportunities for individuals to participate in work activities, are documented as the key determinants of the quality of workplace learning (Billet, 2001). From the perspective of doctoral students, this could be understood as a more positive or more negative academic climate (Solem et al., 2011). However, it is recognized that the affordances of the workplace alone cannot guarantee rich learning outcomes, it is also necessary to account for whether and how individuals decide to engage with workplace activities. This directs us to the other themes in Billet's framework: subjectivity and agency. Subjectivity is defined as the "personally premised construction and projection of conceptions, procedures and sense of self as directed by individuals' agency and intentionality" (Billet, 2010, p. 4).

The concept of agency does not have a universally agreed upon definition. However, the meaning of agency has often been associated with "active striving, taking initiatives, or having an influence on one's own life situation" (Etelapelto, Vahasantanen, Hokka, & Paloniemi, 2013, p. 46). From Billett's perspective (Billet, 2006; Billet & Somerville, 2004), there is a close, reciprocal and interdependent relationship between individuals' sense of identity and their learning, and this relationship is based on

the intensity of individual agency (e.g., intentionality, subjectivity, identity) and the intensity of social agency (e.g., using the kinds of affordances that are provided).

Empirical studies support the assumptions of the workplace learning perspective when applied to the context of doctoral education. For example, workplace affordances such as a support network (i.e., support provided by supervisors, peers) are related to a stronger sense of belonging and academic self concept. Being praised by supervisors or other academics or receiving recognition and approval at a public conference may influence a doctoral student's self-validation of themselves as academics/researchers (i.e., Curtin, Stewart, & Ostrove, 2013; Mantai, 2015). Dialogue and collaboration with others provides reassurance for doctoral students (Foot, Crowe, Andrus Tollafield, & Allan, 2014), adds to the perception of a positive learning environment, and is related to students' persistence in studying (Pyhältö, Stubb, & Lonka, 2009) and personal commitment (Martinsuo & Turkulainen, 2011).

Thus both personal factors, appreciation of the value of academic work and individual commitment, and external social factors, such as an institution's readiness to provide support and feedback as well as challenges, are important for understanding how doctoral students learn to do academic work, begin to feel like academics, and feel they belong to an academic community.

METHOD

PARTICIPANTS

This study draws from a longitudinal research program that began in 2006-07. Volunteer participants from two universities in Canada and two in the UK were recruited through e-mails and a snowballing procedure and were followed for a 3-5 year period using multiple data collection methods. University Research Ethics Board approval was gathered from each university before the data collection. Initially data was collected in the social sciences and beginning in 2010, also from the STEM (Science, Technology, Engineering, and Mathematics) fields. Overtime, individuals in the roles of doctoral student, postdoc and pre-tenure faculty have participated, often moving from one role to another and from one institution to another during their participation in the research. This analysis drew on a sub-set of the broader dataset resulting in 457 logs from 57 (35 female and 22 male) doctoral students from two universities in Canada and two in the UK (Table 1).

Table 1. Distribution of participants and logs by country and field

		CANADA	UK	TOTAL
Social sciences		16 students	16 students	32 students
		154 logs	117 logs	271 logs
STEM		8 students	17 students	25 students
		67 logs	119 logs	186 logs
	Total	24 students	33 students	57 students
		221 logs	236 logs	457 logs

RESEARCH DESIGN & DATA COLLECTION

This study used a qualitative research design as we aimed to understand doctoral students' experiences from a naturalistic perspective and to capture the meanings of doctoral students' experiences by analyzing the data inductively (Bogdan & Biklen, 1998). The logs (open-ended, short answer, and tick off) are submitted by participants via e-mail four to six times each year. Participants are asked to describe their activities during one week, with the suggestion that they use the present or previous week after receiving the log as a reference. While the logs are structured and take about 15 minutes to

complete, they allow a degree of flexibility in terms of the kinds of experiences that participants discuss and the ways that they represent these experiences textually (Alexander, Harris-Huemmert, & McAlpine, 2013).

In this study, we looked specifically at the responses to two questions posed on every activity log. Each question included two parts, a description of the experience and the meaning it held for the student:

- If there was a significant event or experience in which you felt like an academic or felt that you belonged to an academic community, please tell us about it. Why was this event or experience important?
- If there was a significant event or experience in which you did not feel like an academic or felt that you were excluded from or not part of an academic community, please tell us about it. Why did this experience make you feel this way?

This binary representation of [not] feeling like an academic or [not] belonging to an academic community was chosen since we were seeking to understand what day-to-day events might have pivotal positive and negative meaning. In order to provide the reader with a better idea of an individual's experiences, we included only the participants who had provided two or more logs and from these participants, we selected those with responses to at least one of the questions above. The resulting data involved 457 activity logs provided by 57 students.

DATA ANALYSIS

The unit of analysis, as noted above, in the current study was the experiences reported, not the individual. However, we do report some overall individual findings (e.g., number of students who reported positive only experiences). The analysis was facilitated by using MAXQDA, a qualitative data analysis software. In order to describe the meaning of our participants' responses to these two questions, we used a qualitative content analysis method, which is defined as "a method for describing the meaning of qualitative material in a systematic way" (Schreier, 2012, p. 1). The details of the analysis method are described below.

1. We gathered students' responses to the first part of each of the two questions under two main themes: "feeling like an academic/belonging to an academic community" and "not feeling like an academic/excluded from the academic community".

2. We listed doctoral students' activities that made them feel like academics/belonging to an academic community under main theme 1: feeling like an academic.

3. We listed doctoral students' activities that made them not feel like academics under main theme 2: not feeling like an academic-excluded from the academic community.

4. We used the coding frame developed in the McAlpine et al. (2009) study and used in another study (Solem et al., 2011) to categorize the activities. The coding scheme was a good fit for this analysis and we wanted to be able to compare the findings. We first tried out this coding frame by analyzing the logs of four participants (46 logs). In this coding scheme, doctoral students' activities are categorized into two groups: doctoral-specific activities and general academic activities. Doctoral-specific activities are experienced only by doctoral students by virtue of being a student in a doctoral program (e.g., coursework). General academic activities are engaged in by any academic, including doctoral students (e.g., conference presentation). These two categories were further divided into three groups with regard to the formality of the activity: formal, semi-formal, and informal activities. *Formal activities* are visible elements of academic work; they are structured and documented activities one might put on a CV (e.g., submitting a journal article, teaching). Semi-formal activities are also planned, public, and structured but are not associated with particular benchmarks for the individuals involved (e.g., meeting academics, attending conferences). Informal activities are unstructured

and undocumented, and they are not public or visible to the extent of formal and semi-formal activities (e.g., conversations with peers, reading).

5. We modified McAlpine et al.'s (2009) coding frame by adding new codes after analyzing the logs of 24 more participants (265 logs).

6. After we reached a 100% agreement with the coding scheme, the first author of the study analyzed the rest of the participants' logs (29 participants, 146 logs) and somewhat revised the coding scheme again (see final coding scheme in Table 2, activities printed with bold are added to the coding framework of McAlpine et al., 2009).

Table 2. Coding scheme of doctoral students' academic activities

Doctoral Specific		
Formal	**Semi-Formal**	**Informal**
➢ teaching often as a teaching assistant ➢ submitting a dissertation or thesis ➢ coursework ➢ **being invited to an institutional process** ➢ submitting funding application ➢ attending an interview	➢ research related activities (e.g., working as an RA) ➢ meeting with supervisor(s) ➢ **meeting with peers (e.g., for research)** ➢ attending someone else's oral defense ➢ meeting with committee members ➢ **organizing a student seminar/conference**	➢ writing dissertation/thesis ➢ other doctoral specific **reading** & writing ➢ comprehensive exam related tasks ➢ conversations with peers
General Academic		
Formal	**Semi-Formal**	**Informal**
➢ submitting a journal article ➢ job offer/submitting application ➢ conference presentation ➢ **being invited to engage in academic activities** ➢ submitting a conference paper ➢ **winning a prize**	➢ meeting with academics (e.g., for joint writing) ➢ **attending a seminar/workshop** ➢ non-conference presentation ➢ conference attendance ➢ meeting non-academics ➢ acting as a consultant ➢ conference organization	➢ writing ➢ reading literature ➢ **doing research (not limited to reading & writing)** ➢ **social gatherings with academics** ➢ **conversations with academics** ➢ job application work ➢ **conversations with non-academics** ➢ reviewing work ➢ **getting rejections to academic papers**

7. To analyze the second part of each of the two questions explaining why the reported event or experience was significant, we reviewed and clustered the log responses related to a) positive experiences and b) negative experiences, in order to develop a parsimonious coding scheme that represented the perceived meaning of these activities (Table 3).

Table 3. Coding scheme of the meanings of positive and negative experiences

Meanings of Positive Experiences	Meanings of Negative Experiences
Self-recognition	Lack of self-recognition
Recognition by others	Lack of recognition by others
Making a contribution	Not making a contribution
Helpful for learning things	Not spending time on academic work
Advancing career profile	Lack of progress
	Institutional barriers

FINDINGS AND DISCUSSION

COMPARISON OF DIFFERENT TYPES OF ACADEMIC ACTIVITIES AND POSITIVE AND NEGATIVE EXPERIENCES

Two key findings stand out in comparing the frequency of type of academic activities (See Table 4). First, general academic activities were more frequently reported than doctoral specific academic activities, whether positive or negative. Second, except for doctoral specific experiences that lead to positive feelings, semi-formal and informal academic activities were more frequently reported than formal academic activities, both positive and negative. Both findings support the two earlier log studies (McAlpine et al., 2009; Solem et al., 2011).

Table 4. Frequency of the each type of positive and negative experiences by activity

		Formal	Semi-formal	Informal	Total
Positive Experiences leading to Feeling like an Academic	Doctoral specific	72	58	38	356
	General academic	43	72	73	
Negative Experiences leading to not Feeling like an Academic	Doctoral specific	2	3	6	25
	General academic	2	6	6	

A closer look at the difference between experiences that engendered positive or negative emotions, shows that of the 381 experiences reported in total, positive experiences leading to feeling like an academic or belonging to an academic community were reported 356 (93%) times. In contrast, negative experiences leading to not feeling like an academic or being excluded from (or not part of) an academic community were reported only 25 (7%) times. That is, the positive experiences were reported about 14 times more frequently than the negative experiences, indicating that our participants were more likely to have experiences leading to positive feelings on a regular basis than negative, although still experiencing the ups and downs of the academic world.

Table 5 provides a finer grained analysis of the number of students and logs reporting the academic activities by different types of experiences. For instance, even though overall general academic activities were more frequently reported than doctoral specific academic activities, it is notable that the doctoral specific formal activity of teaching as a teaching assistant was the most frequently reported positive log experience of all, supporting Bieber and Worley's (2006) assertion of the importance of teaching as an academic activity for doctoral students.

Participants also reported frequently meeting informally with academics other than their supervisors and, though less frequently, also meeting with peers and non-academics. Collectively, these interactions demonstrate extensive informal networks of support (Austin, 2002; McAlpine & Amundsen, 2011; Sweitzer, 2009).

Table 5. Activities by positive and negative experiences

Type of Activity		Only Positive Experiences (frequency of the experience/ students/ logs)	Both Positive and Negative Experiences (frequency of the experience/ students/ logs)
Doctoral specific	Formal	Teaching as a TA (43/14/20) Submitting funding application (3/1/1) Being invited to an institutional process (9/4/4) Attending an interview (3/1/1)	Coursework (positive: 5/5/5, negative:1/1/1) Submitting a dissertation or thesis (positive: 9/8/9, negative:1/1/1)
	Semi-Formal	Meeting with peers (e.g., for research) (12/4/5) Meeting with committee members (7/3/3) Attending someone else's oral defense (6/4/4)	Meeting with supervisor(s) (positive: 15/11/15, negative:1/1/1) Research related activities (e.g., working as an RA) (positive: 16/9/16, negative:1/1/1) Organizing a student seminar/conference (positive: 2/1/2, negative:1/1/1)
	Informal	Comprehensive exam related tasks (9/6/9)	Writing dissertation/thesis (positive: 11/5/11, negative:4/3/4) Other doctoral specific reading & writing (10/6/10, negative:1/1/1) Conversations with peers (positive: 8/8/8, negative:1/1/1)
General Academic	Formal	Submitting a journal article (17/13/17) Submitting a conference paper (3/3/3) Being invited to engage in academic activities (4/3/4) Winning a prize (1/1/1)	Job offer/submitting application (positive: 12/8/12, negative: 1/1/1) Conference presentation (positive: 6/5/6, negative: 1/1/1)
	Semi-Formal	Meeting non-academics (6/5/6) Acting as a consultant (4/4/4) Conference organization (1/1/1)	Meeting with academics (e.g., for joint writing) (positive: 21/17/21, negative: 3/3/3) Attending a seminar/workshop (positive: 17/13/17, negative:1/1/1) Conference attendance (positive: 11/11/11, negative:1/ 1/1) Non-conference presentation (positive: 12/10/12, negative:1/1/1)
	Informal	Writing **(17/**11/17) Conversations with academics (10/8/10) Conversations with non-academics (3/3/3) Reviewing work (2/2/2)	Reading literature (positive: 12/11/12, negative: 1/1/1) Doing research (not limited to reading & writing) (positive: 12/7/12, negative: 2/2/2) Social gatherings with academics (positive: 10/10/10, negative:1/1/1) Job application work (positive:6/4/6, negative: 1/1/1) Getting rejections (positive: 1/1/1, negative: 1/1/1)

We found that most of the participants (n=46, 75%) reported only positive experiences that made them feel like academics and did not report any negative experiences; whereas 10 (16%) students

reported both positive and negative experiences. Only one student reported a negative experience that made her not feel like an academic, but no positive experience.

A further point can be drawn from examining the types of activities in Table 5. The activities in the 'only positive' category and the activities in 'both positive + negative' category include all five academic activities: doctoral specific, general academic, formal, semi-formal, and informal. This finding suggests that students' perceptions of the experiences are independent of the type of academic activity. While some academic activities (i.e., coursework, meeting with academics, getting rejections) were reported as leading to both positive and negative experiences, other activities were reported to lead only to positive experiences (i.e., teaching, meeting with peers, submitting a journal article), *no one activity was reported as leading to only a negative experience.* We cannot know, but suspect if the pool of logs were larger, more activities might have been reported as both positive and negative. These results support the earlier studies (Solem et al., 2011) that activities leading to feeling excluded from the academic community could also be perceived as positive.

THE EXPLANATIONS FOR THE EXPERIENCES BEING POSITIVE AND NEGATIVE

In the second part of each of the two questions, students were asked to explain why the event or experience they reported had the emotional meaning it had. As regards a positive emotional interpretation, the five reasons (see Table 3) can be characterized in the following manner. Students felt positively when they:

- were actively engaged and felt like they were learning and making a contribution such as when working on a publication or teaching
- were recognized by important others (i.e., supervisors, other academics, peers, non-academics); they felt affirmed and respected as scholars which led to feelings confidence and self-recognition
- felt what they were learning and their experiences of participation advanced their career profile and hopes

Not surprisingly, perhaps, the six explanations for the negative emotions (see Table 3) roughly counter-balanced those for the positive emotional responses. Students felt negatively when they:

- were not spending time on academic work leading to a feeling they were not making progress and, in the longer term, not making an academic contribution
- felt unrecognized by important others (i.e., journal editors, academics, peers) often leading to a lack of confidence or self-recognition and feelings of not making a contribution
- felt they lacked knowledge compared to other academics and peers leading to feeling incompetent compared to these others.
- came up against institutional barriers (e.g., getting a rejection of a paper or grant proposal) which, in some cases, led to a feeling that one's work was not valued, or at a more local level, coming up against bureaucratic rules that delayed progress toward graduation.

Another way of looking at the link between experience and positive or negative meaning can be seen in Table 6 which presents the distribution of all activities by the reasons for the emotional response. Five activities (teaching, submitting a journal article, conversations with peers, meeting with academics, and writing) drew forth all five positive meanings. Another 12 drew forth four of the five positive meanings.

Interestingly, there appeared to be some prioritizing of different activities. For instance, some logs reported organizing a student seminar/conference, submitting or working on a job application, or participating in gatherings with academics as producing negative meanings, e.g., distracters, because spending time on these meant a lack of progress on their doctoral work. Since these activities are generally useful, future research might explore the frequency with which students are faced with this kind of decision-making.

Table 6. The importance of and the reasons for the positive and negative experiences by activities

Doctoral Specific Activities	The Importance of the Positive Experiences	The Reasons for the Negative Experiences	General Academic Activities	The Importance of the Positive Experiences	The Reasons for the Negative Experiences
Teaching	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things, Advancing career profile	-	Submitting a journal article	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things, Advancing career profile	-
Being invited to an institutional process	Making a contribution, Helpful for learning things, Self-recognition, Recognition by others	-	being invited to engage in academic activities	Self-recognition, Recognition by others	-
Submitting funding application	Self-recognition, Recognition by others	-	submitting a conference paper	Making a contribution	-
Attending an interview	Self-recognition, Recognition by others		winning a prize	Self-recognition, Recognition by others	-
Meeting with peers (e.g., for research)	Making a contribution, Helpful for learning things, Self-recognition, Recognition by others	-	meeting non-academics	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things	-
Comprehensive exam related tasks	Advancing career profile, Helpful for learning things, Self-recognition, Recognition by others	-	acting as a consultant	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things	-
Meeting with committee members	Self-recognition, Recognition by others	-	conversations with academics	Helpful for learning things, Self-recognition, Recognition by others	-
Attending someone else's oral defense	Making a contribution, Helpful for learning things	-	conversations with non-academics	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things	-
Submitting a dissertation or thesis	Advancing career profile, Self-recognition, Recognition by others	Institutional barriers, Lack of progress, Lack of recognition by others	job offer/submitting application	Self-recognition, Recognition by others	Not spending time on academic work
Research related activities (e.g., working as an RA)	Making a contribution, Helpful for learning things, Self-recognition, Recognition by others	Not making a contribution, Lack of progress	doing research (not limited to reading & writing)	Advancing career profile, Helpful for learning things, Self-recognition, Recognition by others	Institutional barriers, Lack of progress
Coursework	Advancing career profile, Making a contribution, Helpful for learning things, Self-recognition	Not making a contribution	conference presentation	Helpful for learning things, Self-recognition, Recognition by others	Lack of recognition by others
Meeting with supervisor(s)	Helpful for learning things, Self-recognition, Recognition by others	Institutional barriers	meeting with academics	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things, Advancing career profile	Lack of self-recognition, Lack of recognition by others

Table 6 continues.

Doctoral Specific Activities	The Importance of the Positive Experiences	The Reasons for the Negative Experiences	General Academic Activities	The Importance of the Positive Experiences	The Reasons for the Negative Experiences
Organizing a student seminar/conference	Helpful for learning things Recognition by others	Not spending time on academic work	**non-conference presentation**	Helpful for learning things, Self-recognition, Recognition by others	Lack of self-recognition, Lack of recognition by others
Writing dissertation/thesis	Helpful for learning things, Self-recognition	Institutional barriers, Lack of progress	**writing**	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things, Advancing career profile	-
Other doctoral specific reading & writing	Advancing career profile, Helpful for learning things, Self-recognition, Recognition by others	Not making a contribution	**reading literature**	Helpful for learning things, Self-recognition	Lack of self-recognition
Conversations with peers	Making a contribution, Advancing career profile, Helpful for learning things, Self-recognition, Recognition by others	Not making a contribution, Lack of recognition by others	**social gatherings with academics**	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things	Not making a contribution, Not spending time on academic work
			attending a seminar/workshop	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things	Not making a contribution, Lack of self-recognition
			job application work	Self-recognition, Advancing career profile	Not spending time on academic work
			conference attendance	Self-recognition, Recognition by others, Making a contribution, Helpful for learning things	Lack of self-recognition
			reviewing work	Helpful for learning things, Self-recognition, Recognition by others	-
			getting rejections to academic papers	-	Lack of self-recognition, Lack of recognition by others
			conference organization*	-	-

* these students did not report any information about the importance of these activities but still reported them as experiences that made them feel like academics

This analysis moved beyond the previous studies and provided insight into the common meanings linked to work engaged in by doctoral students. Overall, we conclude that any particular activity can draw forth a range of positive meanings and that such meanings are intimately linked to each other, reinforcing and reciprocal (i.e., doing the activity, actually making a contribution, can lead to both extrinsic and intrinsic meanings). In looking across the different analyses of the meanings of the positive and negative responses, we saw two overarching themes, each of which we elaborate below.

Extrinsic influences: The importance of workplace affordances, feedback, and support

For almost all of the doctoral specific and general academic activities, students mentioned that they felt like academics and belonged to the academic community if they were recognized as academics by meaningful others, for example, when they received encouraging and constructive feedback from their supervisors, committee members, and journal reviewers. They felt that their advice was being taken into account and they were being treated like a colleague. When other academics and even non-academics were interested in or impressed by a student's work, they felt that they were an important part of the academic community, their work was acknowledged and they were appreciated in the academic world. Overall, students reported that they felt valued, cared for, confident, and accomplished.

> "Meeting for the first time my co-supervisor and finding that they think I have a good piece of research [Why was this event or experience important?] To bolster my confidence." (female, UK, social sciences)

> "I had feedback on a paper I wrote for an academic review. [Why was this event or experience important?] It verified the quality of work I had done and boosted my self-esteem in that I respect the researcher's opinion highly." (male, UK, social sciences)

In line with our findings, Pyhältö et al. (2009) found that doctoral students who saw themselves as members of the academic community and were most satisfied with their learning environment and who reported the lowest levels of stress, exhaustion, and anxiety were the ones with the highest level of received feedback. Boud and Tennant (2006) suggest that individuals' motivations leading to doctoral study are many and complex, and "…the desire for …recognition and acknowledgement by others of unique and sophisticated achievements is a central consideration" (p. 295). Carlone and Johnson (2007) and Englander (2009) also report that identifying oneself as a member of a community is not sufficient for a person to be a member of that community, but the person has to be recognized by the other members in the community. Consistently, in our study, participants perceived being recognized by others as so important that it impacted their feelings about staying in academia.

> "During my visit to XX [university] I felt how much I am accepted and how much my work is of interest for other researchers. [Why was this event or experience important?] To support me in my ongoing work and to let me think about whether to stay or not to stay in academia." (female, UK, STEM)

Confirming Vygotsky's (1987) famous quote, "It is through others that we develop into ourselves", being recognized by others helped our participants to recognize themselves as academics. Christiansen (1999) points out that through implicit expectations associated with social standing and the performance of roles, social groups help define the levels of competence necessary for acceptance, approval, and recognition. In other words, self-appraisal is highly dependent on the extent to which we believe that we will be accepted by others. Likewise, in our study, students considered recognition by others as proof of their qualifications and validation of their work and themselves as academics. On the other hand, if they felt that they were under-valued (e.g., low pay, when those at their conference presentation were not interested in their talk, or their publications were rejected) their sense of being an academic was damaged.

> "Probably the dry run of the talk I was to give at the conference. [Why did this experience make you feel this way?] It didn't go very well. Most in attendance didn't follow what the key contributions of my work were." (male, Canada, STEM)

> "Well, having a paper rejected makes me feel excluded. [Why did this experience make you feel this way?] It was a reminder that I do not feel comfortable enough with my own work to be able to explain it clearly and concisely..." (male, Canada, STEM)

When students were working with other academics, they often felt they belonged to the academic community and were recognized as academics. Students also considered collaboration as an important opportunity to reflect on their own ideas and clarify their questions, and to expand their knowledge. There is an abundance of research on the importance of doctoral students' relationships with peers, advisors and other academics. It provides support to stay in academia and provides the necessary emotional and academic support during their doctoral studies (i.e., Bagaka's, Badillo, Bransteter, & Rispinto, 2015; Gardner, 2007; Geber, 2009; Lei, Gorelick, Short, Smallwood, & Wright-Porter, 2011).

> "Talking to a lot of people in another field about some new experiments I want to do [Why was this event or experience important?] helped me learn quickly things that are practical." (female, Canada, STEM)

However, students could also feel excluded from the academic community when their institutions did not provide the opportunities and support that students needed while doing research, dissertation writing, and submission. The events that were perceived as negative, causing frustration, included, for instance, lack of access to the resources needed while doing fieldwork or to complete an experiment and bureaucratic deadlines to finish dissertations when more time was needed or wanted to reach personal standards.

> "…I have come to realize that I have often relied on feedback from others to gauge whether the work I am doing is valued / valuable, or that my perception of an issue is accurate or flawed. Because I am not working at the department on a regular basis, and living out of town, I no longer have that regular contact, so I feel disconnected from academia and increasingly uncertain about my research." (male, Canada, STEM)

> "I feel like I am being pushed by an arbitrary bureaucratic deadline to submit my thesis before it is finished. [Why did this experience make you feel this way?] I have been working for five years and my thesis has changed significantly---radically---more than once in that time. I finally discovered some good results, but only in the last few months. I am being pressed by the final submission deadline without sufficient time to really think about the implications of these results and write well about them …If the discovery of these results had only happened two years ago when it should have happened, I would not be in this much trouble now." (male, UK, STEM)

INTRINSIC INFLUENCES: THE IMPORTANCE OF CONFIDENCE, COMMITMENT AND THE VALUE OF WORK

Boud and Tennant (2006) suggest that individuals' motivations that lead to doctoral study not only include the desire for recognition and acknowledgement by others but also "…the desire for personal satisfaction and intellectual stimulation" (p. 295). In our study, reading and writing sometimes made students realize how much they already knew and this added to their confidence. This type of experience also provided them with a growing resilience to deal with the ups and downs of academic life, supporting an earlier different analysis where people named themselves as the most important individual in the week in 10% of the logs (McAlpine & Amundsen, 2011). These kinds of informal experiences, often invisible to others, helped students to self-recognize as academics and not be solely dependent on others' recognition. However, there were also cases when students felt not as capable when they were doing an academic activity by themselves such as reading literature or conducting an

independent research, if they thought that they did not have the necessary knowledge, background or skills.

> "Attending weekly research group meetings with my supervisor and her other students. We spend time discussing academic issues. I really think that having such discussions are important in both clarifying questions that I have, but also in that it reinforces the nature of our work at the university, which is to exchange ideas that may be abstract, that may be philosophical, but that are pertinent to my identity as an academic..." (male, Canada, social sciences)

> "Actually working on my thesis and making progress. Also reading through a 185 page book on grounded theory in 1 day and feeling like I had indeed captured all the relevant information I needed from that book (it was the 3rd time I was reading [about this approach] so much is already knowledge that I can say I have at this point). Even recognizing that I already knew and understood most of the book was encouraging." (female, Canada, social sciences)

> "…Sometimes I don't feel like an academic when I have trouble understanding some papers, seminars or failed experiments. [Why did this experience make you feel this way?] I feel like I don't know enough." (male, Canada, STEM)

Further, students felt like an academic and belonging to the academic community when they were engaging with academic work that they valued. Students valued taking courses, teaching, doing research, and publishing since they saw these activities as important for advancing their career profile and preparing them for their future academic life (if they imagined being academics). As also mentioned by Portnoi, Chlopecki, and Peregrina-Kretz (2015), students perceived these experiences as achieving milestones (i.e., passing an oral examination, finishing the coursework) and this was central to students' self-confidence about their academic potential and seeing themselves as academics. Students were committed to these activities, besides they valued and enjoyed them. For example, some of our participants stated that they enjoyed and loved teaching, reporting that it was amazing to interact with students and very satisfying to pass on their knowledge. Like Bieber and Worley's (2006) study, some of our participants privileged teaching over research. One student reported that teaching was the reason that she was doing a PhD.

> "Teaching [Why was this event or experience important?] It helps me to remember why I am doing this in the first place." (female, Canada, social sciences)

CONCLUSION

Students' significant experiences clearly demonstrated that they were engaged in workplace learning (Billett 2002), with general academic activities more frequently reported than doctoral specific academic activities. In line with earlier studies (Austin, 2002; Bieber & Worley, 2006), our findings confirmed that doctoral students generally focused on disciplinary-scholarly rather than institutional-service aspects of academic work – aside from teaching. Teaching as a teaching assistant (TA) was the most frequently reported academic activity that led to positive experiences for the participants. In a systematic literature review of 995 studies on the issues of doctoral education, Jones (2013) found that only 3% of these studies investigated the importance of teaching for doctoral students. Our study suggests that teaching as a TA can be a very important experience for doctoral students in order to feel like an academic. More research is needed to examine the role of teaching in doctoral students' lives.

Generally, our participants regarded a wide range of activities as having positive meanings (e.g., coursework, meeting with supervisors, doing research, writing/submitting thesis/journal articles/conference papers). While such activities often resulted in positive responses, students also reported a range of negative responses, e.g., lack of progress or self-recognition. Consistent with Carlone and Johnson (2007) our results demonstrated that students' recognition of themselves as aca-

demics was not only related to their actions, performance, and competence, but also to their recognition by others as academics. Their accomplishments played important roles in maintaining and enhancing their confidence as becoming-academics. Still, a positive sign was that many others aside from research supervisors were impacting students' feelings of being an academic. Of particular note was the important role played by other more experienced academics and peers. These findings support the view that a positive research climate is important for students (Leonard & Becker, 2009) and departments have an important role to play in creating such an environment (Austin, 2002; Martinsuo & Turkulainen, 2011), including ensuring a positive student subculture (Weidmen & Stein, 2003).

There are also pedagogical implications emerging from this analysis that could be used in workshops for new supervisors. Academic developers may find it helpful to direct new supervisors and students to one of the following websites, each of which integrates some of our research: for those working with a UK-type PhD (Oxford Learning Institute, 2017); for those working with a North American-type PhD (McGill University, 2017). New supervisors often report feeling very responsible for their supervisees (Amundsen & McAlpine, 2009). The fact that students were drawing on a range of individuals suggests two things: one, supervisors need to be reassured that they are not the only resource for their students; and two they should be encouraging their students to develop their own support networks. Further, that students were not aware of the full range of academic activities suggests supervisors should find ways to make apparent this range and encourage students to participate in them as much as possible. As well, the reciprocal relationship between recognition by others and self-recognition suggests that supervisors should consider the type and frequency of feedback they provide and also encourage students to self-assess and to state the activities they feel they need to develop proficiency in. An important overall message should be the importance of recognizing and supporting the development of student confidence and agency (McAlpine & Amundsen, 2011) from the time the student arrives on our 'doorstep'.

REFERENCES

Alexander, P., Harris-Huemmert, S., & McAlpine, L. (2013). Tools for reflection on the academic identities of doctoral students. *International Journal for Academic Development*, *19*(3), 162-173.

Amundsen, C., & McAlpine, L. (2009). Learning supervision: Trial by fire? *Innovations in Education and Teaching International, 46*(3), 331- 342.

Austin, A. E. (2002). Preparing the next generation of faculty: Graduate school as socialization to the academic career. *The Journal of Higher Education*, *73*(1), 94- 122.

Bagaka's, J. G., Badillo, N., Bransteter, I., & Rispinto, S. (2015). Exploring student success in a doctoral program: The power of mentorship and research engagement. *International Journal of Doctoral Studies, 10*, 323-342. Retrieved from https://www.informingscience.org/Publications/2291

Barnacle, R., & Mewburn, I. (2010). Learning networks and the journey of 'becoming doctor'. *Studies in Higher Education, 35*(4), 433–444.

Bieber, J. P., & Worley, L. K. (2006). Conceptualizing the academic life: Graduate students' perspectives. *The Journal of Higher Education, 77*(6), 1009-1035.

Billet S. (1996). Situated learning: Bridging sociocultural and cognitive theorising. *Learning and Instruction*, *6*(3), 263-280.

Billett, S. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning, 13*(5), 209-214.

Billet, S. (2002). Workplace pedagogic practices: Co-participation and learning. *British Journal of Educational Studies, 50*(4), 457-481.

Billet, S. (2006). Relational interdependence between social and individual agency in work and working life. *Mind, Culture, and Activity, 13*(1), 53-69.

Billett, S. (2009). Conceptualizing learning experiences: Contributions and mediations of the social, personal, and brute. *Mind, Culture, and Activity, 16*(1), 32-47.

Billet, S. (2010). Lifelong learning and self: Work, subjectivity, and learning. *Studies in Continuing Education, 32*(1), 1-16.

Billet, S., & Somerville, M. (2004). Transformations at work: Identity and learning. *Studies in Continuing Education, 26*(2), 309-326.

Bogdan, R. C., & Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods*. Needham Heights: Allyn & Bacon.

Boud, D., & Tennant, M. (2006). Putting doctoral education to work: Challenges to academic practice. *Higher Education Research & Development, 25*(3), 293-306.

Carlone, H. B., & Johnson, A. (2007). Understanding the science experiences of successful women of color: Science identity as an analytic lens. *Journal of Research in Science Teaching, 44*(8), 1187-1218.

Christiansen, C. H. (1999). Defining lives: Occupation as identity: An essay on competence, coherence, and the creation of meaning. *The American Journal of Occupational Therapy, 53*(6), 547-558.

Churchman, D., & King S. (2009). Academic practice in transition: Hidden stories of academic identities. *Teaching in Higher Education, 14*(5), 507-516.

Cotterall, S. (2015). The rich get richer: International doctoral candidates and scholarly identity. *Innovations in Education and Teaching International, 52*(4), 360-370.

Curtin, N., Stewart, A. J., & Ostrove, J. M. (2013). Fostering academic self-concept: Advisor support and sense of belonging among international and domestic graduate students. *American Educational Research Journal, 50*(1), 108-137.

Englander, K. (2009). Transformation of the identities of nonnative English-speaking scientists as a consequence of the social construction of revision. *Journal of Language, Identity & Education, 8*(1), 35-53.

Etelapelto, A., Vahasantanen, K., Hokka, P., & Paloniemi, S. (2013). What is agency? Conceptualizing professional agency at work. *Educational Research Review, 10*(2013), 45-65.

Foot, R., Crowe, A. R., Andrus Tollafield, K., & Allan, C. E. (2014). Exploring doctoral student identity development using a self-study approach. *Teaching & Learning Inquiry, 2*(1), 103-118.

Gardner, S. K. (2007). I heard it through the grapevine: Doctoral student socialization in chemistry and history. *Higher Education, 54*(5), 723–740.

Geber, H. (2009). Research success and structured support: Developing early career academics in higher education. *South African Journal of Higher Education, 23*(4), 674-689.

Green, B. (2005). Unfinished business: Subjectivity and supervision. *Higher Education Research & Development, 24*(2), 151-163.

Hagerty, B. M. K., Lynch-Sauer, J., Patusky, K., Bouwsema, M., & Collier, P. (1992). Sense of belonging: A vital mental health concept. *Archives of Psychiatric Nursing, 6*(3), 172-177.

Hagerty, B. M. K, Williams, R. A., Coyne, J. C., & Early, M. R. (1996). Sense of belonging and indicators of social and psychological functioning. *Archives of Psychiatric Nursing, 10*(4), 235-244.

Harris, S. (2005). Rethinking academic identities in neo-liberal times. *Teaching in Higher Education, 10*(4), 421-433.

Holley, K. (2009). Animal research practices and doctoral student identity development in a scientific community. *Studies in Higher Education, 34*(5), 577-591.

Jones, M. (2013). Issues in doctoral studies- forty years of journal discussion: Where have we been and where are we going? *International Journal of Doctoral Studies, 8,* 3-104. Retrieved from https://www.informingscience.org/Publications/1871

Lei, S., Gorelick, D., Short, K., Smallwood, L., & Wright-Porter, K. (2011). Academic cohorts: Benefits and drawbacks of being a member of a community of learners. *Education, 131*(3), 497-504.

Leonard, D., & Becker R. (2009). Enhancing the doctoral experience at the local level. In D. Boud & A. Lee (Eds.), *Changing practices in doctoral education* (pp. 71-86). London, UK: Routledge.

Lepp, L., Remmik, M., Karm, M., & Leijen, A. (2013). Supervisors' conceptions of doctoral studies. *TRAMES*: *Journal of the Humanities and Social Sciences*, *17*(4), 401–415.

Mantai, L. (2015). Feeling like a researcher: Experiences of early doctoral students in Australia. *Studies in Higher Education,* Retrieved from http://www.tandfonline.com/doi/full/10.1080/03075079.2015.1067603

Martinsuo, M., & Turkulainen, V. (2011). Personal commitment, support and progress in doctoral studies. *Studies in Higher Education, 36*(1), 103-120.

McAlpine, L. (2012). Identity-trajectories: Doctoral journeys from past to present to future. *Australian Universities' Review, 54*(1), 38-46.

McAlpine, L., & Amundsen, C. (2009). Identity and agency: Pleasures and collegiality among the challenges of the doctoral journey. *Studies in Continuing Education, 31*(2), 109-125.

McAlpine, L., & Amundsen, C. (2011). *Doctoral education: Research-based strategies for doctoral students, supervisors and administrators.* Amsterdam: Springer.

McAlpine, L., Jazvac-Martek, M., & Hopwood, N. (2009). Doctoral student experience in education: Activities and difficulties influencing identity development. *International Journal for Researcher Development, 1*(1), 97-109.

McAlpine, L., & Norton, J. (2006). Reframing our approach to doctoral programs: An integrative framework for action and research. *Higher Education Research & Development, 25*(1), 3-17.

McGill University (2017). *Supervision: Graduate and postdoctoral support.* Retrieved from http://www.mcgill.ca/gradsupervision/

McLean, N. (2012). Researching academic identity: Using discursive psychology as an approach. *International Journal for Academic Development, 17*(2), 97-108.

Neumann, A. (2006). Professing passion: Emotion in the scholarship of professors at research universities. *American Educational Research Journal, 43*(3), 381-424.

O'Meara, K., Knudsen, K., & Jones, J.(2013). The role of emotional competencies in faculty-doctoral student relationships. *The Review of Higher Education, 36*(3), 315-347.

Oxford Learning Institute (2017). *Research supervision.* Retrieved from http://www.learning.ox.ac.uk/supervision

Portnoi, L. M., Chlopecki, A. L. A., & Peregrina-Kretz, D. (2015). Expanding the doctoral student socialization framework: The central role of student agency. *The Journal of Faculty Development, 29*(3), 5-16.

Pyhältö, K., Stubb, J. & Lonka, K (2009). Developing scholarly communities as learning environments for doctoral students. *International Journal for Academic Development, 14*(3), 221-232.

Solem, M., Hopwood, N., & Schlemper, M. B. (2011) Experiencing graduate school: A comparative analysis of students in geography programs. *The Professional Geographer, 63*(1), 1-17.

Solem, M., Lee, J., & Schlemper, B. (2009). Departmental climate and student experiences in graduate geography programs. *Research in Higher Education, 50*(3), 268-292.

Schreier, M. (2012). *Qualitative content analysis in practice.* London: Sage.

Smith, J. (2010). Academic identities for the twenty-first century. *Teaching in Higher Education, 15*(6), 721 727.

Sweitzer, V. B. (2009). Towards a theory of doctoral student professional identity development: A developmental networks approach. *The Journal of Higher Education, 80*(1), 1-33.

Vygotsky, L. S. (1987). The genesis of higher mental functions. In R. Reiber (Ed.), *The development of higher mental functions* (pp. 97-120). New York: Plennum.

Watson, C. (2011). Accountability, transparency, redundancy: Academic identities in an era of 'excellence'. *British Educational Research Journal, 37*(6), 955-971.

Weidmen, J. C., & Stein, E. L. (2003). Socialization of doctoral students to academic norms. *Research in Higher Education, 44*(6), 641-656.

BIOGRAPHIES

Esma Emmioğlu is an Assistant Professor in the Faculty of Education, Gaziosmanpaşa University, Tokat, Turkey. She worked as a post-doctoral fellow in Simon Fraser University from 2012 to 2014. Her current research interests include doctoral education, research education, research productivity of doctoral students, and attitudes toward statistics.

Lynn McAlpine is a Professor Emerita of Higher Education Development at the University of Oxford and Professor Emerita at McGill University. She has received research awards from both the Canadian Society for Studies in Higher Education Research Award, and the American Educational Research Association. Her research interests are directed at understanding how academics, particularly those early in their careers (doctoral students, research staff, pre-tenure academics and newly-appointed lecturers), make sense of and engage in all aspects of academic work or choose to leave. Her research is principally longitudinal, qualitative and narrative-based.

Cheryl Amundsen is a Professor in the Faculty of Education, Simon Fraser University and Director, Institute for the Study of Teaching and Learning in the Disciplines. Previous and ongoing research has focused on how university professors develop pedagogical knowledge in relationship to their subject matter through an action research process known as the Scholarship of Teaching and Learning. Simultaneously for the last 10 years, she has also investigated the experiences of early career academics (PhD students, postdocs, pre-tenure faculty) tracing their career trajectories into academic and non-academic positions.