



# International Journal

of Online Graduate Education

## Online Doctoral Students' Perception of Autonomy Support to Progress in Dissertation

Crissie M. Jameson, PhD  
National University

Kelly M. Torres, PhD  
The Chicago School of Professional Psychology

Joel B. Goodin, PhD  
National University

Shereeza F. Mohammed, PhD  
Walden University

Volume 6, Issue 1 (Spring, 2023)

### **Abstract**

Following the worldwide shift, partially or fully, to virtual education during the Covid-19 pandemic, online education has received renewed attention. Bal et al. (2020) noted the issues faced by higher degree students during that period in which they struggled with time management, access to resources, and balancing work and personal life. Over 61% of doctoral students writing their dissertations reported increased hardship during the transition, but not necessarily due to online education (Donohue et al., 2021). The most prominent struggles involved data collection during times of lockdown (Donohue et al., 2021), but many students also struggled with a shift to online mentorship with their chairs and committee members (Niño & Martinez, 2022). Given the changes and struggles, Atkinson et al. (2022) pondered the professional and societal value of earning a PhD, arguably due to some concerns that the partially or fully online process of doctoral education could not support students' academic outcomes and success. Therefore, perhaps the forced shift to virtual education methods elucidated a need to better understand the online doctoral education process (Mullen, 2021). Given that several online higher educational institutions developed models for providing online doctoral education prior to the Covid-19 pandemic, they may present an opportunity to understand the long-term online doctoral education experience during times of greater normalcy. Exploring how online higher education institutions support students who are writing dissertations should provide insight into best practices of supporting online students during their dissertation processes.

### **Online Doctoral Students' Perception of Autonomy Support to Progress in Dissertation**

Completion rates of doctoral dissertations have been an area of concern across the U.S. Particularly, doctoral students often fail to succeed in their academic goals and program completion (Castelló et al., 2017; Cornwall et al., 2019; Skopek et al., 2020). In fact, research shows that only 40-60% of doctoral students persist to degree completion (Gittings et al., 2018). Further, according to Castelló et al. (2017), the structure and requirements of doctoral programs can vary considerably, whereas online master's programs often share many similarities. Differences in degree structures can negatively impact doctoral student performance due to their lack of understanding of how to successfully transition into advanced levels of graduate coursework. Specifically, doctoral students often lack familiarity with the doctoral processes (e.g., dissertation milestones and iterative feedback which can result in uncertainty and struggle (Kumar & Johnson, 2017).

Doctoral students also develop discipline-relevant skills and expertise and are supported by the mentorship of dissertation committee members (e.g., the dissertation chair; Lyons et al., 1990; Rademaker et al., 2016). Effective mentors may mediate the negative outcomes that could result from doctoral students' lack of familiarity, uncertainty, and difficulty. Given the arguable *at-risk* qualification of doctoral students amid high attrition rates and the pursuit of a high-performance goal process, a mentor or mentors can provide guidance for the doctoral student to set and pursue strategic, realistic goals such that they remain engaged, enrolled, and successful until degree completion. For example, Jameson et al. (2021) found that supporting doctoral students' autonomy, competency, and formation of a positive working relationship with the chair and committee supports the student's motivation to progress in the doctoral process. Self-Determination Theory (SDT) suggests that the psychological needs of autonomy, competence,

and relatedness to others foster intrinsic motivation (Deci & Ryan, 2000). Indeed, motivation is crucial to self-regulated, autonomous task efforts and success (e.g., theses and dissertations) (Andrews, 2016).

### **Supporting Motivation**

According to Deci and Ryan (2000), types of motivation span a continuum that represents the degree to which a person's motivation is internal (intrinsic motivation) or external (extrinsic motivation). Although extrinsic motivation is substantially necessary and valuable due to performance measures that are used to evaluate goal pursuits and success, intrinsic motivation is commonly regarded as a more powerful predictor of academic effort, engagement, and performance as compared to extrinsic motivation, such that doctoral students may be more motivated if their reasons for pursuing the doctorate are internal (Deci & Ryan, 2000). Just as soldiers who may have despised sit-ups and push-ups during boot camp (i.e., extrinsic motivation via pressure) may eventually do them out of habit or enjoyment (i.e., intrinsic motivation), motivation can change over time in terms of how internal or external it is on the continuum. However, intrinsic motivation is a better and stronger predictor of perseverance and progress on a consistent basis (Jameson et al., 2021; Hidi & Ainley, 2012; Regis, 2019; Sverdlik & Hall, 2019; Templeton, 2016; Volkert et al., 2018). Precisely, intrinsically motivated individuals engage in activities because they find personal value and enjoyment in the task or activity. Thus, the behaviors are internally motivated rather than the result of force, pressure, or promise of reward from outside sources (e.g., getting a good grade (deCharms, 1968)). Thus, intrinsically motivated academic activities engage the doctoral student to be more interested and experience greater autonomy in their doctoral tasks, which enhances their development, progress, and success (Deci & Ryan, 1985; Flavell, 1999).

Reciprocally, perceived autonomy as well as feelings of competence can help sustain a doctoral student's intrinsic motivation (Deci & Ryan, 1985). Autonomy is the perceived ability of a student to be in charge of or self-regulate their goals and goal processes such as their choice of a problem statement or the way a student intends to collect data, for example (Deci & Ryan, 2017). The doctoral student, working autonomously throughout substantive portions of the dissertation, must have a great deal of self-regulated learning (Kelley & Salisbury, 2016; Hanson et al., 2022). However, there is the other side of the dissertation process which is working closely with the chair. To the extent the chair has supported the student's perception of autonomy, the greater the likelihood the student will see the chair as someone "on their side" who will support and help them complete the dissertation. If that autonomy has not been supported, the student may not perceive the chair as being to help the student complete the dissertation which may cause setbacks during the dissertation process (Jameson et al., 2019).

When a person's autonomy is supported, the behavior will be engaged and internally driven. However, external factors will often intervene to adjust behaviors as needed (e.g., a chair giving feedback on a dissertation to ensure the study is feasible, research based, etc.) which may hinder the student's autonomy. The student can regain a sense of autonomy by buying in to the suggestions and path for the dissertation study, but often requires trust in the chair and the chair's competency to make suggestions that will lead the student on the path to success (Burns et al., 2018; Deci & Ryan, 2017).

### ***Autonomy Support***

Prior research provides evidence that educators who provide autonomy supportive approaches have students who possess higher levels of intrinsic motivation and perceive themselves as more competent (Deci et al., 1981). Ryan and Deci (2010) noted that autonomy

supportive environments result in support of competency and relatedness needs. The concept of autonomy support is essential for autonomous motivation and is focused on one's perception of having a voice and choice in their learning. Further, autonomy support provides a rationale and model for perceptions of meaning and self-relevance (Vansteenkiste et al., 2018). Autonomy supportive approaches result in internalization and self-endorsed learning. Students who possess autonomous supportive approaches are curious, open, and empathetic to learning. Essentially, Vansteenkiste et al. (2018) postulated that the "SDT literature and beyond have indicated that providing a meaningful rationale in an autonomy-supportive way promotes internalization, which in turn, contributes to greater engagement and learning" (p. 38). Through autonomy supportive instructional styles, faculty promote student motivation and acknowledge students' abilities to learn and grow. Further, supporting students' autonomy positively impacts and promotes self-regulated learning (Sierens, 2009; Jansen et al., 2019; Zheng, 2020) and intrinsic motivation (Holzer et al., 2021; Ryan & Deci, 2020).

### ***Autonomy Hindered***

Research focused on SDT has also examined factors that hinder autonomy (Krettenauer & Curren, 2020; Migiliorini et al., 2019). Ryan and Deci (2016) cautioned that educators too often implement external control strategies to foster learning instead of capitalizing on students' inherent curiosity of learning. Less autonomy supportive environments hinder student persistence. Failure to support student autonomy can have negative implications resulting in decreased levels of learner satisfaction and achievement (Marshik et al., 2017). Although learner autonomy is considered a desirable component for student success, Basri (2020) indicated that autonomy is not necessarily considered an innate ability. Rather, students' autonomy needs to be nurtured by educators to develop their support strategies and students' understanding that their

voice matters. Yet, educators who are proponents of student autonomy may have challenges providing an appropriate level of support to students (e.g., diversity in backgrounds, dispositions, and accountability standards) (Basri, 2020).

RQ 1: To what extent does a student's perception of autonomy support their progress in the dissertation phase of their online doctoral program?

RQ 2: How do students perceive their chair supports their autonomy in the dissertation phase of their online doctoral program?

### **Purpose**

The purpose of this study was to investigate how online doctoral students perceive their autonomy in working through their dissertation and how their chair supports that autonomy to promote motivation and ultimately completion of the doctoral program. The dissertation chair is considered to be the primary faculty support for the student during the dissertation phase.

### **Method**

The following sections describe the method designs used for this study including the overall design, data collection and data analysis.

### ***Design***

The methodology for this study was a sequential mixed method study (Fetters, 2020). A sequential mixed method approach was most appropriate as the data collection called for a survey that included closed and open-ended items (researcher created guided by framework constructs) followed by follow on interviews from voluntary survey respondents for more in depth information. For this study, participants included doctoral students at the dissertation/doctoral study phase of the program at two different online universities.

**Institution A.** University A is a large, private, for profit, online university offering degrees ranging from bachelors to doctoral degrees. About 75% of the student population is graduate students. The online survey was accessed via a link in a participant pool website to all students and faculty currently in the participant pool. Monthly emails were sent to all participant pool enrollees to remind and encourage potential participants to engage in the study. Thus, the sample could have included any US adults, but the study was only advertised to the large, for-profit university so all participants were likely students of that university.

The survey link was included on the participant pool website for six weeks in Fall 2021. In that time, 17 doctoral students participated in the survey by completing all (or most) of the 19 items concerning autonomy (the survey included items concerning another related topic that is part of a larger study). The survey items included both open-ended and close-ended items.

**Institution B.** University B is a non-profit institution that consists of four campuses, which includes an online campus and three on-ground campuses. Online Ed.D. students at this institution were recruited via monthly emails for a three-month period in Fall 2021 requesting their participation in an online survey. During this three-month timeframe, 22 doctoral students participated in the survey and completed all survey items. The survey consisted of a combination of items that were open ended and closed.

### ***Participants***

**Institution A.** The sample was drawn from Pond University (pseudonym) came from the participant pool of a large, American-based, online university population consisting of students and faculty. Students opted in to become participants in the participant pool and receive a login and password. As participants, students can participate in research studies posted to the site. Participants in the pool receive “credits” for participating in research activities such as surveys



and interviews. These credits make participants eligible to post their own studies on the participant pool site once that study has been approved by Pond University IRB. The researchers posted information about participating in the study on the participant pool website and requested that participants be Ed.D. students in the dissertation/doctoral study phase only.

**Institution B.** The online Ed.D. program at this institution consists mostly of full-time working professionals. This institution does not offer a participant pool for research. Therefore, the researcher sent monthly solicitations for study participation to online Ed.D. students.

### ***Data Collection Technique***

The following section describes the instruments and techniques used for data collection.

**Survey.** The survey instrument initially asked students to verify that they were in the doctoral program and in the dissertation/doctoral study phase to ensure only those appropriate for the study completed the survey. The ideal sample size for Institution A was 10 students so 17 participants was above what was expected. The survey items at Institution B were identical to those asked to Institution A. A total of 22 respondents participated in the survey, although no survey participants agreed to the “follow-up” interview for Institution B.

**Interviews.** The semi-structured interviews included the following questions focused on autonomy: In what ways has your dissertation shifted since you began the process? How have self-regulated yourself to manage the dissertation process? How has your chair supported your choice/self-regulation to enable you to continue to make progress on your dissertation? To what extent do you feel you have strong perseverance? Follow on questions were asked if the participant mentioned anything outside of these questions or anything that needed further clarification in regard to these items.

### **Data Analysis**

The following section describes the data analysis used including analysis of surveys and interviews.

**Survey.** An electronic consent form was presented at the start of the online survey. Students who took the survey were providing their consent by “opting in” to participate in the study (as approved by the IRB). All results were captured and stored in an online survey platform and later downloaded to a spreadsheet for analysis.

All results and comments were organized in two different ways. The first was an overall analysis of all students’ ratings on closed-ended items and review of open-ended comments. Early analysis appeared to show that grouping the students by the dissertation phase of the process in which they currently belonged was helpful because many of the early responses were similar to each other and different from students in later phase groupings.

Closed-ended items were grouped by phase of dissertation (i.e., initial/early, midway, and final) based on if the student was in coursework (initial/early), prospectus or proposal writing, but prior to data collection (midway), or final (after data collection, writing final document). The item responses were analyzed through the use of Excel using averages for each category by item and response type. The response type was also averaged across both institutions for a total for each response type for each item.

The first phase of data analysis for open-ended comments was in vivo coding (Miles et al., 2014), wherein words or short phrases are used to capture the main point of the comments as provided by the participants. A priori codes from the SDT framework (focused on autonomy) were additionally utilized as the initial codes. The second part of the first phase was axial coding, wherein codes were grouped to produce overall themes (Miles & Huberman, 1994).

In the second phase of coding, open coding was used to find any other emerging codes outside of the SDT framework (Creswell, 2014). Open coding revealed other themes outside of the a priori codes of the framework that participants mentioned.

**Interviews.** Interviews were coded using NVivo coding (Miles et al., 2014). The construct of autonomy within SDT was used for the initial phase of coding. Once coding was complete, the codes were analyzed for thematic coding to answer the RQs. Any emerging codes were also analyzed for additional themes outside of the framework constructs.

## **Findings**

The following section describes the findings from surveys and interviews.

### ***Survey***

Results of the survey showed a number of valuable insights concerning how autonomy supports the motivation of a doctoral study student, particularly in the dissertation/doctoral study phase of the program. A number of other insights about the importance of the locus of control were also found during analysis.

During analysis, students were grouped into three categories for both closed-ended and open-ended items: early phase (in coursework or working on prospectus document), midway phase (working on proposal but not yet collecting data), and final phase (working on final document having collected data already). Distinct student groupings were quite different from each other based on students' responses to survey items across groups.

Feeling their autonomy was supported seemed to increase the process (final more than midway, midway more than initial/early) the student had made. Institutional B (average=3.29) seemed to rate feeling their autonomy was supported more than Institution A (average=2.65). For many of the closed-ended items, most students rated feeling fairly supported from their chair for

autonomy, being able to work at their own pace and having a chair who supported their progress.

Table 1 (continued on the following three pages) shows the full averages for all closed-ended items.

**Table 1**

*Averages for closed-ended items*

Survey Item	Institution A (n)			Institution B (n)			Total Across Institutions		
	Total			Total			Total		
	Initial			Initial			Initial		
	/			/			/		
	Early	Midway	Final	Early	Midway	Final	Early	Midway	Final
Autonomy supported/not support about topic		2.65			3.29			2.97	
	2.00	2.75	3.20	3.00	3.50	3.38	2.50	3.13	3.29
Feel pressured in dissertation process		2.10			2.22			2.16	
	2.00	2.20	2.10	2.00	2.00	2.67	2.00	2.10	2.38
I frequently have to do what I am told		2.83			2.52			2.68	
	3.33	2.67	2.50	2.29	2.00	3.27	2.81	2.33	2.89
Chair takes my feelings into consideration		3.08			3.01			3.50	
	2.50	3.25	3.50	4.00	4.00	3.73	3.25	3.63	3.61
Feel I can be myself in writing my dissertation		2.77			3.03			2.90	
	3.00	2.00	3.30	2.83	2.80	3.45	2.92	2.40	3.38

Not much opportunity for me to decide how to do things with dissertation	1.62			1.74			1.68		
	1.67	1.50	1.70	1.50	1.80	1.91	1.58	1.65	1.80
	I/E	Midway	Final	I/E	Midway	Final	I/E	Midway	Final
Able to research the topic of my choice	3.80			1.00			2.62		
	4.00	3.60	3.80	1.00	1.25	2.08	2.50	2.43	2.94
	I/E	Midway	Final	I/E	Midway	Final	I/E	Midway	Final
Researching a <a href="#">topic</a> I am passionate about	3.72			3.86			3.79		
	3.67	3.50	4.00	4.00	3.75	3.83	3.83	3.63	3.92
	I/E	Midway	Final	I/E	Midway	Final	I/E	Midway	Final
Displeased my topic shifted per feedback	1.83			1.39			1.61		
	1.00	2.50	2.00	1.67	1.25	1.25	1.33	1.88	1.63
	I/E	Midway	Final	I/E	Midway	Final	I/E	Midway	Final
I feel I have had autonomy in my topic	3.50			3.87			3.68		
	4.00	3.00	3.50	4.00	4.00	3.60	4.00	3.50	3.55
	I/E	Midway	Final	I/E	Midway	Final	I/E	Midway	Final
My chair has supported my need to work at my own pace	3.38			3.86			3.62		
	3.00	3.25	3.90	4.00	4.00	3.58	3.50	3.63	3.74
	I/E	Midway	Final	I/E	Midway	Final	I/E	Midway	Final

My chair has supported my progress in helping me develop a plan	3.12			3.61			3.36		
	3.00	3.25	3.10	3.83	3.50	3.50	3.42	3.38	3.30
	I/E	Midway	Final	I/E	Midway	Final	I/E	Midway	Final
I have autonomy in how I work to make progress	3.43			3.78			3.61		
	4.00	3.00	3.30	4.00	3.75	3.58	4	3.38	3.44

Interestingly, open-ended item responses seemed to voice these same autonomy supports with the exception of a few areas. Several students (n=3) in the final stages mentioned that they felt they had too much autonomy in the process and actually found it challenging as they felt unprepared to handle the level of autonomy (the balance of autonomy and oversight/guidance) required to make progress and complete a dissertation. Several students indicated they believe they “...would have benefited from more structure earlier in the process” and that “...working on the dissertation is much less supported than I expected.” There were over 20 comments about feelings of autonomy support in the dissertation; however, there were 10 comments about how the dissertation topic was supported with autonomy, but other areas of the dissertation were not (e.g., methodology, etc.) and that “...waiting on the IRB was challenging”. There were 10 comments about the autonomy support from the dissertation committee, while other university processes and requirements made progress slow and challenging (e.g., IRB).

### ***Interviews***

Of the six interviews conducted, four students had just recently graduated (within the past 12 months), two were in the late stages of the dissertation process (waiting on IRB or analyzing data). The four who had recently graduated spoke of challenges with their chair and committee members (two had dissertation chair changes during the process) but had gained enough competence in process to continue making progress on their dissertation. All four who had graduated spoke of challenges along the way, many expressing that eventually they asked their chair “tell me what to do” and in some way relinquished their autonomy but in doing so, they showed their trust in their chair and their competency in the research process. However, now that they are graduated, all four expressed that although they felt their autonomy was not supported at the beginning of the process, by the end they felt they were able to research what they wanted and the process worked for them to make progress that lead to completion.

The two who were in final stages mentioned using outside editors, statisticians and seemed to mention more reliance on their committee members and outside consultants rather than building their own competency. Not surprisingly, they mentioned low perceptions of autonomy by such reliance on others to complete the dissertation.

The unexpected finding was the continual mention of locus of control. The four who had graduated mentioned they “took the bull by the horns” from their chair early on and made progress on their dissertation. Others mentioned external locus of control by indicating they are “always waiting on others (such as the external statistician)” to complete things and that was the reason for their delay in completion.

## **Discussion**

In general, most student participants rated feeling more and more autonomous the further they progress in their doctoral study. This aligns with the expectation that as students' competency to conduct research grows, they rely less on their chair and therefore feel more autonomous (Chen et al., 2019). There were some comments about feeling too autonomous and unprepared to navigate the self-driven process of conducting a dissertation and not having the skills or knowledge to do so. Students at both institutions seemed to agree for most items about feeling autonomous on their topic and from their chair on how to make progress on the dissertation. Research has also shown that providing autonomy supportive environments can help students feel more autonomous and engaged in their graduate studies (Shin et al., 2021). Creating an autonomy supportive environment includes giving students choices and options in their dissertation work, providing relevant information and feedback, and encouraging students to take initiative and responsibility for their work. The survey participants were likely students who have been successful (particularly the ones in the final stage who are making progress and close to completion) and therefore already have self-driven skills and capabilities which might be different from students who do not make it to the final stages of dissertation completion. Similarly, Zhang and Chen (2020) discovered doctoral students' autonomy impacted motivation and drive in degree completion. Comments such as having a supportive chair who helped them ensure they make progress seems to be crucial as well as a chair and committee who supports the autonomy of the dissertation topic even if the methodology and other institutional requirements are a bit more rigid. Some interviewees mentioned they did not necessarily connect with their first chair, but upon having a change in chair, they felt autonomous to make progress in the dissertation. Researchers have discovered that doctoral students who possess high levels of



autonomy tend to be successful in their academic careers and increases their academic performance and overall well-being (Fang & Cheng, 2018; Li et al., 2021). Moreover, the relationship between a dissertation chair and their mentee can have a significant impact on the student's experience, academic outcomes, professional development, and career trajectory. However, similar to the findings of this current study, doctoral students and their chairs may have inaccurate information regarding each other's goals and beliefs resulting in misperceptions that impact motivation (Sherman et al., 2021).

## **Conclusion**

The purpose of this study was to investigate how online doctoral students perceive their autonomy in working through their dissertation and how their chair supports that autonomy to promote motivation and ultimately completion of the doctoral program. The results of this study indicated that the further a student progressed in the development of their dissertation their autonomy increased with their capacity to meet the research demands of its development. Additionally, they perceived that their dissertation chair also allowed them more autonomy as they progressed. The results of this study also demonstrate a need to further examine how online doctoral students can be guided to create their own schedule to complete small tasks that lead to completion of the dissertation. Particularly, the dissertation chair plays a critical role in providing structure and guidance throughout the dissertation process. In addition to reviewing and providing feedback on the various components of the dissertation, the chair can also provide structure by establishing a timeline, providing feedback, reviewing document drafts, offering guidance for data analysis, and facilitating the defense process (Lueck & Kenworthy, 2020). This current study found that students often experience initial challenges with the level of autonomy necessary for dissertation completion. Therefore, dissertation chairs consideration of the level of

structure and guidance needed throughout the dissertation process is vital in completion of a high-quality dissertation that meets the requirements of the academic program. While some students seem to do this naturally, others indicate they need more support from their dissertation chair to do so. More research is needed to better understand how the chair and student can work together to develop a reasonable plan to keep the student on task for successful completion. Particularly, completion rates for some doctoral programs are approximately 50% and have prompted researchers to further investigate how to develop effective mentorship approaches and promote student progress and completion (Wollast et al., 2018). Additional understanding is further needed on how faculty can better support full-time working professionals pursuing doctoral programs since they often experience additional demands that impact their success. Particularly, Syerdlik and Hall (2019) suggested that students in full-time professional positions typically possess high levels of intrinsic motivation that declines across their program due to the challenges associated with sustaining work-life balance.

Doctoral motivation shapes students' desire to complete studies. Maladaptive motivational patterns can negatively influence student success and may occur at various points in students' program of studies. For example, Sverdlik and Hall (2019) found that students possessed the highest levels of well-being and motivation while completing coursework in comparison to the dissertation stage of their programs. The dissertation chair's role includes mentorship, feedback, and support in navigating the various challenges that students may encounter along the way (Houser & King, 2019). However, as was found in this current study, a higher level of support may be needed at the onset of the dissertation with the chair gradually providing the student more autonomy as they progress through the research process. Therefore, other research can examine how the transition from coursework to dissertation can be less severe

so students know what to expect and how to move forward to make progress on the dissertation before getting too far behind in which they may end up quitting the program prior to graduation. Skopek (2022) contended that institutions of higher education can implement supports that include seminars, guidelines, dedicated working spaces, and funding to reduce time-to-completion rates. Researchers could further investigate the impact of these supports and identify additional resources needed when students face trouble with dissertation completion.

## References

- Atkinson, M., Brodie, A., Kafcaloudes, P., McCarthy, S., Monson, E. A., Sefa-Nyarko, C., (2022). illuminating the liminality of the doctoral journey: Precarity, agency and COVID-19. *Higher Education Research & Development*, 41(6), 1790–1804. Doi: <https://doi.org/10.1080/07294360.2021.1968354>
- Basri, F. (2020). Factors influencing learner autonomy and autonomy support in a faculty of education. *Teaching in Higher Education*, 1-16. <https://doi.org/10.1080/13562517.2020.1798921>
- Bal, I. A., Arslan, O., Budhrani, K., Mao, Z., Novak, K., & Muljana, P. S. (2020). The balance of roles: Graduate student perspectives during the COVID-19 pandemic. *TechTrends*, 64, 796-798. <https://link.springer.com/article/10.1007/s11528-020-00534-z>
- Burns, E. M. & Gillespie, C. W. (2018). A phenomenological study of attrition from a doctoral cohort program: Changes in feelings of autonomy and relatedness in the dissertation stage. *International Journal of Doctoral Studies*, 13, 517-537
- Castelló, M., Pardo, M., Sala-Bubaré, A., & Suñe, N. (2017). Why do students considering dropping out of doctoral degrees? Institutional and personal factors. *High Educ*, 74, 1053-1068.
- Chen, X., Zhang, Y., & Wang, L. (2019). Autonomy and doctoral students' satisfaction with their academic experience. *Studies in Higher Education*, 44(3), 466-477.
- Cornwall, J., Mayland, E., C., van der Meer, J., Spronken-Smith, R. A., Tustin, C., & Blyth, P. (2019). Stressors in early-stage doctoral students. *Studies in Continuing Education*, 41(3), 363-380. <https://doi.org/10.1080/0158037X.2018.1534821>
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. & Ryan, R. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55 (1), 68-78.
- Deci, E. L., Schwartz, A. J., Sheinman, L., & Ryan, R. M. (1981). An instrument to assess adults' orientations toward control versus autonomy with children: Reflections on intrinsic motivation and perceived competence. *Journal of Educational Psychology*, 73, 642–650. <https://psycnet.apa.org/doi/10.1037/0022-0663.73.5.642>

- deCharms, R. (1968). *Personal causation*. New York: Academic Press.
- Donohue, W. J., Lee, A. S.-J., Simpson, S. Y., & Vacek, K. (2021). Impacts of the COVID-19 pandemic on doctoral students' thesis/dissertation progress. *International Journal of Doctoral Studies*, 16, 533-552. <https://doi.org/10.28945/4818>
- Fang, Y., & Cheng, Y. (2018). The relationship between doctoral students' autonomy and their academic success. *Higher Education*, 76(6), 861-874.
- Flavell, J. H. (1999). Cognitive development: Children's knowledge about the mind. *Annual Review of Psychology*, 50, 21-45.
- Gittings, G., Bergman, M., Shuck, B., & Rose, K. (2018). The impact of student attributes and program characteristics on doctoral degree completion. *New Horizons in Adult Education & Human Resource Development*, 30(3), 3-22. <https://doi.org/10.1002/nha3.20220>
- Hanson, J., Loose, W., & Reveles, U. (2022). A qualitative case of all-but-dissertation students at risk for dissertation noncompletion: A new model for supporting candidates to doctoral completion. *Journal of College Student Retention: Research, Theory, & Practice*, 24(1), 234-262. <https://doi.org/10.1177/1521025120910714>
- Hidi, S., & Ainley, M. (2012). Interest and Self-Regulation: Relationships between two variables that influence learning. In Dale H. Schunk and Barry J. Zimmerman (Ed.). *Motivation and Self-Regulated Learning: Theory, Research, and Applications*. New Lawrence Erlbaum Associates.
- Holzer, J., Lüftenegger, M., Korlat, S., Pelikan, E., Salmela-Aro, E., Spiel, C., & Schober, B. (2021). Higher education in times of COVID-19: University students' basic need satisfaction, self-regulated learning, and well-being. *AERA Open*. <https://doi.org/10.1177%2F23328584211003164>
- Houser, R. L., & King, M. J. (2019). The dissertation chair: Navigating the path to success. In S. D. Peterman (Ed.), *The dissertation journey: A practical and comprehensive guide to planning, writing, and defending your dissertation* (pp. 17-38). Sage Publications.
- Jansen, R. S., van Leeuwen, A., Janssen, J., Jak, S., & Kester, L. (2019). Self-regulated learning partially mediates the effect of self-regulated learning interventions on achievement in higher education: A meta-analysis. *Educational Research Review*, 28, 1-20.
- Jameson, C.M. & Torres, K. M. (2019). Fostering motivation when virtually mentoring online doctoral students. *Journal of Educational Research & Practice*, 9(1), 331-339.

- Jameson, C.M., Torres, K. M., Mohammed, S. F. (2021). Virtual faculty strategies for supporting motivation of online doctoral students. *Journal of Educational Research & Practice, 11*(1), 295-305.
- Kelley, M. J. M., & Salisbury-Glennon, J. D. (2016). The role of self-regulation in doctoral students' status of all but dissertation (ABD). *Innovative Higher Education, 41*, 87-100. <https://doi.org/10.1007/s10755-015-9336-5>
- Krettenauer, T., & Curren, R. (2020). Self-determination theory, morality, and education: Introduction to special issue. *Journal of Moral Education, 49*, 275-281. <https://doi.org/10.1080/03057240.2020.1794173>
- Kumar, S., & Johnson, M. (2017). Mentoring doctoral students online: Mentor strategies and challenges. *Mentoring & Tutoring: Partnership in Learning, 25*(2), 202-222.
- Lueck, K. A., & Kenworthy, T. M. (2020). The role of the doctoral dissertation chair: A qualitative investigation. *The Journal of Continuing Higher Education, 68*(1), 33-44.
- Li, J., Wang, H., & Liu, X. (2021). Autonomy and doctoral students' academic success: An empirical study. *Higher Education, 81*(1), 75-85.
- Lyons, W., Scroggins, D., & Rule, P. (1990). The mentor in graduate education. *Studies in Higher Education, 15*, 277-285.
- Marshik, T., Ashton, P.T. & Algina, J. Teachers' and students' needs for autonomy, competence, and relatedness as predictors of students' achievement. *Soc Psychol Educ 20*, 39–67 (2017). <https://doi.org/10.1007/s11218-016-9360-z>
- Migiliorini, L., Cardinali, P., & Rania, N. (2019). How could self-determination theory be useful for facing health innovation challenges? *Frontiers in Psychology, 10*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6702320/>
- Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis: A methods sourcebook, 2ed*. Thousand Oaks, CA: Sage.
- Miles, M. B. & Huberman, A. M. and Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook, 3ed*. Thousand Oaks, CA: Sage.
- Mullen, C. A. (2021). Online doctoral mentoring in a pandemic: Help or hinderance to Academic progres son dissertations. *International Journal of Mentoring and Coaching in Education, 10*(2), 13-.157.
- Niño, J. M., & Martínez, O. M. (2022). From hardships to possibility: Dissertation writing during the COVID-19 pandemic. In R. Ammigan, R. Y. Chan, & K. Bista (Eds.),

- COVID-19 and higher education in the global context.: Exploring contemporary issues and challenges* (pp. 80-92). STAR Scholars.  
<https://starscholars.org/product/covid-19-and-higed/>
- Orellana, M. L., Darder, A., Perez, A., & Salinas, J. (2016). Improving doctoral success by matching PhD students with supervisors. *International Journal of Doctoral Studies*, 11, 87-103.
- Regis, T. R. (2019). *Doctoral students: Attrition, retention rates, motivation, and financial constraints: A comprehensive research guide in helping graduate school students completing doctoral programs*. Xlibris US.
- Ryan, M. R., & Deci, E. L. (2010). A self-determination theory perspective on social, institutional, cultural, and economic supports for autonomy and their importance for well-being. In V. I. Chirkov, R. M. Ryan, & K. M. Sheldon (Eds.), *Human autonomy in cross-cultural context* (pp. 45-64). Springer.
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61.  
<https://doi.org/10.1016/j.cedpsych.2020.101860>
- Ryan, R. M., & Deci, E. L. (2016). Facilitating and hindering motivation, learning, and well-being in schools: Research and observations from self-determination theory. In K. R. Wentzel & D. B. Miele (Eds.), *Handbook on Motivation at School* (pp. 96-119). Routledge.
- Sherman, D. K., Ortosky, L., Leong, S., Kello, C., & Hegarty, M. (2021). The changing landscape of doctoral education in science, technology, engineering, and mathematics: PhD students, faculty advisors, and preferences for varied career options. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.711615>
- Shin, M., Goodboy, A. K., & Bolkan, S. (2021). Profiles of doctoral students' self-determination: susceptibilities to burnout and dissent. *Communication Education*, 71(2), 83-107. <https://doi.org/10.1080/03634523.2021.2001836>
- Sierens, E., Vansteenkiste, M., Goossens, L., Soenens, B., & Dochy, F. (2009). The synergistic relationship of perceived autonomy support and structure in the prediction of self-regulation learning. *British Journal of Educational Psychology*, 79, 57-68.
- Skopek, J., Triventi, M., & Blossfeld, H. P. (2020). How do institutional factors shape PhD completion rates? An analysis of long-term changes in a European doctoral program. *Studies in Higher Education*, 47(2), 318-337.  
<https://doi.org/10.1080/03075079.2020.1744125>

- Sverdlik, A., & Hall, N. C. (2019). Not just a phase: Exploring the role of program stage on well-being and motivation in doctoral students. *Journal of Adult and Continuing Education, 26*(1), 97-124. <https://doi.org/10.1177%2F1477971419842887>
- Templeton, R. (2016). Doctorate motivation: An (auto)ethnography. *Australian Universities' Review, 58*(1), 39-44
- Vansteenkiste, M., Aelterman, N., De Muynck, G. D., Haerens, L., Patall, E., & Reeve, J. (2018). Fostering personal meaning and self-relevance: A self-determination theory perspective on internalization. *The Journal of Experimental Education, 86*(1), 30-49. <https://doi.org/10.1080/00220973.2017.1381067>
- Volkert, D., Candela, L., & Bernacki, M. (2018). Student motivation, stressors, and intent to leave nursing doctoral study: A national study using path analysis. *Nurse Education Today, 61*, 210-215. <https://doi.org/10.1016/j.nedt.2017.11.033>
- Wollast, R., Boudrenghien, G., Van der Linden, N., Galand, B., Roland, N., Devos, C., Clercq, M., Klein, O., Azzi, A., & Frenay, M. (2018). Who are the doctoral students who drop out? Factors associated with the rate of doctoral degree completion in universities. *International Journal of Higher Education, 7*(4), 1-4.
- Zhang, Y., & Chen, X. (2020). The role of autonomy in doctoral students' motivation. *Journal of Higher Education, 91*(2), 269-279
- Zheng, J., Jiang, N., & Dou, J. (2020). Autonomy support and academic stress: A relationship mediated by self-regulated learning and mastery goal orientation. *New Waves Educational Research & Development, 23*, 43-63. <https://files.eric.ed.gov/fulltext/EJ1264274.pdf>