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Doctoral Students' Motivations to Complete a Degree in Education Online

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This is to certify that the doctoral dissertation by

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Walden University
2023

Abstract

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by

Terence Branch

MA, DeVry University, 2011

BS, DeVry University, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

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May 2023

Abstract

Enrollment in online doctoral programs is increasing; however, 41% of these students do not graduate. Student achievement in online learning depends on motivation. The purpose of this basic qualitative study was to explore doctoral students' perspectives on how educational technology supports their motivation to earn a degree in education. Deci and Ryan's self-determination theory comprised the conceptual framework that guided this study. Research questions were designed to investigate if online technology supports doctoral students' basic psychological needs of autonomy, competence, and relatedness. Data were collected through semistructured interviews with 12 participants who earned doctorates online. Thematic analysis was employed to code data as well as create categories and initial themes, resulting in seven final themes: (a) instructors incorporated online technology to support learning, (b) use of online technology supported student's autonomy, (c) use of online technology hindered students' expertise, (d) completing a doctorate online is difficult and time consuming, (e) use of online technology supported students' expertise, (f) use of online technology promoted social integration, and (g) online technology usage could not replace face-to-face interactions. Findings could be used to help administrators improve the motivation of online doctoral students by satisfying their basic psychological needs. Motivating students to complete their programs can increase retention and graduation rates, advancing students' careers and creating positive social change by helping them become more knowledgeable and successful.

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Dedication

This doctoral study is dedicated to my mother, children, and close friends, who were all very supportive, understanding, and patient throughout my long dissertation journey. I have come this far because of the positive support and encouragement that my family and close friends have given me. This doctoral journey was filled with challenges, and sometimes I wondered if my goal of earning a doctorate was reachable. Because of my faith in God, I continued to work hard. I continue to pray that God allows me to live as he sees fit, and I continue to follow his lead.

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My acknowledgments are to God, who guides my life, and my mother, who taught me that I could accomplish anything I put my mind to. Again, I must mention God because, without God, I could not accomplish anything. Special acknowledgments to my family and close friends who cheered me on when I needed their words of encouragement to motivate me to stay focused on my journey. Dr. Toledo and Dr. Harland, thank you for your help throughout the process. I would like to give a special thanks to Dr. Loren Naffziger, who has been a blessing to me. Finally, thank you to Dr. Heather Pederson and Dr. Carol Koller for providing your support and expertise to help me get to the finish line and become a doctoral member of Walden University

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Chapter 1: Introduction to the Study

More educational institutions have begun to follow the trend of offering doctoral degree programs online (Burrus et al., 2019; Dennis, 2020; Lee et al., 2020; Rockinson-Szapkiw, 2019). Because colleges and universities have made a variety of doctoral programs available online, adult learners are provided with an opportunity to return to school to pursue an advanced degree. Enrollment of adult learners pursuing doctoral degrees online is increasing (Burrus et al., 2019). Despite this improved opportunity, 41% of doctoral students do not complete their program of study (McBrayer et al., 2020). In this study, I explored adult students' perceptions of acquiring doctoral degrees in education online because there is a lack of research on learner success in online doctoral education (see Burrus et al., 2019). Sogunro (2015) noted that "several schools of thought believe that a positive relationship exists between motivation and adult learning" (p. 22). A goal of this study was to provide a better understanding of how education technology supports the motivation required for online doctoral students to complete their program of study. This research adds to the literature in this educational field to help increase online doctoral students' retention and graduation rates. By exploring the perspectives of these online students, this study provided information regarding their motivations to acquire an online doctoral degree in education, adding to the knowledge concerning online doctoral student motivation.

Sogunro's (2015) study of the motivational factors for students enrolled in master's degree courses revealed eight main motivational factors for these graduate

learners. The main form of motivation, quality of instruction, was applied in this current study to explore the perspectives of doctoral students regarding their motivations to complete an online doctorate in education. Literature related to quality of instruction and doctoral student motivation is reviewed in Chapter 2.

Chapter 1 includes background information concerning education technology and doctoral student motivation. The problem statement, purpose of the study, research questions (RQs), conceptual framework, nature of the study, and definition of terms are also provided. In this chapter, I also discuss the assumptions of the study, its scope and delimitations, limitations, and significance.

Background

The research literature has demonstrated that educational technology improves instruction and learning as well as student experiences in online programs (Lee et al., 2020; Lim et al., 2019). Research has also shown that student engagement is crucial for successful online learning (Banna et al., 2015; Hale et al., 2019; F. Martin & Bolliger, 2018). Technology helps to increase student engagement by facilitating interaction with course content, instructors, and peers (F. Martin & Bolliger, 2018). Educational technology has paved the way for adult learners to attend colleges and universities to pursue doctoral degrees. Before online or distance education courses were offered, conflicts with time, location, and personal responsibilities prevented many adult learners from advancing their education (Jameson & Torres, 2019). Adult learner success in

online courses may increase if educational technologies can continue to alleviate conflicts and provide a conduit to motivate adult learners to degree completion.

Williams et al. (2019) recommended that further research was needed to discover adult learners' perspectives of their social networks, social support types, and how social support regulates their behaviors. In a study on relational and technical factors attributed to student learning success online, Lee et al. (2020) concluded that further exploration is needed beyond the leadership discipline. They also noted that qualitative studies on online doctoral programs could provide a better understanding of these programs and student learning success. Kirk and Courtner (2020) suggested that future research should include life circumstances, job change, health, and relationships with faculty to better understand why students do not complete their doctoral degrees in education. A gap in the literature exists concerning how educational technology supports the motivation needed for doctoral students to succeed in an online environment; therefore, I conducted this basic qualitative study to address this gap in the literature by exploring student motivation in online doctoral programs in education.

Exploring the motivations of adult learners who have earned a doctoral degree online has the potential to develop an understanding of how instructors use educational technology to support online doctoral students through the completion of their program . Literature on how instructors can use education technology to support doctoral students through the completion of their online program is not evident. Research is abundant on ways to motivate undergraduate students (e.g., Bannier, 2010; Malacinski & Winterman,

2012), but there is a lack of studies on how instructors use educational technology to provide the support needed to motivate graduate students online (Kirk & Courtner, 2020; Lee et al., 2020; Williams et al., 2019). According to Sogunro (2015), a social and academic challenge that needs to be addressed in higher education is how to motivate learners and retain them in the learning process.

Student motivation to learn in an online environment is significantly affected by the basic psychological needs of autonomy, competence, and relatedness (Chiu, 2021a, 2021b; Ryan & Deci, 2017, 2020; Ryan et al., 2019). In self-determination theory (SDT), it was proposed that learners are motivated to gain knowledge and transform themselves by satisfying three psychological needs: (a) autonomy, which is a sense of initiative and owning one's activities; (b) competence, defined as feeling efficient and successful; and (c) relatedness, which refers to feeling associated with and cared for (Chiu, 2021a, 2021b; Ryan & Deci, 2017, 2020). Educational technology must be designed to satisfy these needs to support student motivation in an online environment (Chiu, 2021a, 2021b). SDT has been used to motivate engagement in previous research, focusing on student-instructor communication or teacher support (Chiu, 2021a, 2021b).

The support provided by instructors' use of educational technology and the positive motivation of doctoral students are essential to successfully completing an online degree in education. Factors contributing to doctoral students' motivations need to be researched and addressed as well as how education technology supports their motivation

to achieve an advanced education degree online. More information is necessary to understand how to motivate online doctoral students.

Problem Statement

The problem addressed in this basic qualitative study was the lack of understanding regarding how educational technology supports the motivation of online doctoral students through the completion of their doctoral degree in education. The popularity and availability of online learning have increased; however, there is a need to advance knowledge and understanding of how to enhance motivation in online teaching (Randi & Corno, 2022).

Doctoral students have the highest attrition rates in higher education (McBrayer et al., 2020; Sverdlik et al., 2018). Forty-one percent of doctoral students do not complete their program of study (McBrayer et al., 2020). Doctoral students who do not complete their dissertation fall short of completing their degree program, and educational institutions are challenged as to how to remedy this situation. Previous studies have examined the obstacles students face, students' learning styles, and increased enrollment, but there is a lack of research on how education technology supports the motivation of online doctoral students toward degree completion (Lai, 2017; Lee et al., 2020; Williams et al., 2019).

Purpose of the Study

The purpose of this basic qualitative study was to explore online doctoral students' perspectives on how educational technology supports their motivation to earn a

degree in education. In a study of adult learners' motivation to enroll in master's courses, Sogunro (2015) produced a list of eight motivating factors and noted that the factors could aid in the success of learners enrolled in graduate courses. In this current study, I explored if the main motivational factor, quality of instruction, was significant in an online doctoral environment. Quality of instruction was defined by Sogunro (2017) as a way of facilitating instruction that engages students by inducing their curiosity and critical thinking as well as providing a meaningful way of gaining knowledge. Quality instruction is facilitated by an expert in a content area that uses modern technology to foster instruction and learning (Sogunro, 2017). In the current study, I also examined other motivating factors, such as instructor support, technology support, and psychological needs, which were mentioned by online doctoral students in the research literature. Developing a better understanding of how educational technology supports the motivation of online doctoral students through the completion of their online doctoral program was warranted by the gap in the literature on the topic.

Research Questions

RQ1: What are doctoral students' perspectives of how online technology supports their basic psychological need for autonomy?

RQ2: What are doctoral students' perspectives of how online technology supports their need for expertise in their discipline?

RQ3: What are doctoral students' perspectives of how online technology supports their need for social integration in an online environment?

Conceptual Framework

Although studies exist on online learners' retention and graduation rates, there is a lack of research on how educational technology supports student motivation in online doctoral programs. The conceptual framework for this study was based on SDT (see Deci & Ryan, 1985). SDT addresses student motivation based on the satisfaction of three basic psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2017). If these psychological needs are not satisfied, motivation will be depleted. In SDT, Ryan and Deci (2017, 2020) postulated that people are motivated to enhance their knowledge, evolve, learn, accomplish goals, and connect with peers.

Chiu (2021a) noted that SDT had been employed extensively to enhance student learning. For this reason, SDT aligned with this study's basic qualitative approach. I also used SDT as a lens through which to view data that answered the RQs concerning doctoral student motivation in an online environment. In Chapter 2, the three components of SDT (i.e., autonomy, competence, and relatedness) will be discussed further.

Nature of the Study

In this basic qualitative study, I explored students' perceptions of how educational technology supports their motivations to complete their online doctoral degrees in education. Yin (1994) stated that a researcher must examine multiple perceptions to understand various perspectives. I selected a basic qualitative design with extensive interviews for this study to explore the various perspectives of the participants regarding their motivations to complete online doctoral degrees in education their doctoral program.

I used SDT as the lens through which to explore the participants' motivations (see Deci & Ryan, 1985).

Semistructured interviews, audio recorded and transcribed through Zoom, and notes taken during the interviews produced qualitative data to address the research problem. In-depth interviews allow the interviewer to understand the opinions, expectations, and experiences described by the participants (Merriam & Tisdell, 2016; Yin, 2016). The collected data for analysis included all participants' semistructured interview responses. I analyzed the data using coding to develop themes and patterns. Member checking, a validation technique where the participants in the study review data to check for accuracy (Birt et al., 2016), was employed to validate the results of the interviews.

Definitions

The terms and key concepts used in this study were defined as follows:

Extrinsic motivation: External reward-driven behavior that encourages individuals to complete a task (Ryan & Deci, 2017).

Intrinsic motivation: Internal reward-driven behavior that encourages individuals to achieve goals (Ryan & Deci, 2017).

Learning motivation: The influence of intrinsic or extrinsic motivation that allows a student to gain knowledge (Du Toit-Brits & Van Zyl, 2017).

Motivation: What stimulates and keeps a learner focused on educational goals (Sogunro, 2015).

Assumptions

The assumptions of a study are those items that are out of the researchers' control (Creswell, 1998). Without assumptions, a study would become ineffective (Creswell, 2003). Assumptions are study elements that cannot be proven true but can reasonably be assumed (Creswell, 1998, 2003; Punch, 2005). The assumptions I made in this study were:

- Semistructured interviews were the best approach to obtain data for this study.
- The participants understood the interview questions and provided honest, accurate answers.
- A basic qualitative study was an appropriate research design.
- This study would add to existing knowledge of motivating doctoral students to complete their online degrees and, therefore, promote social change through their education.

Scope and Delimitations

I employed a basic qualitative study to explore the perceived motivations of online doctoral students who have earned a doctorate in education online. I also focused on obtaining a better understanding of how educational technology supported the motivations doctoral students needed to overcome the obstacles faced in an online environment. Technology use, time management, lack of instructor-learner interaction, and feedback are some of the challenges these students encounter (Elmore, 2021). In a face-to-face setting, there is little need for technical expertise to utilize an online platform

because classes are at a set time, the learner and the instructor can interact easily, and the student can ask questions to better understand what is required or expected.

I recruited a sample of 12 participants from universities with alumni who completed a doctoral degree in education online. I gained permission from Walden University's Institutional Review Board (IRB) to contact individuals from their participant pool and social media, such as Facebook and LinkedIn. Convenience sampling was based on eligible participants who had acquired a doctoral degree in education online who were able to offer insight into the motivating factors that helped them overcome obstacles to success when completing their degree. Semistructured interviews were recorded using the Zoom platform's video and audio feature so I could analyze the participants' interview responses.

A goal of this study was to obtain results that are transferable to educational institutions offering or creating online programs for doctoral students. The data analyzed in this study provided the perspectives of postgraduate students who completed an online program and experienced some of the advantages and disadvantages faced by adult learners; therefore, this study's findings could apply to institutions that offer online doctoral degree programs. Data from this study may help in the development of policies that address doctoral student needs within online education.

Limitations

One focus of this study was to obtain the perspectives of doctoral students who earned their education degrees online and how educational technology supported their

motivations. For this reason, the study was restricted to institutions that offer doctoral programs in education online. This study could have been limited by only including individuals who successfully completed their doctorate programs. If individuals who did not complete their doctorate programs participated, the results may have been different. This study also could have been limited due to how the data were analyzed and interpreted when establishing emerging patterns and themes. Yin (1994) stated that a researcher must demonstrate that the processes used to gather data could be duplicated without changing results. There is no guarantee that another researcher would interpret the data in the same way or find the same patterns and themes from the data.

Significance

The findings of this study provide valuable information for institutions regarding how educational technology supports online doctoral students' motivation. Knowledge in the field of education technology was added by also exploring the ways technology helps motivate doctoral students in an online environment. There was a need to discover ways to support doctoral students' motivation while providing the tools to complete an online doctorate in education. The data from this study could be used to change policies or processes regarding keeping an online learner motivated through the completion of a doctoral program. The data produced in this study could also help educational institutions develop programs catering to adult learning motivation.

By providing information on how doctoral students use educational technology to motivate themselves to succeed in an online doctoral program, this study demonstrated

how motivation might lead to increased retention and higher graduation rates. The study could also help create positive social change by enlightening students regarding how others completed doctoral courses online. This study provides instructors, advisors, and educational institutions with data that could help them improve or implement new programs for doctoral students. Through education, positive social change is created by addressing the needs of future leaders and educators.

Summary

There is a gap in research concerning educational technology supporting doctoral student motivation to complete an online degree in education (see Kirk & Courtner, 2020; Lee et al., 2020; Williams et al., 2019). Enrollment in online programs has increased while retention and graduate rates have decreased. In this study, I explored how education technology supported the motivation of online doctoral students through completion of their doctoral program in education. Intrinsic and extrinsic motivation play a vital role in learning (Knowles et al., 2020; Sogunro, 2015). Students who completed doctoral degrees in education online were interviewed, and the resulting data were thematically analyzed to provide their perspectives on the motivating factors and experiences that helped them overcome obstacles to graduation.

The conceptual framework used in this study was comprised of SDT (see Deci & Ryan, 1985). I employed a basic qualitative study approach and conducted in-depth participant interviews that provided an opportunity to understand the opinions,

expectations, and experiences described by the participants. The data analysis included all participant responses from the semistructured interviews.

This basic qualitative study produced results that may be generalizable and valuable to educational institutions, which may decide to apply the conclusions to their settings. Yin (1994) stated that a researcher must show that the processes used to gather data could be duplicated without differences in the results. I replicated the steps taken to collect qualitative data in prior, successful, comparable research studies as much as possible.

Chapter 2 includes the literature search strategy, a discussion of the conceptual framework, and a literature review. Although there is a lack of research on the perspectives of online doctoral students' use of educational technology to support their motivation to complete a degree in education online, literature related to the quality of instruction and learner motivation for online doctoral students is included in the review. I used information from the literature review to help develop the RQs to align with this study's focus.

Chapter 2: Literature Review

The population of learners taking online courses has increased yearly due to the many opportunities to further their education (F. Martin & Bolliger, 2018). Researchers have studied the obstacles students face and the increase in enrollment, but there is a lack of research on how to enhance the motivation of doctoral students to complete online degrees in education (Breitenbach, 2019; Britt et al., 2015; Fiore et al., 2019; Lee et al., 2020; Loizzo et al., 2017; McBrayer et al., 2020; Sogunro, 2015; Terrell et al., 2016). The purpose of this basic qualitative study was to explore online doctoral students' perspectives of how educational technology supports their motivation to earn a degree in education.

In this chapter, I describe the search strategies used for this review. The conceptual framework, based on SDT, is also discussed. The literature review encompasses the top motivating factor, quality of instruction, for students to be successful in higher education mentioned by Sogunro (2015). Research regarding instructor support, technology support, psychological needs support, and learner motivation and online doctoral programs is also presented to examine their effect on online doctoral students' motivation.

Literature Search Strategy

For this review, I completed the literature search online using the following educational databases accessible through the Walden University Library: ERIC, EBSCO, Education Source, and SAGE. Searches with filters for peer-reviewed articles, books,

and journals that were published between 2019 to 2022 yielded literature associated with the motivation of adult learners. The search terms used were *adult learners, self-determination theory, quality instruction, online learning, doctoral student, adult learner motivation, adult learner obstacles, andragogy, pedagogy, online doctoral degree completion, intrinsic motivation, extrinsic motivation, psychological needs, motivation, graduate students, learner motivation, e-learning, instructor support,* and *technology support.*

Conceptual Framework

The conceptual framework for this study was based on SDT (see Deci & Ryan, 1985). Originating from applied scientific research on human behavior, personality development, and motivation, SDT is described as a "broad theory of human development and wellness, with strong implications for education" (Ryan & Deci, 2020, p. 1). SDT centers on the presumption that individuals are intrinsically motivated to prosper and psychologically evolve while connecting with their peers. For individuals or students to accomplish these goals, they must receive support for their psychological needs (Ryan et al., 2019).

SDT allows for the examination of individuals' motivation by employing six minitheories: (a) cognitive evaluation theory, (b) organismic integration theory, (c) causality orientations theory, (d) basic psychological needs theory, (e) goal content theory, and (f) relationships motivation theory (Ryan & Deci, 2017, pp. 20-21).

In this study, I used the basic psychological needs theory to gain insight into doctoral student motivation to complete a degree in education online.

SDT is based on the premise that learners are motivated to gain knowledge and transform by satisfying the three psychological needs of (a) autonomy, a sense of initiative and owning one's activities; (b) competence, or feeling efficient and successful; and (c) relatedness, which centers on a feeling of association and being cared for (Chiu, 2021a, 2021b; Ryan & Deci, 2017, 2020). Ryan and Deci (2020) noted that the core hypotheses of SDT in education are "(a) more autonomous forms of motivation will lead to an enhancement of students' engagement, learning, and wellness; and (b) that basic psychological need support from both teachers and parents facilitates such motivation, whereas need thwarting undermines it" (p. 3). College students studying science, technology, engineering, and math have shown enhanced motivation and competence and achieved higher grades due to the autonomous support they receive from their lab instructors (Black & Deci, 2000). In a study of Spanish college students, Nunez and Leon (2019) demonstrated that the perceived support of student autonomy led to enhanced motivation and higher engagement. Manganelli et al. (2019) stated that college students who were motivated autonomously performed better academically than previously. The hypotheses of SDT have been supported by many studies regarding all levels of education, learning content, and cultural contexts (Ryan & Deci, 2020). Ryan and Deci, the originators of SDT, indicated that future research should include learning technologies that motivate engagement and learning. For this reason, SDT served as an

interpretive lens for this study, allowing the research phenomenon to be addressed to answer the RQs.

Literature Review Related to Key Variables and Concepts

This literature review was focused on the motivational factor, quality of instruction, demonstrated by Sogunro (2015), as well as the topics of instructor support, technology support, psychological needs support, and learner motivation and online doctoral programs. I researched quality of instruction based on its effect on adult learner motivation in an online environment. This motivational factor was chosen as the basis for this literature review to explore if it would enhance doctoral students' motivation to complete online degrees in education. The goal was to explore if the research literature correlated with the perspectives of doctoral students who have acquired online degrees in education. The other areas of support were also researched to provide data on what motivates learners to succeed in an online doctoral program.

Quality of Instruction

Sogunro (2017) defined quality instruction as "the degree to which an instruction is adequately delivered, meets students' learning needs, learning styles, interests, expectations, and well aligned to standards" (p. 2). Sogunro further stated that quality instruction combines "andragogical competency, resourcefulness, and instructors' dispositional attributes" (p. 2). When students receive instruction that is not motivational, they believe they are wasting time and money (Sogunro, 2017). Students with minimal time and resources to devote to their studies become frustrated when they receive

mediocre instruction (Sogunro, 2017). The quality of instruction determines how much is learned and what is learned in higher education (Sogunro, 2015).

An instructor's motivation supports instruction quality and student development (Lazarides & Schiefele, 2021). Lazarides and Schiefele (2021) investigated the effects of teacher self-efficacy for instruction and educational interest regarding teaching quality, finding that instructor self-efficacy contributed to teaching quality. The educational interest of the instructor was vital for student and teacher emotional support but not classroom management (Lazarides & Schiefele, 2021). Daumiller et al. (2021) analyzed instructors' achievement goals and self-efficacy to explore what roles these played in college students' perceptions of teaching and emotions toward courses. The sample of university teachers and students stated that teachers' self-efficacy beliefs were significant for students' learning experiences and emotions concerning achievement (Daumiller et al., 2021).

Literature on effective education has indicated that teaching quality is vital to student achievement (Hattie, 2009; Thommen et al., 2021). Thommen et al. (2021) described teaching quality as "a co-constructive and context-specific process, which is influenced by the interactions of teachers, their students, and the learning content" (p. 3). Thommen et al. examined the motivational characteristics of teachers and found that they varied regarding goal orientation but not in their passion or self-efficacy. The researchers reported conflicting results from previous findings and theoretical assumptions and did not determine how teacher motivation equates to teaching quality.

In a mixed-methods study, Yang et al. (2018) examined if computer-supported collaborative learning could positively influence quality instruction (i.e., interaction, motivation, and understanding). Data collected from surveys, in-depth interviews, forum logs, and exam scores showed computer-supported collaborative learning to be a facilitator in motivation, interaction, and a high level of understanding (Yang et al., 2018). The study's results indicated that the use of technology and learning activities helped achieve higher quality instruction.

In a study of student experiences with online instruction and instructor misbehavior, student forgiveness motivations, instructor credibility, class climate, and student-perceived learning online, Vallade and Kaufmann (2021) found that if a student perceived misbehavior from an instructor as severe, the instructor's credibility declined. Credibility in an instructor is important because their behavior supports student achievement in an online environment (Vallade & Kaufmann, 2021). Instructor misbehavior was defined as teaching behaviors that impede classroom instruction or student learning. Examples of such behaviors were identified by Kearney et al. (1991) as incompetent behavior (i.e., an unclear teaching manner), indolent behaviors (i.e., appearing unprepared and disorganized), and offensive behaviors (i.e., engaging in verbal abuse). To mitigate these, an instructor should ask students for feedback on their experience in their online course, including with the design and the delivery of course content (Vallade & Kaufmann, 2021). Communicating with the students will

> (a) allow students the opportunity to express concerns or praise for the course instructor, (b) provide instructors an opportunity to show competence, goodwill, and trustworthiness by addressing concerns in a timely manner, and (c) contribute to an open, respectful climate. (Vallade & Kaufmann, 2021, p. 13)

Online instructors are persuaded to create time for planning, developing content, creating strategies for communicating with students, and reviewing the course (Vallade & Kaufmann, 2018). Research has demonstrated that most online instructors view teaching online as a chance to obtain professional training and have more control of their calendar (Wingo et al., 2017).

Instructor Support

Online learning presents challenges for students and teachers because communication barriers limit discussions that create critical dialogue (Rudick, 2016; Warr & Sampson, 2020). Darder et al. (2003) defined critical dialogue as an "educational strategy that supports a problem-posing approach, in which the relationship of the students to teacher is, without question, dialogical, each having something to contribute and receive" (p. 15). Warr and Sampson (2020) stated that distance education affects the communication between the student and instructor, the quality of courses, and the autonomy students need. Because of the distance and impersonal nature of online courses, there is a barrier that weakens student-teacher dialogue (Warr & Sampson, 2020). Warr and Sampson claimed that new technology (i.e., synchronous and asynchronous video) could alleviate some challenges in online learning. The results of

their qualitative study showed that students preferred asynchronous video to asynchronous text and synchronous video over asynchronous video. The video made the students feel more connected to their instructors and peers as well as engaged, which lessened the transactional distance (Warr & Sampson, 2020),

In a mixed-methods study of nontraditional learners (i.e., adult learners), Bennett et al. (2021) examined the effect of TRIO Student Support Services on recent graduates' academic performance and perceived experiences. TRIO is a federally funded program that offers support services for students, such as academic advising, mentoring, and tutoring (Bennett et al., 2021). TRIO Student Support Services helps first-generation, low-income, and disabled students toward successful degree completion. The study participants stated that the extra help they received through academic advising, tutoring, and mentoring helped them stay enrolled and graduate (Bennett et al., 2021). According to Schomer and Gonzalez-Monteagudo (2013), support from peers and campus personnel has also helped nontraditional learners strive for degree completion. The researchers demonstrated that nontraditional students face complex barriers and may need extra support to complete a degree program.

Huet and Casanova (2021) described three online doctoral degree challenges for nontraditional students. The first challenge the researchers identified was doctoral supervision from a distance because of the issues faced when living in different countries or time zones. Huet and Casanova stated that this distance could create a feeling of isolation where the student becomes disconnected, does not focus, and feels unsupported.

Ames et al. (2018) agreed that communication and management of expectations are also obstacles, representing the second challenge nontraditional learners face. The detachment caused by distance does not provide an opportunity for the instructor and learner to become acquainted before instruction or supervision begins (Huet & Casanova, 2021). Students need an environment where they can interact with peers and understand the communication procedures and learning expectations (Huet & Casanova, 2021). The third challenge is culture and language barriers. Cohorts in a distance learning environment consist of various cultures, religions, and languages, which may cause a misunderstanding between the instructor or supervisor and the doctoral student (Wisker et al., 2007). Roumell and Bolliger (2017) stated that it is critical for instructors or supervisors of doctoral students to understand the issues and barriers they face and build processes that support valuable interactions and a mentor-mentee relationship virtually.

Jameson and Torres (2019) noted that most doctoral students drop out during the dissertation phase; therefore, feeling supported by their mentors is important. Some scholars believe that doctoral students develop skills and knowledge in their discipline while receiving emotional support during the dissertation process (Rademaker et al., 2016). Due to the lack of experience with research, the dissertation could be an overwhelming task for doctoral students (Kumar & Johnson, 2017). With high doctoral attrition rates, the support a doctoral student receives from their mentor while writing a dissertation is invaluable (Jameson & Torres, 2019). Castelló et al. (2017) reported that many doctoral students drop out before graduation. Makhamreh and Stockley (2019)

stated that the time-to-completion scenario stresses doctoral students. Anekstein and Vereen (2018) posited that the relationship and communication between the chair and the doctoral student developed the competence the learner needs to progress on the dissertation. Kumar and Coe (2017) noted that it might be difficult for doctoral faculty who were mentored in a face-to-face environment to mentor learners online. Dericks et al. (2019) found that when doctoral students' "supervisory and departmental needs are met" (p. 11), they are satisfied with their Ph.D. program.

Chiu (2021b) described the importance of teacher support in learner motivation, while Lietaert et al. (2015) stated that teachers could motivate a learner by encouraging learning behavior, having resources for learning, and becoming involved. Based on SDT research, teacher support has been broken down into three dimensions: autonomy, structure, and involvement (Lietaert et al., 2015; Vollet et al., 2017). Bedenlier et al. (2020) reported that the three dimensions have been employed in many learning environments, including classrooms, online discussions, and distant learning. For this reason, I employed the three dimensions of teacher support based on SDT in the current study.

Technology Support

SDT is based on the assumption that individuals are motivated to grow and evolve by satisfying their psychological needs of autonomy, competence, and relatedness (Ryan & Deci, 2017, 2020). Chiu (2021a) stated that technological learning environments (e.g., online) should be developed to satisfy these needs. In the current study, educational

technology referred to digital support used in an online environment to satisfy learners' psychological needs. Chiu listed ways that digital support could be used to satisfy the learners' psychological needs:

> (a) Autonomy: offer and recommend various digital resources for the same learning unit while indicating their relevance to students, e.g., videos, text-based notes, slides, and URLs, (b) Relatedness: use personal and emotional designs for LMS [learning management system] design and communications to promote a positive atmosphere, e.g., upload pictures of class members, face-shaped designs, (c) Competence: offer five level-up exercises and well-designed interactive learning materials in a cognitively demanding technological learning environment, e.g., levels 1 and 5 indicate basic and most advanced exercises; apply multimedia learning principles to the design of digital materials. (p. 3)

Chiu stated that digital support should help students if the learning management system promotes autonomy, addresses learners' expertise and cognitive load, and creates positive and emotional learning environments.

Torres et al. (2021) noted that online mentors could use many different technologies to support doctoral students' program progress. Kumar et al. (2013) claimed that accommodating and efficient mentoring employing multiple technologies could help doctoral students gain knowledge, develop, and achieve independence. Elmore (2021) stated that mentors must adapt and learn new technologies that enhance communication and decrease transactional distance. There is an exhaustive number of online tools and

technological resources that enhance online collaboration and connectedness (Torres et al., 2021).

SDT is presently used in studies that involve digital learning (Salikhova et al., 2020). Topics include "predicting intentions to continue digital learning, motivation for learning, predicting academic success of students, motivation to use digital resources on the part of teachers" (Salikhova et al., 2020, p. 7). Salikhova et al. (2020) found that the need for autonomy was satisfied with digital education. The researchers noted that belonging to a community within digital education satisfies the need for competence. Asynchronous online courses satisfy the need for relatedness by providing student-teacher interaction opportunities. SDT supports a valuable foundation for developing digital resources and systems of interaction with learners in many designs of digital education (Salikhova et al., 2020).

Psychological Needs Support

Ryan and Deci (2000b) stated that psychological needs are vital to maintaining health and well-being. Autonomy, competence, and relatedness are needed by all to perform at their highest level (Deci & Ryan, 2011). SDT suggests that an individual's performance is determined by sociopsychological conditions (Ryan & Deci, 2000b). Within SDT, basic psychological needs theory posits that autonomy, competence, and relatedness are needs that must be satisfied (Ryan & Deci, 2000b). Autonomy is the need to be in control, but if an outside force controls it, the individual experiences autonomy frustration (Gilal et al., 2019). Competence is a need to be successful and knowledgeable,

being able to accomplish goals. Relatedness is a need to be involved in relationships with peers; relatedness frustration is when an individual feels isolated or alone. If these needs are not satisfied, individuals will not perform optimally, and their well-being will be negatively affected (Erturan-Ilker et al., 2018).

SDT postulates that there are two types of motivations: intrinsic and extrinsic (Ryan & Deci, 2000a). Intrinsic motivation is associated with pleasantness, engagement, and satisfaction (Daniels & Kennedy, 2019). Extrinsic motivation involves individuals believing their behavior will benefit them (Morris et al., 2022). Ryan et al. (2019) believed that extrinsic motivation might help guide individuals to a desired outcome or help to avoid one that is not. Kasser and Ryan (1996) labeled amassing wealth, fame, and being considered attractive as extrinsic aspirations, becoming a better person, being involved in the community, and having meaningful relationships as intrinsic aspirations. Kasser and Ryan also posited that intrinsic aspirations are more valuable when people need support in their development; in contrast, extrinsic aspirations are focused on external factors, which show insecurity based on unsatisfied basic psychological needs. Intrinsic aspirations are vital to basic need satisfaction and well-being; extrinsic aspirations are associated with thwarting basic need satisfaction and unhappiness (Deci & Ryan, 2011; Kasser & Ryan, 1996).

The literature has shown that when student engagement is increased, a better learning experience exists, which creates positive effects. There is literature on the use of SDT in face-to-face settings, but there are minimal studies on its use in an online learning

environment (Hsu et al., 2019). Chen and Jang (2010) stated that online programs could not predict learning outcomes. The researchers surveyed 300 undergraduate students from seven online courses. The results showed that when students' basic psychological needs were satisfied, there was high achievement in online courses (Chen & Jang, 2010).

Doctoral students can experience basic needs frustration, leading to demotivation and disheartenment in their doctoral journey. At the beginning of this process, feedback is received from professors, academic advisors, and course grades; however, it can decline, and feelings of isolation may occur once the dissertation begins (Sverdlik et al., 2018). Doctoral students have also experienced issues with social support because of the lack of time for social activities (Cornwall et al., 2019).

Chen and Jang (2010) asserted that SDT was suitable for learning online because the three basic psychological needs align with the benefits of learning online, which include learning flexibility, computer-facilitated communication and social exchanges, and difficulties with acquiring technical skills. Filak and Nicolini (2018), in their study of online and face-to-face learning environments, found that online students described levels of needs satisfaction as lower than those in face-to-face environments. Filak and Nicolini stated that autonomy involves individuals believing they have an internal locus of control. According to researchers, competence is the most important of the three basic psychological needs because it involves the drive to develop positive outcomes and mastery of tasks (Durksen et al., 2016; Filak & Nicolini, 2018). Relatedness involves connecting and communicating with those who are important to an individual (Filak &

Nicolini, 2018). Online instructors must include strategies that satisfy the basic psychological needs of SDT (Chen & Jang, 2010).

Employing SDT as a framework, Kusurkar et al. (2021) investigated burnout, engagement, motivation, and the satisfaction of the basic psychological needs of medical students. The researchers found that sleep and psychological needs frustration led to burnout. A study by Tjin A Tsoi et al. (2018) on the basic psychological needs of pharmacists reported that psychological-needs frustration led to low vitality. If a learner's autonomy or competence is not satisfied due to conflicting work requirements, inadequate support, or guidance, they could become frustrated and burn out (Kusurkar et al., 2021).

In a qualitative study, Janssen et al. (2021) evaluated mentoring relationships between research supervisors and doctoral students based on basic psychological needs satisfaction. Deci and Ryan (2014) claimed that need satisfaction is vital for developing positive relationships. Janssen et al. found that "satisfaction of students' autonomy in supervisor-student relationships is closely related to their need for competence" (p. 11). Autonomy is a requirement set by a doctoral student's supervisor (Janssen et al., 2021). Because of high expectations and students wanting their supervisors to be role models, the student's need for competence was not satisfied by the supervisor-student relationship (Janssen et al., 2021). Regarding relatedness, the supervisors and students felt they had to share personal information and become friends outside of school (Janssen et al., 2021). However, SDT only requires a relationship with mutual respect, caring, and reliance

(Deci et al., 2001). Supervisor support positively affects Ph.D. students (De Clercq et al., 2021; Nunez & Leon, 2019).

Hands (2018) collected semistructured interview data to examine how the basic psychological needs of library and information science doctoral students reflected their motivation to earn a Ph.D. Hands found that basic psychological needs were relevant to the participants' motivation to enroll in a doctoral program. Communication or affirming interactions (relatedness) and encouraging words supported the students' basic psychological needs (Hands, 2018). SDT has been referenced in studies as an appropriate framework to examine doctoral student motivation (Hands, 2020; Lynch et al., 2018; van Rooij et al., 2019).

Lynch et al. (2018) conducted a quantitative cross-sectional study to investigate objective and subjective factors of doctoral students' self-determination in educational activities. Findings showed that when these students received support for their psychological needs from the learning environment, they felt more autonomous concerning their academic activities. Ryan and Deci (2017) stated that learning environments that satisfy basic psychological needs foster motivation and feelings of self-authorship and the authority to take the initiative. Lynch et al. also reported that the support received from university-specific contexts was a major factor in student motivation toward scholarly activities.

Ryan and Deci (2020) reported that SDT is a "broad framework for understanding factors that facilitate or undermine intrinsic motivation, autonomous extrinsic motivation,

and psychological wellness, all issues of direct relevance to educational settings" (p. 1). Literature related to SDT has shown that intrinsic and autonomous extrinsic motivation creates positive outcomes on many educational levels and cultural contexts (Ryan & Deci, 2020). Student motivation is enhanced when there is support for their basic psychological needs.

Studies have also demonstrated a vital link between teacher and student motivation. Ryan and Deci (2020) reported that teachers are "impacted and constrained by controlling mandates, institutional pressures, and leadership styles" (p. 7). Teachers have basic psychological needs (autonomy, competence, relatedness) that must be met to support students' needs (Ryan & Deci, 2020). Teachers and students require needs support. Cuevas et al. (2018) reported that pressure on teachers to enhance student achievement results in less autonomous motivation to teach, less vitality, and more burnout. If teachers' psychological needs are frustrated, they become controlling and less engaged (Ryan & Deci, 2020). Roth et al. (2007) found that when teachers are autonomously motivated and autonomy supportive, students become autonomously motivated to learn. Maxwell and Riley (2017) posited that principals require autonomy support from superintendents and less pressure. Chang et al. (2015) noted that principals are more committed to their schools when their superintendents are more autonomy supportive. SDT is relevant at all levels of education and to everyone involved in this field, regardless of capacity.

Learner Motivation and Online Doctoral Programs

Doctoral students have the highest attrition rates in higher education (McBrayer et al., 2020; Sverdlik et al., 2018). Learners pursuing a doctoral degree represent 20% of higher education students, and 41% do not complete their program of study (McBrayer et al., 2020). Enhancing the motivation of doctoral students to complete their degree in education is an ongoing challenge as "doctoral attrition is a decades-old and multifaceted problem, affecting institutions and students world-wide" (Ames et al., 2018, p. 84). Breitenbach (2019) asserted that revamping curriculum and instruction is needed to increase the completion rates of students enrolled in online doctoral programs.

Saadi et al. (2016) found that deficiency of executive factors, which were unwieldly rules, the lack of an organization or institution to develop e-learning courses, and the lack of support for holding online courses limited the development of web-based training for Ph.D. students at the College of Agriculture University of Bu Ali Sina University. Other factors that limited the development of web-based training were the lack of cooperation between the Ministry of Science and the Ministry of Communications and Information technology of Iran, and the lack faculty specializing in new technologies. Because the Ph.D. students and faculty were unfamiliar with technology, communicating online was a hinderance. The quality of the supervisor-Ph.D. candidate relationship, the candidate's sense of belonging, the amount of freedom in the project, and working on a project closely related to the supervisor's research were positively connected to satisfaction and negatively linked to intentions to quit training (A. Martin, 2020; Simons

et al., 2020; van Rooij et al., 2019). Ph.D. student satisfaction and needs should be of chief importance for universities that want to increase their graduation and satisfaction rates.

Kristoffersen et al. (2021) noted that some doctoral candidates felt they had made the wrong decision to leave their previous profession to become researchers and complete a dissertation. The students felt this way because they possessed less expertise than other, more competent researchers. Kirk and Courtner (2020) believed that doctoral students would benefit more if the dissertation process started earlier in the doctoral students' program. The writing competency-based curriculum was included in courses early in the doctoral program to create stronger writing skills, which developed confidence during the dissertation process. Simons et al. (2020) stated that support from family, tutors, and employers and the program's flexibility helped graduates continue their studies.

Sverdlik et al. (2018) asserted that most research on higher education experiences has focused on undergraduate students, "largely overlooking topics relevant to doctoral students' mental, physiological, motivational, and social experiences" (p. 362). A review of the literature showed that family priorities and responsibilities while pursuing a doctoral degree have negatively affected students' quality of life and well-being (Pocock et al., 2011; Sverdlik et al., 2018), which can have an adverse effect on academic motivation (Geraniou, 2010; Sverdlik et al., 2018; Tanaka & Watanabea, 2012). Students reported having trouble maintaining relationships and involvement in social activities because of the lack of time, financial resources, and motivation (Sverdlik et al., 2018).

Fiore et al. (2019) suggested that creating a peer advisor and peer mentor system could improve social integration and diminish feelings of isolation and loneliness.

Burrington et al. (2020) claimed that trust-building is the most crucial aspect of the dissertation chair's role, and without trust, the chair-doctoral student chemistry is hindered. Addressing doctoral students' needs may enhance their chances of completing their study program (Ames et al., 2018; Burrus et al., 2019). Intensive workshops to facilitate progress or completion may help students pursuing a doctorate in education complete their program if implemented.

Summary and Conclusions

Quality instruction is described as "the degree to which and instruction is adequately delivered, meets students' learning needs, learning styles, interests, expectations, and [is] well aligned to standards" (Sogunro, 2017, p. 2). Literature related to effective education has indicated that teaching quality is vital for student achievement. Teachers are different regarding goal orientation but not in their passion or self-efficacy (Thommen et al., 2021)

Online learning presents challenges to students and teachers because of communication barriers that limit discussions that create critical dialogue (Rudick, 2016; Warr & Sampson, 2020). Online courses' distance and impersonal nature form a barrier that weakens student-teacher dialogue (Warr & Sampson, 2020). Challenges associated with doctoral programs for nontraditional students include distance, which creates a feeling of isolation where the student becomes disconnected, does not focus, and feels

unsupported (Huet & Casanova, 2021). TRIO Student Support Services, a federally funded program, provides academic advising, mentoring, and tutoring for these students (Bennett et al., 2021). The support received from peers and campus personal has also helped nontraditional learners strive for degree completion (Schomer & Gonzalez-Monteagudo, 2013).

Many scholars believe that doctoral students develop skills and knowledge in their discipline while receiving emotional support during the dissertation process (Rademaker et al., 2016). The dissertation can overwhelm doctoral students because they lack experience with research (Kumar et al., 2013). In addition, many doctoral students drop out before graduation (Castelló et al., 2017) or become stressed because of the time-to-completion scenario (Makhamreh & Stockley, 2019). It has been posited that the relationship and communication between the chair and the doctoral student develop the competence the student needs to make progress on the dissertation (Anekstein & Vereen, 2018).

Teacher support is important to the motivation of a learner (Chiu, 2021a) and can be broken down into three dimensions: autonomy, structure, and involvement (Lietaert et al., 2015; Vollet et al., 2017), which have been employed in many learning environments (Bedenlier et al., 2020). Technological learning environments (online) should be developed to satisfy learners' basic psychological needs (Chiu, 2021a). Digital support could help students if the learning management system promotes autonomy and addresses learners’ expertise and cognitive load. The need for autonomy has been found to be

satisfied with digital education (Salikhova et al., 2020). Online mentors can also use many technologies to support doctoral students (Elmore, 2021; Torres et al., 2021). Supervisor support has positively influenced these students (De Clercq et al., 2021; Nunez & Leon, 2019).

Sleep and psychological needs frustration has led to student burnout (Kusurkar et al., 2021). If a learner's autonomy or competence is not satisfied, they could become frustrated, which leads to burnout (Kusurkar et al., 2021). Learning environments that satisfy basic psychological needs foster motivation, feelings of self-authorship, and authority (Ryan & Deci, 2017). Support received from a university-specific context has also been shown to be significant (Lynch et al., 2018).

Teachers experience constraints due to directives, institutional stressors, and leadership influences (Ryan & Deci, 2020). If teachers' psychological needs are frustrated, they become controlling and less engaged (Ryan & Deci, 2020). Principals require autonomy support from superintendents and less pressure (Maxwell & Riley, 2017). SDT is relevant at all levels of education and to everyone involved in education, regardless of capacity.

The literature has demonstrated that doctoral students' mental, physiosocial, motivational, and social experiences are often overlooked (Sverdlik et al., 2018). Family priorities and responsibilities also have been shown to impact doctoral students' quality of life and well-being (Pocock et al., 2011; Sverdlik et al., 2018), affecting academic motivation (Geraniou, 2010; Sverdlik et al., 2018; Tanaka & Watanabea, 2012). Doctoral

students could also be under-prepared to transition from coursework to doctoral research (Fiore et al., 2019). The chair-doctoral student relationship is of chief importance, and the chair's role is to develop a partnership with the doctoral student (Burrington et al., 2020). A dissertation chair should approach doctoral students as individuals who have individual needs instead of a "one size fits all approach" (Burrington et al., 2020, p. 9).

The literature in this chapter was reviewed to explore the effect quality of instruction has on doctoral student motivation (see Sogunro, 2015). Literature related to instructor support, technology support, psychological needs, learner motivation, and online doctoral programs was also reviewed. Previous research provided valuable, contributory perspectives on adult learner motivation as well as what institutions should consider when developing online courses for doctoral students. Motivating doctoral students through the completion of their online graduate program has been proven to be an evolving task. Chapter 3 will include sections regarding the research design and rationale for this study, the researcher's role, methodology, and issues of trustworthiness.

Chapter 3: Research Method

The purpose of this basic qualitative study was to explore online doctoral students' perspectives on how educational technology supports their motivation to earn a degree in education. This chapter includes a discussion of the research design and rationale for the preferred methodology as well as the role of the researcher based on data collection and analysis techniques. In the methodology section, I describe the participant selection logic, instrumentation, procedures for recruitment, participation, and data collection and analysis plans. Issues of trustworthiness (i.e., credibility, transferability, dependability, and confirmability) of the study and ethical procedures are also discussed.

Research Design and Rationale

I designed the RQs for this study to explore the perspectives of doctoral students on how educational technology supported their motivation and satisfied their basic psychological needs in an online environment. Participants' perspectives regarding their motivations are vital for enlightening educational institutions to motivate doctoral students through the completion of their online programs. I selected a basic qualitative approach was selected for this study, which provided a valuable understanding of educational technology support's role in motivating doctoral students to complete their online programs (see Merriam & Tisdell, 2016; Yin, 2016). A basic qualitative approach allowed for in-depth interview data to be collected from participants to explore and describe the adult learners' perspectives of their motivations when earning a doctoral degree in education online. Data were collected through 12 semistructured interviews

lasting 30 to 60 minutes. Using a semistructured interview approach, a researcher can explore the topic of study while asking predetermined and follow-up questions (Rubin & Rubin, 2012). I developed the interview guide (Appendix A) to comprise the questions aligning with the RQs and conceptual framework. Creswell (2013) stated that in-depth interviews should include a recording (audio or video), interview location information (in person or virtual), and a consent form.

A basic qualitative approach is used "to understand how people make sense of their lives and experiences" (Merriam, 2009, p. 23). To recognize different possibilities, the researcher must identify many perspectives (Yin, 1994). The purpose of the interviews in the current study was to collect data and descriptions of adult learners' motivations to complete an online doctoral program. In a quantitative study, a theory or hypothesis is tested or confirmed (Creswell & Creswell, 2017); for this reason, I did not choose this methodology for the current study.

Although a basic qualitative approach was selected, I considered other research designs, including grounded theory, ethnography, phenomenology, narrative analysis, and case study. My research design selection was based on the study's focus, the type of data collected, and the RQs. A grounded theory design is used when the researcher seeks to create a new theory and consists of analyzing data and using the results toward this process (Patton, 2002). The creation of a new theory was outside the scope of this study; however, exploring, interpreting, and understanding the phenomenon under study using

descriptions of the perceptions of adult learner motivations to succeed in an online environment was within the scope of this study.

Ethnographic research is used to interpret meaning and understanding by investigating the cultural behavior of groups of individuals (Creswell, 1998). Because observation is the principal data collection method in ethnographic studies, it would have limited this study. Interviews were the primary source of data collected for this research. The purpose of this study did not include interpreting the participants' cultures; therefore, I did not choose an ethnographic design.

Phenomenological research focuses on an individual's world experiences and requires data to be collected verbally or in writing (McLeod, 2011). Open-ended questionnaires, journals, interviews, and observations can be used to collect phenomenological data. Although interviews were used to collect data in the current study, data concerning individuals' lived experiences were outside the scope of the study.

Narrative analysis research focuses on stories participants tell that become the raw data (Riessman & Quinney, 2005). This approach is used to learn about the narrator-participants' culture, historical experiences, identity, and lifestyle. The current study did not involve this type of data, so I did employ the narrative design.

Case studies focus on a bounded system or multiple bounded systems over time (Creswell et al., 2007). With this design, in-depth data are collected through different methods, such as observations, interviews, audiovisual material, documents, or reports, which produce case descriptions and case-based themes (Creswell et al., 2007). These

methods of data collection were beyond the extent of this study because interviews were the only data source used.

A basic qualitative approach is described "as having been derived philosophically from constructionism, phenomenology, and symbolic interaction and as being used by researchers interested in how people interpret their experiences" (Merriam, 2009, p. 23). In this type of study, the researcher can explore the specifics and implications of experiences to define themes and patterns. I chose a basic qualitative approach over the grounded theory, ethnography, phenomenology, narrative analysis, and case study designs because participants' perspectives and experiences were the focus of the study.

Role of the Researcher

In this basic qualitative study, my role was that of a researcher-observer. This role required me to build relationships with participants who were university alumni. I received approval from the Walden University IRB to recruit individuals from Walden University's participation pool (none responded) and to post an invitation on social media (i.e., LinkedIn and Facebook). The participants of this study were alumni of accredited online universities and recruited from LinkedIn.

Although I am an online doctoral student, as were the study's participants, I strived to manage bias. To produce a credible study, a researcher must address their biases (Rubin & Rubin, 2012). Using reflexivity, I noted my thoughts or biases as the study progressed, and when collecting data, I addressed this by continually updating my journal. I also used member checking to ensure the transcripts were accurate when

analyzing data. I then asked my dissertation committee for feedback to ensure my understanding of the data was consistent.

Methodology

In this section, I discuss the participant selection logic; instrumentation; procedures for recruitment, participation, and data collection; and data analysis plan.

Participant Selection Logic

Saturation plays an essential role in determining sample size (Mason, 2010). The minimum sample size for this study was 10, while the total number of participants ended up being 12 based on data saturation. Saturation is reached when no new information is obtained from the data, the interviewer continues to hear the same responses from participants, and no additional coding is necessary (Guest et al., 2006).

All participants of the study earned online doctoral degrees in education (either a Ph.D. or Ed.D.). The participants offered insight into the motivating factors that helped them overcome obstacles to earning a doctoral degree online. Van Manen (1990) stated that individuals who have experienced a phenomenon must be a part of the study and interviewed to better understand their perspectives. Convenience sampling was used in this study because it allowed me to find participants from a group who were easy to locate and communicate with. Including participants who earned doctoral degrees online was effective in providing data to answer the RQs. I gained participants' confidence by protecting their rights (see Merriam & Tisdell, 2016).

I recruited participants who earned an online doctoral degree in education from LinkedIn, although the original plan was to use participant pools of online institutions of higher education, including Walden University, and social media for recruitment. Data collection did not begin until the Walden University IRB granted me permission to recruit participants and conduct the study (IRB Approval No. 07-11-22-0306464). Recruitment began by requesting contact information from possible participants who responded to my invitation via LinkedIn. Facebook was also used, but I did not receive any responses there. After receiving the email addresses of potential participants, I emailed them a background information survey to ensure they met the study's eligibility requirements.

Instrumentation

The instrumentation for this basic qualitative study consisted of the interview guide that contained the protocol, procedures, and questions (see Jacob & Furgerson, 2012). The instrument was reviewed by an expert panel (i.e., scholars with peer-reviewed publications, doctorates, and longstanding academic experience on the topic of the study) to add credibility. Interviews serve as the only data source for basic qualitative studies, and, this instrumentation was adequate for answering the RQs in the current study (see Creswell, 2013; Rubin & Rubin, 2012).

Patton (2015) posited that an interview protocol is an inquiry tool employed to ask questions of the participants related to the purpose of a study. The protocol in the interview guide helped guarantee consistency during the interview process. I used a

semistructured approach when creating the interview guide (see Rubin & Rubin, 2012). The questions were developed before the interviews for consistency, but flexibility allowed the interviewees to respond to follow-up questions. The interview guide included the informed consent procedures and opening and closing interview statements (see Jacob & Furgerson, 2012). The questions were open ended to avoid yes or no answers (see Patton, 2015). While interviewing, I used a script that included the interview questions to ensure consistency (see Jacob & Furgerson, 2012).

Procedures for Recruitment, Participation, and Data Collection

I collected data from participants who had earned their doctoral degrees in education from online universities. The Walden University IRB was contacted for authorization to conduct the study, and once they granted approval, contact information for possible participants was requested. After receiving the contact information, I provided the potential participants with information about the study and a consent form to be signed or acknowledged by email. When the consent forms were returned, a background information survey was emailed to all interested participants to ascertain if they matched the study's criteria. Once the background surveys were returned, I selected participants for the study by convenience sampling.

The steps taken to collect qualitative data in prior successful research studies, close in comparison, should be replicated as much as possible (Yin, 1994). Before data collection began, I made efforts to become acquainted with the participants. Data collection involved video and audio recordings of the in-depth interviews that were

conducted via the Zoom platform. The interviews lasted 30–60 minutes, which provided ample time for the participants to answer questions. The interviews were both recorded and transcribed using Zoom. Participants resided in different locations around the United States and had different schedules. For this reason, Zoom video conferences worked best. Video interviews provided an opportunity for me to connect with participants from various geographical locations and interview them at their convenience (see Saarijarvi & Bratt, 2021).

The RQs were answered by asking main and probing interview questions related to online technology supporting online doctoral students' motivation and basic psychological needs. The interview consisted of nine main questions. Questions 1–3 provided data to answer the first RQ, Questions 4–6 produced data to answer the second RQ, and Questions 7–9 provided the data for the final RQ.

Data Analysis Plan

In qualitative interview studies, the best analysis plan is to code the interview transcripts (Rubin & Rubin, 2012; Yin, 2016). I used thematic analysis to analyze the data produced from the in-depth interviews. Thematic analysis is a method for identifying, organizing, describing, and reporting themes within a data set (Braun & Clarke, 2006). Thematic analysis is a linear six-phase method where a researcher goes back and forth between phases (Braun & Clarke, 2006). I inductively coded the participants' responses line-by-line (see Charmaz, 2006).

Phase 1 in the thematic analysis was becoming familiar with the data by transcribing, reviewing, and taking notes (see Braun & Clarke, 2006). In Phase 2, a researcher becomes familiar with the data and then coding can begin (Braun & Clarke, 2006). Hand coding involves highlighting text (i.e., sentences or phrases) to identify and define content. I employed MAXQDA to help maintain and code the data. This software was convenient and allowed many layers of coding within several categories as well as themes and patterns to be created from the data. After coding the data, Phase 3 involved reviewing the codes to find patterns and develop themes (see Braun & Clarke, 2006). In Phase 4, I combined codes to create initial themes, and once generated, reviewed them for accuracy by returning to the interview data (see Braun & Clarke, 2006). Finding that nothing was missing and the initial themes accurately described the data, I moved on to Phase 5 of the process, which was defining and naming themes. To define a theme, a researcher must accurately express its meaning and use easy to comprehend names (Braun & Clarke, 2006). In Phase 6, I wrote an analysis of the data, which included an introduction to clarify the RQ, the study's aim, and the approach (see Braun & Clarke, 2006). Once the introduction write-up was completed, I created the Results section by addressing each theme's meaning and occurrence in the data. Examples from the interview data were used to support the study's themes. The Conclusion section contains essential takeaways and a description of how the RQs were answered using this analysis method (see Braun & Clarke, 2006).

Issues of Trustworthiness

The credibility, transferability, dependability, and confirmability of this study are addressed in this section. The ethical procedures regarding the rights and treatment of the participants are also provided. To conclude, I discuss how these elements were applied in this basic qualitative research design concerning the study of adult learner motivation to earn a doctoral degree in education online.

Credibility

I obtained data from the participants' interview responses to explore the rich details of their perspectives. Validity was enhanced because of the depth and detail of the data presented (see Miles & Huberman, 1994). Moustakas (1994) recommended that participant data be reviewed and probed for further clarification and validation. I increased the study's credibility by having the participants take part in member checking to clarify their initial responses. Moustakas posited that through member checking, "each participant may also feel more valued by being provided with the opportunity to be an active part of the research process" (p. 110).

Transferability

I provided rich, thick data descriptions to enhance this study's transferability. Detailed descriptions and presentation of the general characteristics of the data are strategies to enhance transferability in qualitative studies (Merriam, 2009). Data collection techniques and analysis steps were described in detail to improve understanding and increase transferability.

Dependability

Dependability was enhanced through peer reviews by my dissertation committee, researcher reflexivity, and audit trails after data collection was completed (see Merriam & Tisdell, 2016). Accurate records were maintained with correct dates and times. My dissertation committee reviewed the data collected and analyzed as well as the study results to confirm accuracy. The study's dependability was increased by using MAXQDA for coding and maintaining the qualitative data.

Confirmability

Confirmability can be ensured by prioritizing the participant's perspectives instead of the researcher's thoughts and views during data collection (Lincoln & Guba, 1985). Lincoln and Guba (1985) stated that "confirmability is similar to objectivity in that the outcomes of an investigation are not the result of a researcher's biases and are instead informed by the context of the research" (p. 124). The collective responses of the participants were reviewed while coding data. Member checking with participants to clarify initial responses was also performed. Reflexivity was accomplished by journaling biases during data collection and analysis.

Ethical Procedures

Rubin and Rubin (2012) stated that ethical procedures help protect the participants' rights and ensure no deceit or pressure is involved. The IRB protocol of Walden University was followed to ensure ethical standards were in place. IRB approval was granted before communicating with participants or collecting data. Once IRB

approval was granted for this study, alumni of online universities were issued invitations to participate.

The participants were informed of their rights and asked to sign a consent form. A signed consent form was returned by each participant and included the focus of the study and my contact information. After collecting the consent forms, the participants were selected. When a withdrawal was requested before data collection, another participant was selected. Data were collected and analyzed in the Microsoft Office Suite. When the research was complete, the data were stored in a secured digital file, which will be destroyed after 5 years.

Summary

Throughout the study, basic qualitative research credibility was established and maintained by vigorous attention to detail. So other researchers can expand on this work, I followed research protocols. The focus of this basic qualitative study was to explore doctoral students' perceptions of how educational technologies supported their motivations to complete a doctoral degree in education online. Participants were interviewed to provide their perspectives regarding their motivations to complete their online program. This study was based on the participants' experiences and perspectives, which enhanced understanding of the motivations needed to succeed in an online environment. In Chapter 4, I will provide an analysis of each participant's perspectives relating to the results of the study and RQs.

Chapter 4 Results

The purpose of this basic qualitative study was to explore online doctoral students' perspectives on how educational technology supports their motivation to earn a degree in education. The following RQs guided the study:

RQ1: What are doctoral students' perspectives of how online technology supports their basic psychological need for autonomy?

RQ2: What are doctoral students' perspectives of how online technology supports their need for expertise in their discipline?

RQ3: What are doctoral students' perspectives of how online technology supports their need for social integration in an online environment?

In this chapter, I describe the research setting and the participants' demographics. The data collection techniques, data analysis process, and evidence of trustworthiness are also provided. Finally, I present the results of the study.

Setting

I initially anticipated that alumni from Walden University's participation pool would be the participants for this study; however, I did not receive any responses from alumni who met the study's inclusion criteria, so recruitment was expanded to doctoral graduates from online education programs throughout the United States. Recruitment for this study was accomplished using LinkedIn and Facebook. In-person interviews were not conducted for data collection because this study took place following the COVID-19 pandemic. Because of public health restrictions, I employed online platforms for

participant recruitment and interviewing. While prioritizing the health of the participants and myself, employing the online option also allowed participants to choose the time and location of their interviews for their comfort and convenience. The interviews for this study were conducted virtually using Zoom, which allowed them to be video and audio recorded. Roberts et al. (2021) found that online interviews were as effective as face-to-face interviews, while Archibald et al. (2019) posited that online interviews could overcome geographic limitations. The participants were familiar with Zoom, which they used to communicate with academic advisors and instructors while pursuing their degrees online.

Demographics

All 12 participants (seven women and five men) were graduates with doctorates in education earned online who graduated from 2007 to 2022. Three participants earned their doctorate over 10 years ago, and the other eight graduated within the last 4 years. Five earned a Ph.D., and seven earned an Ed.D. Ten participants held positions in higher education, one was employed in cybersecurity, and one was between positions. Table 1 lists the participant's identification number, gender, and graduation year.

Table 1

Participants by Gender, Degree, and Year of Graduation

Participant number	Gender	Doctoral degree earned	Year of graduation
1	Female	Ph.D.	2021
2	Male	Ph.D.	2021
3	Male	Ed.D.	2022
4	Male	Ed.D.	2020
5	Female	Ph.D.	2007
6	Female	Ph.D.	2021
7	Male	Ed.D.	2020
8	Female	Ed.D.	2022
9	Male	Ph.D.	2022
10	Female	Ed.D.	2009
11	Female	Ed.D.	2019
12	Female	Ed.D.	2010

Data Collection

Recruiting enough participants for the interview process was accomplished by posting an invitation on social media (i.e., LinkedIn and Facebook) and Walden University's participation pool. I received 19 responses; however, three potential participants were candidates who did not earn a doctorate in education online at the time of data collection. The other 16 graduates gave consent to participate in the study. Twelve of the 16 participants who agreed to participate in the study followed through with the interviews. One participant scheduled the interview but did not attend the Zoom meeting and never responded again. The other three participants consented but did not commit to

an interview appointment. I reached code and thematic saturation with 12 participants (see Hennink et al., 2016). Guest et al. (2020) noted that nine to 16 interviews are enough to reach 85% thematic saturation. No new themes emerged after the 11th interview.

Data Collection Instrument

An interview guide with protocol, procedures, and interview questions was the one data collection instrument used in this study (see Appendix A). I used the interview protocol as a tool to ask questions based on the purpose of the study. Rubin and Rubin (2012) stated that a semistructured approach should be used when creating an interview guide. I followed the guide's protocol in each interview to help guarantee consistency while interviewing the participants. An expert panel (i.e., scholars with peer-reviewed publications, doctorates, and longstanding academic experience on the topic of the study) reviewed the instrument before its use to ensure credibility and determined the instrument was adequate and effective for collecting data to answer the RQs. Informed consent procedures and opening and closing statements were also included in the interview guide. The 12 participants were scheduled for one 40-minute interview each via Zoom at the location of their choice. Using the video and audio features in the Zoom platform, I was able to record the interviews, which lasted between 30 to 40 minutes.

Variations in Data Collection

Although I had intended to recruit participants from the participation pools of Walden University and other online universities, I also posted an invitation for the study on social media (i.e., LinkedIn and Facebook). The Walden University participation pool

and Facebook did not provide leads to potential participants; however, my invitation via LinkedIn was successful. One potential study participant consented but did not want to interview through Zoom and instead wanted me to email the interview questions to them, which they would answer and return to me. I refused to comply with this request based on the planned interview process approved by the Walden University IRB. The participant refused to participate in the study unless I contacted IRB and requested a change to the data collection process. I did not contact IRB and continued to schedule interviews with participants willing to be interviewed on Zoom. The participants who agreed to be interviewed were informed that their identities would be kept confidential by assigning them participant numbers (e.g., P1, P2, etc.) instead of using their names.

Data Analysis

Guest et al. (2006) defined data saturation as the point when no new information is obtained from the data, the interviewer continues to hear the same responses, and additional coding is unnecessary. In this study, data saturation was reached after completion of the 12th interview. Therefore, an understanding of doctoral students' perspectives on how online technology supported their need for autonomy, competence, and relatedness was developed from the responses of these 12 participants. I used Braun and Clarke's (2006) six phases of thematic analysis to analyze and code the data, from which I identified seven themes.

Phase 1

The first phase involved becoming familiar with the data (see Braun & Clarke, 2006). To accomplish this, I listened to each audio-recorded interview four times. In the first review, I compared what I remembered from the interviews to what I heard in the recording. During the second audio playback, I created a summary of the interviews to provide the participants with an opportunity for member checking. I identified, connected, and noted the emerging themes in the third review. The final playback was used to manually transcribe each interview, which allowed me to connect and engage with the data.

Phase 2

The second phase of thematic analysis consisted of identifying codes (see Braun & Clarke, 2006). The transcripts were exported from Microsoft Word to MAXQDA where I manually coded the data. I began identifying and manually coding the transcripts line-by-line based on the terms and phrases the participants repeated and the tenets of the conceptual framework. While identifying the codes, I organized and grouped them into meaningful units. Table 2 provides examples of the codes, explanations, and participants' responses to the interview questions that support them. A complete list of codes is presented in Appendix B.

Table 2

List of Codes With Explanations and Example Quotes

Code	Code explanation	Example quotes
Instructor support	Examples of how instructors supported online doctoral students.	P5: "I think a lot of instructors did make good use of video even then, and I think that their focused use of video of themselves allowed me to hear from them so that I could go work myself, and I didn't have to wait on them."
Technology hindered my expertise	Statements describing how technology hindered competence.	P7: "The technology system at my university, coupled with Turnitin.com, kept saying that I was plagiarizing my own work, and it got to the point where that was a hindrance because I had to make several calls to IT. I had to make several calls to the professor. I had several calls to my chair. And we ended up having to go in a circle, almost, with every revision."
Created frustration	Examples of what frustrated doctoral students.	P6: "I think my school's model, at least the one I experienced, allowed people at every level of their organization to hide. There are no telephone numbers. You have to email everything to them. They get back to you at their convenience, never mind yours."

Phase 3

In the third data analysis phase, I began collating codes into potential themes (see Braun & Clarke, 2006). I analyzed the list of codes developed from the data to determine where they could be combined with similar codes to create initial themes. Next, all data relevant to each theme were combined. An example of the process of moving from codes to initial themes to final themes is provided in Table 3.

Table 3

Codes, Initial Themes, and Final Themes

Codes	Initial themes	Themes
Instructor support Technology used	Instructor support	The instructors incorporated online technology to support learning
Technology supported autonomy Reason for pursuing a doctorate Created motivation	Technology supported autonomy	The use of online technology supported students' autonomy

Phase 4

In the fourth phase of thematic analysis, I performed additional theme reviews to check if they aligned with the coded extracts (see Braun & Clarke, 2006). The collated extracts for each initial theme were reviewed to determine if they formed a coherent pattern, and I found that the data from the initial themes were cohesive. When I ascertained that all initial themes aligned with the codes, I compared them to the entire data set by creating a thematic map.

Phase 5

The fifth phase consisted of defining and naming themes (see Braun & Clarke, 2006). To accomplish this, I performed a detailed analysis of the initial themes, checking whether they answered the RQs and if subthemes could be identified. I constructed theme names with definitions that easily captured the substance of each theme with a focus on sharing essential aspects of that theme. In this phase, I was able to define the themes and communicate which RQs they answered.

Phase 6

To complete the sixth and final analysis phase, I organized all information to develop a precise story of the analyzed data (see Braun & Clarke, 2006). I created a report describing the participants' perspectives regarding motivation to complete a doctorate in education online. Seven themes emerged from the codes used to organize and identify common words and phrases in the participants' responses to answer the RQs Table 4 displays how the codes are related to initial themes, the themes themselves, and how the themes are related to the RQs. In this study, there were no discrepant cases.

Table 4

Codes, Initial Themes, and Themes Related to the Research Questions

Codes related to themes	Initial themes	Themes	Related RQ
Instructor support Technology used	Instructor support	The instructors incorporated online technology to support learning.	RQ1: What are doctoral students' perspectives of how online technology supports their basic psychological need for autonomy?
Technology supported autonomy Reason for pursuing a doctorate. Created motivation	Technology supported autonomy	The use of online technology supported students' autonomy.	
Technology hindered expertise Created frustration Problems with technology	Technology hindered my expertise	The use of online technology hindered students' expertise.	RQ2: What are doctoral students' perspectives of how online technology supports their need for expertise in their discipline?
Online degree at the doctoral level is tough I was in the program too long	Online degree at the doctoral level is very tough	Completing a doctorate online is difficult and time consuming.	
Technology supported my expertise Technology made it easy	Technology supported my expertise	The use of online technology supported students' expertise.	
Technology promoted social integration Creating a relationship Social integration	Technology promoted social integration	The use of online technology promoted social integration.	RQ3: What are doctoral students' perspectives of how online technology supports their need for social integration in an online environment?
Technology hindered social integration Technology could not replace a human No relationship with peers	Technology hindered social integration	Online technology usage could not replace face-to-face interactions.	

Evidence of Trustworthiness

The methodology employed in this basic qualitative study involved addressing the issues that affect trustworthiness stated in Chapter 3. To address issues of trustworthiness, a researcher must meet four criteria: credibility, transferability, dependability, and confirmability (Korstjens & Moser, 2018).

Credibility

Credibility refers to confidence in the study's findings to represent the truth (Oswaldo, 2021). The study findings must represent the participants' actual viewpoints and perspectives. I established credibility by asking all participants to review their transcribed interviews for accuracy (see Moustakas, 1994). The 12 participants were emailed their transcribed interviews to make corrections and return them to me. The transcripts were approved by the participants with only minor grammatical changes. A researcher must demonstrate accurate findings without distorting the data collected to support the study or for personal interest (Oswaldo, 2021).

Transferability

Transferability is the extent to which a study is applicable to another context (Oswaldo, 2021). Transferability is often challenging in qualitative studies because the data are not numeric. This study was enhanced by detailed, thick descriptions of the characteristics and attributes of the small purposive sample as well as its setting. I accurately described the selection strategy, including the inclusion and exclusion criteria and the recruitment process. Detailing the data collection and analysis processes as well

as providing information about the setting and sample of this study allows readers to draw conclusions regarding the comparability of the study's findings to a different context.

Dependability

Dependability is accomplished if the study can be duplicated with the same results (Korstjens & Moser, 2018). Merriam and Tisdell (2016) stated that dependability can be improved through peer reviews, researcher reflexivity, and audit trails. I maintained accurate records with correct dates and times. The participants answered interview questions related to online technology supporting their basic psychological needs of autonomy, competence, and relatedness. The questions were asked and repeated as necessary to ensure the participants knew what they were being asked. I also had an outside researcher review the de-identified data and analyze it to confirm accuracy. Additionally, dependability was increased by maintaining the qualitative data using MAXQDA.

Confirmability

Confirmability refers to the possibility of obtaining the same results if the study is replicated (Oswaldo, 2021). Confirmability was accomplished by eliminating my biases from the data collected and the study (see Creswell & Creswell, 2017). To ensure confirmability, a reflexive journal was used to record my thoughts and beliefs concerning the participants' responses to the interview questions. An audit trail was included with

this approach (see Oswaldo, 2021). Themes were created based on the participants' responses, demonstrating confirmability.

Results

The purpose of this basic qualitative study was to explore online insight from doctoral students' perspectives on how educational technology supports their motivation to earn a degree in education. The results of this research, based on the developed themes, answered the three RQs. Themes were developed and interpreted based on the participants' responses, which addressed the RQs and aligned with the conceptual framework and purpose of the study. The results provide the participants' perspectives on their experiences, successes, and barriers while pursuing a doctorate in education online. While analyzing the interview transcripts, themes emerged and were grouped according to each RQ.

Themes for Research Question 1

The Instructors Incorporated Online Technology to Support Learning

All participants described instructor support as communication through Zoom, setting up teleconferences, and using video, text, email, and seminars set up through Microsoft Teams software. Six responses are included here.

P5 shared her perspective on how the instructor used videos to support communication in an online environment and how videos the instructor created allowed her to begin working on assignments: "I think that their focused use of video of themselves allowed me to hear from them so that I could go work myself and I didn't

have to wait on them." P8 stated that the instructor would set up seminars with the entire class on Friday nights, all day Saturday, and part of Sunday. The seminars were through Microsoft Teams because they could no longer meet at the campus on weekends: "It was kind of the only time that we could kind of get together at a distance." P9 mentioned that Zoom allowed communication with his mentor concerning creating RQs, research topics, methodology, and interview protocol. P9 felt that the instructor provided support and structure:

> As long as I could really defend my methodology for her and my decisions about the methodology, my decisions about the research questions, and my decisions about any interview protocols that I had, she would, of course, give her input.

Some participants felt their instructors could have done more to support them on their doctoral journey, which created autonomy frustration. P6 stated,

> In my coursework, I think technology gave instructors an opportunity to not actively facilitate meaningful academic discussion. Okay, they could pop into the discussion forum and make a few comments, and anybody could see, oh, they're in there, but I could see places where they could have expanded topics, where they could have stretched us and had a more rigorous experience for all of us had the instructors actively facilitated discussion.

P7 felt that instructors or chairpersons were given some plausible deniability because their communications were not recorded on Zoom or typed up on the learning platform. The lack of feedback was an obstacle for doctoral learners that caused frustration:

> So, most of them really preferred cell phones. When it doesn't work, obviously, you have some issues. But compared to people, and I'm referring to professors, I'm referring to people that you have to tap dance and go through and jump through different hoops for, they're the biggest cons of earning my doctorate—having to switch chairs and switch to another chair and switch to another chair.

Burrington et al. (2020) stated that the chair-doctoral student relationship is of chief importance, and the chair should develop a rapport with the student. P10 was disappointed because her institution could not provide an instructor with content expertise in K-12 multilingual learners:

> It's almost like the more I learned about what it means to be a researcher and to earn a doctorate. I felt like my school was, I don't know, I don't want to use the word generic. They provided a framework, but I had to really learn my content. I can look back now and see. I understand now why people go to certain schools based on where the content experts are.

Working on a project or degree closely related to the instructor or mentor's field of research creates satisfaction (A. Martin, 2020; Simons et al., 2020). Jameson and Torres (2019) noted that the support a doctoral student receives from their mentor while writing a dissertation is vital for their success. This theme represents how instructors used technology to support learning. Some participants felt that instructors were skilled at using technology to support their learning efforts, while others felt they could have done more. This theme answers RQ1 because the participants felt the instructors used videos

showing how to complete tasks so they could finish their work without having to communicate back and forth for instructions. This theme also demonstrates that the lack of support or expertise that mentors provide prolongs the completion of an online degree program.

The Use of Online Technology Supported Students' Autonomy

During the interviews, I focused on the participants' responses regarding how the use of technology supported their need for autonomy. Ten participants stated that technology supported their need for autonomy, while two participants felt that online technology made the program too autonomous. The participants mentioned that they were able to be in control of when they completed assignments and continued with their lives while pursuing their doctorate degrees online. P4 stated,

> The technology really enhanced my sense of autonomy because I could choose when, where, and oftentimes how I was going to do work in the program, both in the coursework and the dissertation work. The autonomy that was afforded to me through the online platform, I think, was really one of the aspects that gave me confidence that I might be able to complete the program while working full-time.

Likewise, P7 responded, "Technology allowing me to use my laptop was really helpful versus going to a traditional school. It gave me the freedom." Doctoral students work fulltime jobs and have families to attend to. The ability to work on their degree at their leisure made degree completion more attainable. P11 had the same sentiment:

> Being a working mom and just having my own job, it was a lot easier just to be able to do things online, given a deadline at the end of the week, and I chose whenever I was able to do it.

P12 was in the process of creating a family and did not want to sacrifice family time by traveling to the nearest brick and mortar institution over 40 minutes away. She was able to find an online program that worked for her.

> The program I was in, you could stretch it out as long as you needed to within the scope. I think you had, once you started, maybe 10 years to complete or something. So, for me, it gave me a lot of autonomy.

In contrast to these perspectives, P3 shared:

> When I think back to my traditional school experiences when they were in person, I remember the connections that I made with my classmates and my professors, which were nice, which helped me get through. I think that's a drawback in my online program. So, the autonomy was there, but I think maybe it was too autonomous.

Vallade and Kaufmann (2021) believed that instructors should request feedback from students on their online course experiences and the delivery of course content. Most participants were pleased with the autonomy they were afforded by online technology. The participants discussed how they were able to complete assignments at their leisure. All respondents worked while enrolled in online courses, and none were willing to stop to attend school. The participants mentioned that they would not have pursued the degree if

the doctorate had not been offered online. They also expressed that online technology, in some cases, was too autonomous.

Themes for Research Question 2

The Use of Online Technology Hindered Students' Expertise

In this study, I focused on how doctoral students could be successful in an online environment. Three of the 12 participants stated that there was no hindrance with online technology; however, nine expressed how its use hindered their expertise. Four examples are provided starting with P6:

> I mean, they absolutely hide behind technology in terms of serving someone who's paying a lot of money to be served. I didn't expect them to hand me a degree. I expected to earn the degree, but all those other services I pay for, I expected to get them. But almost every department I dealt with, advising or financial, you can't get anybody on the phone, ever. So, I think technology hindered that aspect.

P7 stated that he had to contend with technology at his school called Turnitin that constantly gave results showing he plagiarized when it was his own writing. Several phone calls were made to the information technology department and his professor, but the problem would occur with every revision: "I'd say that I probably lost weeks in terms of graduating because we had to stop and get that resolved before I can get the second sign off for every revision that I was making towards trying to graduate." P9 mentioned a test proctoring software that required students to give permission to be watched during

the exam via a camera. Before taking a test online, the student would need to allow the camera to have access to view the room: "I felt at my age and my experience that I should have been extended more trust than making students install what that browser add-on does, but it was Honor Guard software that I felt was a hindrance."

P2 shared,

> Technology is not always good because it takes time. You have to understand how the technology works in order to use it properly. In some cases, you spend more time trying to understand how to use the technology, to use it to conduct the research. That's a lot of time consumed. . . . So, in that aspect, I can consider it a hindrance.

Participants shared various reasons why they felt online technology hindered their expertise. Their responses detailed the obstacles faced in an online environment and whether it was a problem with the schools' programs, difficulty learning technology, timed exams, or the lack of interaction with support personnel. This theme answers RQ2 because it addresses how the participants' need for competence was not satisfied.

Completing a Doctorate Online is Difficult and Time Consuming

Fiore (2019) noted that online doctoral students have a higher rate of not completing degrees or dropping out than traditional doctoral students. McBrayer et al. (2020) stated that 41% of students pursuing a doctorate online do not complete their degrees. Educational institutions are challenged to remedy this situation. Three of the 12 participants did not mention difficulty with completing a doctoral degree online.

However, nine participants shared their perspectives on how difficult it was to complete a doctoral degree online, five of which are represented here. P2 stated that acquiring a Ph.D. online was very difficult and would not recommend that those pursuing a doctoral degree take courses online:

> We spend more time compared to those who are going to the campus. So, somebody who is completing a Ph.D. online spend [*sic*] more time because the person has less support compared to a student who is on the campus who can have point access to the mentor and any staff to support him.

P5 felt that at the doctoral level, there was a lot of work concerning persuasion and collaboration, although she did not appreciate group projects: "I think that group projects are awful no matter where you are. They're awful when you're on [the] ground doing them, they're awful online, and they're sometimes awful in the workplace to be real about it." Setting up times to meet or work as a group was often complicated because of different geographical locations.

P8 discussed the difficulty of taking exams online:

> One thing that I didn't like about doing things online is the timed exams. Final exams were all timed, and even if you had all the time in the world, all you are focused on is that little timer. So that was probably the worst part of all my online schooling was those darn quizzes and exams that were all timed. It almost became a game that you're like racing against the clock, and you're trying to look things

> up at the same time. Going through a doctoral program is mentally taxing, and it takes a lot of self-discipline.

P10 tried to obtain information about universities offering doctoral programs online but encountered difficulties. She asked to speak with institutions' alumni to select a good school to attend but had little success. Finally, she was told about one institution: "You can do it, but you have to stay on [*sic*] the institution. You have to stay on top of your own stuff. It's very challenging, but it's doable. But it is going to be a struggle." P11 discussed how she used time management to make time for her family and schoolwork and find a way to balance her schedule:

> It was really hard to balance all of that, but it needed to be done because if you just focus on your work and only your work and you neglect everybody else and everything else, it just, it affects you more. So, yeah, everybody still got their time. They just had an allotment, an allotted time. It was a little chaotic sometimes.

P12 felt her family suffered because her doctoral program was more time consuming than she thought. She noted,

> My motivation for leaving was more family oriented. I just felt like it was very online. People seem to think there's this perception, or was at that time, that it wasn't as time consuming. And I actually found it as much or more time consuming with the work that was involved. So, for me, it was a personal thing. I just felt like my family was suffering.

The participants in this study shared many reasons why they felt pursuing a doctorate online was difficult and time consuming. Earning a doctorate online can interfere with work, family, and friendships because of the requirements and the amount of time that has to be invested. This theme answers RQ2 because online technology does not always support a student's expertise. Some participants felt online technology hindered their expertise and created frustration.

The Use of Technology Supported Students' Expertise

Doctoral students must feel efficient and successful (Chiu, 2021a, 2021b; Ryan & Deci, 2017, 2020). Education technology must be designed to support doctoral student competence (Chiu, 2021a, 2021b). Although two participants did not feel that technology supported their expertise, 10 participants shared their perspectives on how technology supported it; five are noted here. P2 explained how online technology was beneficial in helping to use time wisely, which allowed him to understand necessary concepts. If a concept was not understood right away, he could research what he did not understand:

> So, the technology really helped me to master and have the expertise in my area. Because when I started, I thought that I would need help from a human being all the time, but because I was online, I had to figure out how to solve my problem with less help.

P4 expressed how she had access to expertise in her program: "I think that the instructors that I had in my program, and especially my committee chair, dissertation chair, and members made themselves very, very available through the online platform."

P4 also mentioned that her committee member advised that she use Zoom to communicate with one of her colleagues, which gave her access to additional expertise using online technology.

P5 shared a similar perspective:

> Well, I think it's supported it by offering a whole lot of alternative views to a single piece of content so that you could use your faculty, you could use the resources provided in the classroom, you could use the textbooks, and you could use the library. I think sometimes, in an on-ground [learning environment], you're so focused on the textbook and the teacher that you get one, maybe two points of view. I think what is great about the online environment is that to the degree that people have time and desire, they can expand their point of view more broadly than you can in the face-to-face classroom.

Likewise, P6 stated that technology helped by providing access to current literature in the field of adult education:

> I was able to access current research and current thinking on methodology and different aspects of my dissertation topic, which, if I had to go to the library and do that, I would still be using technology. But I was able to do it from my home at 3:00 a.m., literally, and I think that it helped me access outside of the university.

P10 stated that people had to use Zoom and other platforms because of the COVID-19 pandemic, and she was not used to that way of communicating. Once she became better prepared to use technology, she completed her work faster:

> Technology is allowing the work to permeate. It allows for me to create learning communities. It allows for us to use a bunch of different types of technology and video and audio and YouTube, and you name it. So, it's working for me.

The use of technology supported the participants' expertise by providing ways to research their study topic. The participants mentioned that technology also allowed them to use their institutions' online libraries to obtain books without leaving their homes. This theme answers RQ2 because it demonstrates how the participants used technology to become experts in their discipline.

Themes for Research Question 3

The Use of Online Technology Promoted Social Integration

In this study, I focused on how online technology satisfied the participants' need for relatedness, feelings of association, and being cared for (Chiu, 2021a, 2021b; Ryan & Deci, 2017, 2020). Out of the 12 participants, three did not state that online technology supported their need for relatedness. Nevertheless, nine participants shared their perspectives on how online technology supported their need for relatedness, four of which are included here. P4 indicated that online technology promoted social integration by providing a platform where the students in the course could communicate on the topic of discussion:

> I'd pop on that [discussion at] 7 o'clock West Coast time and see people on the East Coast who had posted, you know, hours ago, and was still able to

> communicate with them even though our time zones were different. . . . It allowed for that participation, but it also allowed me to think it through.

P5 mentioned how she was called to active duty in the middle of her doctoral program, but fortunately, a classmate and her committee member did not live far from where she was deployed. She stated, “The social support that I felt from a classmate and from my professor as I was heading off to Louisiana from Maryland was quite a remarkable thing. I didn’t ask for help, and I got some social support anyway.” P7 noted that technology was helpful for communicating with his classmates and other professionals in the classroom and that he still keeps in touch with some who were in his courses:

> If you’re in a typical classroom, you realize who’s somebody who’s going to go to the next level, who you might want to bond, you know, get and hang out with because they’re going to raise your knowledge, and you realize some folks who maybe are just there for whatever reason wasting some money.

P8 expressed,

> Knowing that your peers are going through similar challenges creates a sense of community. Everyone has their issues and personal concerns, but to be able to manage them at a level that doesn’t derail you from your doctoral goals takes a lot of volition. The ability to use technology through group discussion boards or having the ability to message one another created a strong support system.

In contrast to what was mentioned by the previous four participants, P10 felt that

> I didn't have any social [connections]; it was just me. I had to finish what I started. I was my own person. I had accountability to, like, that was just it. At some point, once you're finished with those classes, there are no classmates. You're just in the abyss working by yourself, you and your chair.

The participants stated that online technology allowed them to communicate with their peers. When the participants were confused about completing assignments, they would reach out to their instructors or classmates. Some respondents felt that online technology connected them to peers who remained their friends after completing their program, while others felt there was no need to be socially integrated. This theme answers RQ3 by providing ways the participants used technology to build a community in an online environment.

Online Technology Usage Could Not Replace Face-to-Face Interactions

Some participants felt that online technology could not replace a face-to-face environment. The participants noted the need to meet in person and that learning online required a different type of support. Research has shown that the relationship among the learner, instructor, and academic advisor is essential to student success (Dwyer, 2017; Marchand & Gutierrez, 2017; Orcutt & Dringus, 2017; Walters & Seyedian, 2016). Although four participants did not mention that online technology could not replace face-to-face interactions, eight shared their perspectives on this topic, five of which are presented. P2 mentioned that he spent significant time searching for information online without success. After contacting his mentor and the library for help, he concluded it took

a lot of time to learn how to use technology for research: “I can consider it as a hinder [*sic*]. So that hurt me because it does not replace a human being who could have shown me how to get straight to the point.” P4 mentioned that an online community with asynchronous communications “did not afford the same level of camaraderie and connectedness with my colleagues that I think an in-person face-to-face program may have.” He felt that social integration was missing in his program. P11 shared a similar sentiment: “There's no substitute for face-to-face interactions.” She noted that the forum post and group calls helped, but she never saw her classmates until graduation.

Some doctoral programs require students to attend residencies, which provides an opportunity to meet faculty and peers face-to-face. However, P10 stated that residencies were not a requirement in her program: “There were no residencies. I didn’t come up through that experience with having some face-to-face time with people that I was in the program with.” P12 shared a different perspective on online communication. She felt the live conversations “allowed you to really almost get to know each other.” P12 stated, “It hindered a little bit as far as personality coming through, and facial expressions, and those type [of] things, but the conversations were very rich.”

Online technology can potentially provide doctoral students with opportunities to close the gap between online communities and face-to-face environments. Warr and Sampson (2020) suggested that new technologies could ease some of the challenges in online learning and lessen the transactional distance. Technologies like Zoom are providing ways to communicate in real time. Educational institutions could provide

students with opportunities to communicate face-to-face by incorporating residencies. This theme answers RQ3 because the participants indicated whether online technology supported or hindered their need for social integration.

Summary

Based on the participants' responses to the interview questions that applied to RQ1, several common threads indicated how online technology supported their autonomy. All participants explained how online technology allowed them to control their doctoral journey. All participants mentioned that completing their assignments at their leisure was paramount. Eight participants discussed how instructors used technology to support their autonomy. Ten participants explained the importance of online technology in satisfying their need for autonomy.

The responses to the interview questions that helped answer RQ2 expressed how online technology supported or hindered the participants' need for expertise in their discipline. All participants agreed that online technology increased their knowledge and explained how it made the online process easier. Nine participants expressed how the use of technology hindered their expertise, while the other three did not share the same sentiment. Nine participants also provided their perspectives on how completing a doctorate online was difficult and time-consuming; however, two did not mention either of these aspects. Ten participants expressed how technology was used to support their expertise. Two participants felt that technology did not support this.

The responses to the interview questions that addressed RQ3 of this study indicated how technology supported the need for relatedness in an online environment. All participants shared their perspectives regarding what technology was used to communicate with their peers, instructors, and academic advisors. Nine participants explained how technology promoted social integration; eight believed online technology could not replace face-to-face interactions. All participants stated that there must be more communication among the instructor, academic advisor, and learner. Additionally, they shared that educational institutions should do more to facilitate communication between peers.

A detailed analysis of the participants' perspectives is provided in Chapter 5. A discussion concerning the findings and their interpretation are presented. In addition, the study's limitations and recommendations for future research regarding motivating doctoral students in online environments are provided. The study's implications and recommendations for using online technology to satisfy doctoral learners' needs online conclude the chapter.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this basic qualitative study was to explore online doctoral learners' perspectives on how educational technology supports their motivation to earn a degree in education. I investigated how doctoral learners described and made meaning of their lived experiences while pursuing a degree in education online. My goal was to provide an understanding of the obstacles faced by doctoral students and to build on the present research literature associated with motivating them through graduation. The phenomenon studied was the motivation of doctoral students to pursue a doctorate in education online.

Twelve participants who had earned their doctorates online provided descriptive data via semistructured interviews on how educational technology supported their need for autonomy, competence, and relatedness. Thematic analysis was employed to interpret and analyze the data. Seven themes emerged from data analysis: (a) the instructors incorporated online technology to support learning, (b) the use of online technology supported students' autonomy, (c) the use of online technology hindered students' expertise, (d) completing a doctorate online is difficult and time consuming, (e) the use of online technology supported students' expertise, (f) the use of online technology promoted social integration, and (g) online technology usage could not replace face-to-face interactions. These themes are analyzed in this chapter to provide a connection with the research literature presented in Chapter 2. In this chapter, I summarize the research results, discuss the limitations of the study, make recommendations for future research to

advance doctoral student motivation, and present the study's implications for social change.

Interpretation of the Findings

I interviewed participants to investigate the gap in the research literature concerning educational technology supporting doctoral student motivation to complete a degree in education online and answer to the RQs. The RQs were developed based on the three components of SDT to explore the participants' perspectives on how online technology supported their basic psychological needs of autonomy, competence, and relatedness (see Ryan & Deci, 2000b). Interview questions were designed to allow the participants to provide in-depth data regarding whether online technology supported or hindered their psychological needs. I also explored the participants' perspectives of what motivated them to pursue a degree in education online. Data collected from the participants' responses to the interview questions were sufficient to answer the study's RQs and provided the reasoning behind their enrollment in a doctorate program online. The insight gained from the participants indicated a level of intrinsic and extrinsic motivation was involved with pursuing a doctorate in education online. Daniels and Kennedy (2019) associated intrinsic motivation with pleasantness, engagement, and satisfaction, while Ryan et al. (2019) believed that extrinsic motivation might help guide individuals to a desired outcome or help to avoid one that is not. The study participants mentioned that various experiences during their doctoral journey motivated them to continue with their program. They also stated that there has to be a certain level of

motivation to consider enrolling in a doctoral program online. Most participants mentioned that they were working or had a family and were unwilling to leave their jobs or sacrifice the time they needed to spend with their families. For this reason, the participants could not enroll in a doctoral program at a brick-and-mortar institution. Burrus et al. (2019) and Dennis (2020) agreed that educational institutions are adjusting to changes in student needs and offering doctoral degree programs online. The participants stated that the Number 1 reason they enrolled in a doctoral program was that it was offered online and that they probably would not have pursued the degree if it was not. Burrus et al. (2019) noted that the enrollment of adult learners pursuing doctoral degrees online is increasing.

In this section of the study, I summarize the results along with my interpretations to address the RQs. According to basic psychological needs theory, students' three psychological needs of autonomy, competence, and relatedness must be satisfied (Chiu, 2021a, 2021b; Ryan & Deci, 2017, 2020; Ryan et al., 2019). The section begins with the interpretation of the findings for RQ1, which I designed to investigate how online technology supported doctoral students' autonomy. Some participants felt that online technology supported autonomy, but P3 felt online technology could be too autonomous because of the lack of opportunity to meet classmates in person compared with the connections he had with classmates and instructors in a face-to-face environment.

Research Question 1

Ryan and Deci (2017) posited that autonomy is a feeling of initiative and owning one's activities or being in control. Nunez and Leon (2019) reported that students were more motivated and engaged when their autonomy was supported. College students who were motivated autonomously improved their performance considerably (Manganelli et al., 2019). Salikhova et al. (2020) noted that digital education satisfies the need for autonomy. In agreement with this research literature, the study results revealed that online technology supports doctoral students' need for autonomy, which answers RQ1. Being able to take courses online provided doctoral students with an opportunity to continue working and spend time with their families. The ability to complete assignments at their leisure and comment on threaded discussions at will was the support provided to doctoral students enrolled in a doctoral program online.

Instructors used online technology to support doctoral student autonomy. Chiu (2021a) stated that digital support (i.e., videos, text-based notes, and slides) could support student autonomy online. The participants stated that their instructors used videos, teleconferences, Zoom, and resources within the course shell to show students how to complete assignments. Most participants were given assignments due at week's end. Because sufficient information was provided for the students to review the course content, watch videos of the topic at hand, and complete the associated assignment without having to reach out to the instructor, the participants felt they were in control of their doctoral journey. Roumell and Bolliger (2017) stated that it was of chief importance

that instructors create ways to support valuable interactions virtually. The findings in this study confirm that digital technology supports a student's autonomy in an online environment.

Research Question 2

Competence is regarded as feeling efficient, having the required skills, and being successful (Ryan & Deci, 2017, 2020; Ryan et al., 2019). I asked the participants if online technology supported their need to become an expert in their discipline. Some participants felt online technology hindered their need to be an expert in their discipline and reported that complications or barriers that were dealt with online could have been easily mitigated in a face-to-face environment. Some of the reasons participants believed the technology did not support them were a lack of interaction with support personnel, glitches in the technology used, invasion of privacy during testing, timed exams, and difficulty with learning technology. The distance between the doctoral students and support personnel, the lack of correspondence, testing online, and dealing with technology that was not user-friendly created frustration. Kusurkar et al. (2021) noted that learners could become frustrated if they do not feel competent. Researchers have also posited that competence is the motivation to achieve positive outcomes and mastery of tasks (Durksen et al., 2016; Filak & Nicolini, 2018).

Participants stated that completing a doctorate online is difficult and time consuming. McBrayer et al. (2020) reported that 41% of online doctoral students do not complete their degrees. Participants mentioned that doctoral students who pursue their

degrees online have less support than those in a face-to-face environment. One participant said they would not recommend enrolling in a doctorate program online. Some participants felt online technology hindered them and that pursuing a doctorate online took substantial self-discipline and was mentally taxing due to its demands and time investment that interfered with work, family time, and relationships. This feeling of hindrance confirms that family priorities and responsibilities while pursuing a doctorate negatively affect students' quality of life, well-being, and academic motivation (see Sverdlik et al., 2018).

Although some participants believed that online technology hindered their need for competence, others communicated a different perspective. These participants felt that online technology supported their expertise by helping them to master tasks; providing access to expertise, the online library, and current literature; and aiding them in learning to use multiple types of technologies. These participants shared that they learned how to solve problems on their own with less help and communicate with other colleagues, which provided access to more expertise and faculty online from the comfort of their homes or other remote locations. Some participants expressed that they were not technically inclined before enrolling in a doctoral program online but found that the way the online platform was designed and how their instructor used videos allowed them to become better with technology. Participants learned how to use different technologies to communicate with their advisors and mentors, confirming that there is an exhaustive number of online tools and technological resources that enhance online collaboration (see

Torres et al., 2021). RQ2 was answered based on data analysis that showed that participants felt that online technology hindered some while supporting others.

Research Question 3

Relatedness is the feeling of association and being cared for (Chiu, 2021a, 2021b; Ryan & Deci, 2017, 2020). I asked the participants if online technology supported their need for social integration in an online environment. Overall, the participants felt like online technology provided an opportunity for them to communicate with their peers and instructors and get help completing assignments. Hands (2018) wrote that affirming interactions (i.e., relatedness) and encouraging words support students' basic psychological needs. The participants noted that relationships were built with peers that have lasted throughout their doctoral program and that they continue to communicate. Filak and Nicolini (2018) posited that relatedness involves connecting and communicating with those who are considered important to an individual. Martin and Bolliger (2018) stated that technology helps to increase student engagement by facilitating interaction with peers, while Warr and Sampson (2020) claimed that new technology could alleviate some challenges in online learning. Participants mentioned that communicating with classmates on discussion boards or messaging one another created a strong support system. Distance did not play a part in communicating when the participants signed on to the learning platforms. Participants mentioned if they signed on from the West Coast, they could see what was posted by their classmates on the East Coast and respond. Although all participants did not feel they needed to communicate

online as much as others, the ability to contact fellow doctoral students or instructors was available to them. The difference between a face-to-face and an online environment was the time it took to get a response from instructors or faculty. Warr and Sampson stated that distance education (i.e., online) could create a barrier. Most participants came from a face-to-face learning environment where they could get an answer right away from instructors or faculty; therefore, communicating online was a challenge.

Due to communications challenges, some participants felt that online technology could not replace face-to-face interactions. Whether it was problems with technology, the lack of being with classmates and instructors in person, the absence of social integration, or too much autonomy, the participants felt they received less support than doctoral students in a face-to-face environment. Huet and Casanova (2021) indicated that distance was a challenge with doctoral programs because it created a feeling of isolation and made students feel unsupported.

The time taken to learn technology or how to research was another challenge mentioned by participants. Because of the need for more experience with research, completing a dissertation could be an overwhelming task (see Kumar & Johnson, 2017). Due to high attrition rates, the support a doctoral student receives while writing a dissertation is invaluable (Jameson & Torres, 2019).

Overall Analysis

After analyzing the data, I determined it answered the three RQs. In SDT, it is posited that satisfying the three basic psychological needs results in student motivation

(Ryan & Deci, 2017). The current study results demonstrated that when the basic psychological needs of the participants in this study were met, they were motivated to excel in an online learning environment. Although there is not a one-size-fits-all approach to motivating doctoral students to complete their programs, the results of this study showed that online technology could support their autonomy, competence, and relatedness. Most doctoral students in this study enrolled in an online program because of the autonomy attending a program online afforded them. If there were no online doctoral programs, these individuals with jobs, families, or other responsibilities would not have been able to earn a doctorate and advance their careers. In SDT, it is also proposed that students are motivated to gain knowledge and transform (Ryan & Deci, 2017, 2020). The participants of this study were no exception to this proposition.

The participants' competence or expertise was supported by online technology, but in some cases, the use of technology was met with opposition. Before attending an online doctoral program, individuals who were not tech savvy experienced a learning curve. The participants did not mention if this learning curve was considered when assessments were given but did not appreciate the timed exams that were due every week. F. Martin and Bolliger (2018) stated that technology helps to increase student engagement by facilitating interaction with course content, instructors, and peers. Once the initial growing pains were over, the participants could move forward in the program and use the technology they learned to facilitate their classroom discussions or disseminate work more efficiently. The participants who felt that online technology

hindered them later became confident in working with online technology, stating that they became experts in their discipline.

Relatedness, or being a part of an online community, was constantly compared with what participants experienced in a face-to-face environment. Although the participants felt that online technology could not replace face-to-face interaction, they could communicate with instructors and peers using technology; therefore, online technology satisfied the doctoral students' need for social integration. The participants explained how communication with peers and instructors was vibrant and informative, but they were only able to meet them in person once they graduated. Some participants mentioned that they developed relationships with their peers and have remained friends. Participants also shared that they developed these relationships without any help from the doctoral program they were enrolled in. Some doctoral programs offered opportunities for the students to meet face-to-face (e.g., at residencies), and some did not. The participants were resilient enough to create a cohort or group on their own. Lastly, participants felt the communication and support received from their mentor or instructor were positive while completing the required courses; however, the amount of communication and support declined once they started their dissertation.

Limitations of the Study

Qualitative studies have inherent limitations because the participants' responses to interview questions are the data collected (Ross & Zaidi, 2019). I assumed I would receive candid answers, but the participants may have responded to the questions in a

way that they thought would benefit my study (see Creswell & Poth, 2016). Steps were taken to ensure the participants were asked the same questions in the same sequence by using the interview protocol. All participants were asked to review their interview transcripts for accuracy and given an opportunity to make corrections. Following the interview protocol helped me manage data and control biases. This study could have also been limited due to how the data were analyzed and interpreted.

Other possible limitations were the study's sample size, participant demographics, and setting. This study could have been limited because only individuals who successfully completed their programs were included. If individuals who did not graduate or dropped out had participated in the study, the results may have been different. The study consisted of 12 participants, seven women and five men, who earned a doctoral degree online and graduated between 2007 to 2022. Three participants earned their doctorates before 2013, while eight graduated after 2018. The participants who graduated earlier might have had different perspectives on online technology based on improvements to learning platforms. The participants were allowed to choose the time and location of the interviews due to the COVID-19 pandemic occurring while data were collected. The interviews were conducted virtually using the Zoom platform based on these restrictions. Some participants may have switched to an online doctoral program because of the pandemic and could have had a limited understanding of how online technology has been used to motivate students. For this reason, the results of this study could benefit online programs that offer doctorates in education.

Recommendations

In this study, I focused on the need for more support to motivate doctoral students to complete their online program. I also explored if online technology supports doctoral students' basic psychological needs of autonomy, competence, and relatedness. Based on the results of this study and a review of the current literature, future research is recommended.

This qualitative study on the motivation of doctoral students to earn an online degree in education should be duplicated within different disciplines. Because the participants of this study consisted of doctoral students who earned their degrees online, students who are presently pursuing doctorates online should be included in a separate study. Online technology support should be researched further because of the number of new doctoral students who have converted to an online program due to the COVID-19 pandemic. Understanding whether online technology can continue to support online doctoral students' basic psychological needs and motivate them through graduation could improve online doctoral programs.

As noted by Ryan and Deci (2020), future research should include learning technologies that motivate engagement and learning. Future studies should also include an exploration of life circumstances, job change, health, and relationships with faculty to better understand why doctoral students do not complete their degrees (Kirk & Courtner, 2020). A qualitative or quantitative study should be conducted to determine if mentors supervising online doctoral students earned their doctorate online or in a face-to-face

environment and if they received training or preparation classes. Considering mentor training as it relates to expertise support when pairing with doctoral students and their dissertation topic should also be examined.

At present, four recommendations can improve online doctoral programs. First, doctoral students should be paired with mentors or supervisors whose research is closely related to their dissertation, which is positively connected to doctoral learner satisfaction (A. Martin, 2020; Simons et al., 2020). Doctoral students would be more competent with the dissertation process if their mentors were experts in their discipline. Second, mentor or supervisor training is vital to the success of doctoral students. There is a possibility that doctoral faculty who were mentored in a face-to-face environment find it difficult to mentor students online (Kumar & Coe, 2017). Mentor training can be important to understanding doctoral students' needs and barriers and also allow mentors a chance to develop methods that support beneficial interactions and mentor-mentee relationships online (Roumell & Bolliger, 2017).

A third recommendation is that dissertation training is an essential part of preparing doctoral students for the dissertation process. Doctoral students could benefit if the dissertation process started earlier in the doctoral program (Kirk & Courtner, 2020). A writing competence-based curriculum, which was implemented in the Kirk and Courtner (2020) study, could help develop doctoral students' confidence in the dissertation process. If the courses taken in the beginning and throughout the doctoral program addressed the different dissertation chapters, doctoral students could be more

successful. Fourth, the incorporation of residencies in doctoral programs online is of chief importance. The distance and impersonal nature of online courses create a barrier. When students feel isolated, they become disconnected and do not focus or feel supported. It is important for doctoral students taking courses online to meet with their peers and faculty face-to-face during their doctoral program to alleviate the distance and create camaraderie.

Implications

The purpose of this basic qualitative study was to explore online doctoral students' perspectives on how educational technology supports their motivation to earn a degree in education online. Data collected addressed the RQs concerning doctoral students' perspectives on how online technology supported their basic psychological needs for autonomy, competence, and relatedness. The findings demonstrated how online technology was used to support doctoral students' needs. The results of this study can potentially affect society and educational institutions by providing a process or procedures on how to use online technology to motivate doctoral students to complete their programs. The study consisted of 12 doctoral students; however, the information could be significant in improving online doctoral programs and possibly duplicated with a larger population in future research.

Positive Social Change

The study's findings indicate that educational technology supports doctoral students' psychological needs and, with the support of instructors and faculty, can

motivate them to complete their program. Furthermore, the results of this study could be used to help implement policies requiring additional online instructor training through online teaching preparation classes on how to support doctoral students and alleviate barriers associated with online learning. Also, online doctoral program administrators should be made aware that students need support throughout their doctoral journey. Online instructors should be trained to use technology to support online doctoral students' psychological needs of autonomy, competence, and relatedness. The doctoral students in this study had the motivation to complete their doctorate when their psychological needs were met. The study's findings could assist in bridging the gap in understanding the motivation needed for doctoral students to complete a degree in education online. By doing so, there is the potential for a more knowledgeable and prosperous society.

Conceptual Implications

This basic qualitative study explored doctoral students' perspectives on how online technology supports their motivation to earn a degree in education online. Semistructured interviews allowed doctoral students to describe their concerns about online technology and discuss ways they were supported or hindered. The participants clarified the issues encountered in an online doctoral program. I used Deci and Ryan's (1985) motivation theory, SDT, as the conceptual framework to address the motivation online doctoral students need to complete their degree in education. Additionally, I gained a better understanding of how online technology supports and sometimes hinders

doctoral students' basic psychological needs. However, when their needs were met, they were motivated to continue in their program. Participants agreed that psychological needs support would help motivate doctoral students to succeed in an online environment.

Conclusion

This study was conducted to explore the motivation of 12 doctoral students to earn a doctorate in education online. The participants discussed how online technology supported their motivation to complete their program. Online technology supports doctoral students by allowing them to take ownership of their doctoral journey, helping them become experts in their disciplines, and providing ways to communicate with their peers and instructors, creating an online community. The results of this study may be used to inform administrators of doctoral programs of the importance of supporting students' needs. Moreover, this study demonstrates the importance of using online technology to continuously support doctoral students through graduation, ensuring higher graduation rates and career advancement.

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Appendix A: Interview Guide

Research and Interview Questions

Date:_____
Location:_____
Name of Participant:_____
Assigned Participant Initial (First and Last):_____

Introduction

Hello, and thank you for contributing to this study. I am excited to learn about your motivations to complete an online doctorate in education. Your participation is confidential and will only be used for this study. If you decide that you no longer wish to participate, you can cancel the interview. Prior to getting started, I would like to discuss how you will contribute. By replying to my email invitation with "Yes, I consent," your informed consent to be a part of this study was obtained. Your consent confirms that you agree to participate in this study and that you agree to be a part of an individual interview. A follow-up email will be sent if further clarification is needed. Participation in this study is completely voluntary. This study poses no risk, and there is no benefit to you for participating. Nonetheless, by participating, you will help enhance the knowledge base regarding doctoral student motivation.

The interview will take around 60 minutes. During this time, the interview will be recorded on Zoom, so your responses can be transcribed. After your interview is transcribed, it will be mailed to you to make sure it is accurate. Once you have clarified that the transcript is correct or there are discrepancies, please email the transcript back, stating that everything is correct, or make changes to the transcript where necessary. Then, you may be contacted by phone or email for clarifications or follow-up questions.

Interview Introduction

Hello, my name is Terence Branch, and today I would like to interview you concerning your doctorate in education that was completed online. During the interview, I would like to discuss your perspectives on how educational technology supported your motivations and basic psychological needs of autonomy, competence, and relatedness. Please relax, get comfortable, and feel free to be honest because your responses are strictly confidential. I would like to start the interview with some background information, if you do not mind.

Background Questions:

1. What is your profession?
2. How many years have you been in this profession?
3. What year did you earn your doctorate in education online?

RQs	Main questions	Probing questions
RQ1: What are the perspectives of doctoral students on how online technology supports their basic psychological need for autonomy?	How did online technology support or hinder your need for autonomy or your ability to feel in control of your own doctoral journey?	Can you expand a little on this? Why do you think the technology helped/hindered you in this way?
	How did the level of autonomy you felt influence your motivation to graduate?	Can you tell me anything else?
	How did your instructor use online technology to contribute to your autonomy?	Can you give me an example? Were there any other technologies that supported or hindered your autonomy that you would like to share?
RQ2: What are the perspectives of doctoral students on how online technology supports their need for expertise in their discipline?	What are your perspectives on how online technology supported or hindered your need for expertise in your discipline?	Why do you think the technology helped/hindered you in this way? Can you give me an example?
	How did the use of online technology develop or hinder your competence in your field?	Can you expand on this?
	How would you describe the level of competence you felt that you had in your field motivated you to continue pursuing your doctorate?	Can you expand a little on this? Were there any other technologies that supported or hindered your ability to become an expert in your discipline that you would like to share?
RQ3: What are the perspectives of doctoral students on how online technology supports their need for social integration in an online environment?	What are your perspectives on how online technology supported or hindered your ability to be socially integrated with your peers?	Why do you think the technology helped or hindered you in this way? Can you tell me anything else?
	What functions of online technology made you feel like you were part of an online community?	Can you expand a little on this?
	How did your feelings about social integration influence your motivation to complete your doctorate?	Can you expand a little on this?
Ending Question: Before we end the interview, is there anything else you would like to share about how technology supported or hindered your motivation to earn an online doctorate?		

Closing

Thanks for sharing your time and experiences with motivational factors. I will contact you within a month by email to examine the interview transcript for accuracy. When I have completed this study, a copy of the full study will be emailed to you, and the data will be stored in a secured digital file, which will be destroyed after 5 years. Once again, thank you for your contributions and the sharing of your experiences. I look forward to sharing your experiences with other doctoral students.

Appendix B: List of Codes With Explanations and Example Quotes

Code	Code explanation	Example quotes
Instructor support	Examples of how instructors supported online doctoral students.	P5: "I think a lot of instructors did make good use of video even then, and I think that their focused use of video of themselves allowed me to hear from them so that I could go work myself, and I didn't have to wait on them."
Technology hindered my expertise	Statements describing how technology hindered competence.	P7: "The technology system at my university, coupled with Turnitin.com, kept saying that I was plagiarizing my own work, and it got to the point where that was a hindrance because I had to make several calls to IT. I had to make several calls to the professor. I had several calls to my chair. And we ended up having to go in a circle, almost, with every revision."
Created frustration	Examples of what frustrated doctoral students.	P6: "I think my school's model, at least the one I experienced, allowed people at every level of their organization to hide. There are no telephone numbers. You have to email everything to them. They get back to you at their convenience, never mind yours."
Technology promoted social integration	Statements describing how technology supported integration.	P4: "It helped expand my worldview hearing people from various parts of the country and some of the issues that they were dealing with. [It] really helped me have a broader understanding of where people might be coming from in their thoughts and perceptions of education."
Technology hindered social integration	Statements describing how technology hindered integration.	P3: "So I work, and I learn better in groups. So doing my program on my own, I made it through, but I think it would have been enhanced with a model which featured more student interaction and group work with one another."
Technology supported autonomy	Examples of how technology allowed online doctoral students to be in control of their doctoral journey.	P: "The technology really enhanced my sense of autonomy because I could choose when, where, and oftentimes how I was going to do work in the program, both in the course work and the dissertation work."

Code	Code explanation	Example quotes
Online doctorate is very tough	Statements describing how difficult it was to earn a doctorate online.	P2: “I can only say that the online degree, especially at the e Ph.D. level, is very tough. If I had to recommend someone, I would not suggest the online degree at the Ph.D. level.”
Created motivation	Statements describing what motivated online doctoral students.	P8: “It is rewarding going through the courses, and you learn a lot. But, just to close that chapter and then move on and use those new skills and knowledge in your next roles are a good driver, a good motivator.”
Technology supported my expertise	Statements describing how technology supported competence.	P5: “I think it's supported it by offering a whole lot of alternative views to a single piece of content so that you could use your faculty, you could use the resources provided in the classroom, you could use the textbooks, and you could use the library.”
Technology could not replace a human	Statements describing the lack of face-to-face contact with instructors and advisors.	P2: “It takes a lot of time to learn how to use the technology, to search for something you need to know. So, in that aspect, I consider it as a hindrance. So that hurt me because it does not replace a human being who could have shown me how to get straight to the point I wanted to go.”
Reason for pursuing a doctorate	Statements explaining why the doctoral students chose an online degree.	P3: “Fully online 100%. I think if that was not an option for me, I would not have pursued my doctorate degree.”
Technology used	Statements explaining the technology used.	P4: “So we were asked to use Zoom even before Zoom was a big thing like it was or Google Meets or whatever basic presentation platforms [like] PowerPoint but also challenged to go beyond PowerPoint to make presentations more engaging. So, in that respect, I think the access to ed. tech. and ed. tech. tools helped to expand my breadth of knowledge within the ed. tech. field.”
Technology made it easy	Statements describing how technology makes tasks easy.	P5: “Specifically, the library resources, the ability to access great content through a great library online and not have to pick myself up out of a chair and drive somewhere to pick up a book.”

Code	Code explanation	Example quotes
Problems with technology	Statements describing problems experienced with technology.	P8: “One thing that I didn't like about doing things online is the timed exams. Final exams were all timed, and even if you had all the time in the world, all you are focused on is that little timer. So that was probably the worst part of all my online schooling was those darn quizzes and exams that were all timed.
Creating a relationship	Statements describing how relationships were created online.	P12: “We had the group setting where we were able to communicate back and forth in a live conversation. So that just allowed you to really almost get to know each other.”
Social integration	Examples of ways doctoral students connected with their peers.	P7: “So, we all ended up signing up with all these different technologies just so we could jump on and talk and just brainstorm. So, working with my peers, it was the best thing.”
No relationship with peers	Statements describing the lack of relatedness.	P3: “I would say one of the deficiencies of my school’s online system is the lack of interaction. The lack of getting to know your classmates, other people that are going through the same journey that you are.
I was in the program too long	Statements describing how long it took to finish the program.	P6: “I found working online at my school, the years that I went through, difficult because they weren’t developed and hip enough with their methods. I started in 2012, and I finished in 2021.