Identifying significant integration and institutional factors that predict online doctoral persistence

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ABSTRACT

Based on a synthesis of traditional attrition models and the empirical literature, an online doctoral persistence model was developed using archival data from 148 candidates. A predictive, correlation design and logistic regression were used to examine if a linear combination of institutional (financial support; program, curriculum, and instruction; and support services) and integration variables (academic, social, economic, and familial integration) could be used to distinguish between doctoral students who persist from those who withdraw during the dissertation process. The entire model, including all institutional and integration variables, were found to significantly predict whether or not online doctoral students will persist in the candidacy stage of the program. Moreover, support services; quality of the program, curriculum, and instruction; academic integration; social integration with faculty; and familial integration each individually contributed to explaining the likelihood of online doctoral persistence. Social integration, financial support, and economic integration were not individual significant contributing factors explaining persistence.

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1. Introduction

As persistence is often considered a measure of higher education program effectiveness, residential, doctoral attrition rates, ranging between 40% and 60% and as high as 70% for Doctor of Education (EdD) programs (Bowen & Rudenstine, 1992; National Science Foundation [NSF], 2009; Nettles & Millett, 2006), are worrisome. Of greater concern are the attrition rates for programs offered in the online (i.e., via the internet) format, which are 10% to 20% higher than programs offered in a residential (i.e., on a college or university campus) format (Holder, 2007; Rovai, 2002; Terrell, Snyder, & Dringus, 2009). While doctoral attrition can occur at any stage, the largest degree of attrition in online and residential programs is documented during candidacy (NSF, 2009), when a candidate enters the research and scholarship stage of the program (i.e., the dissertation stage) (Rockinson-Szapkiw & Spaulding, 2014). Attrition at this stage is not surprising as the doctoral candidate must make the transition "from being a consumer of knowledge… to creator" (Gardner, 2009, p. 328) and demonstrate the ability to independently design, conduct, analyze, and present research. For many candidates, the challenges associated with accomplishing these tasks are unlike any they faced previously in their academic careers. Due to feelings of loneliness, poor motivation, dissatisfaction, and problems with dissertation advisors, candidates in residential programs chose to

dropout (Lovitts, 2001). While similar, but albeit more complex and still in need of investigation, online candidates drop out due to poor community and isolation, inability to be self-directed, and poor mentorship and feedback (Ponton, 2014; Rovai, 2014; Terrell, Snyder, & Dringus, 2012).

To reduce perennially high attrition rates, specifically in online programs, the factors associated with online doctoral attrition and its antithesis, persistence, particularly in the research and scholarship stage of the program, need to be better understood. Understanding factors associated with online doctoral attrition and persistence during specific stages in the program can inform educators' strategies and program policies to decrease withdrawal and encourage degree completion (Smallwood, 2004).

Unfortunately, while there is a plethora of attrition and persistence research, there is a dearth of theoretically grounded research on online doctoral persistence. For example, Tinto's (1975, 1993) student integration model and Bean and Metzner's (1985) student attrition model are foundational to understanding persistence in higher education; however, these models were created prior to the evolution of online education. They focus primarily on undergraduate and community college students. While research is emerging on retention in online environments, this research is largely conducted with undergraduate students enrolled in bachelors or associate degree programs (Boston et al., 2014).

Research examining attrition and persistence in doctoral students has generally focused on PhD candidates in residential programs (Golde, 2005; Lovitts, 2001). These candidates are typically young, enroll directly after completion of an undergraduate or graduate degree,

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and usually hold on-campus assistantship (Holder, 2007). These characteristics do not describe typical online doctoral candidates who maintain residence at a distance from campus (e.g., 100 miles to thousands of miles), choosing not to uproot their families for their educational goals. These candidates, especially those enrolled in EdD programs, remain in their careers as educators and administrators of academic institutions; thus, struggle to balance their home, school, and work lives (Rockinson-Szapkiw, Spaulding, & Lunde, 2016). Given the uniqueness of this population, it is reasonable to hypothesize that their reasons to depart or persist may differ from their residential counterparts. In fact, Tinto (2006-2007) acknowledged, "the process of student retention differs in different institutional settings, residential and non- residential" (p. 4).

Thus, there is a need to examine factors associated with online doctoral persistence, defined as continual enrollment in a doctoral program with the goal of degree completion (Bair, 1999). The purpose of this study was to build a quantitative model to investigate how institutional factors (i.e., financial support, program factors, and support services) and integration factors (i.e., implicit in persistence theories and doctoral research; academic, social, economic and familial; Tinto, 1993; Wao & Onwuegbuzie, 2011; Author, 2014) may predict online EdD student persistence during candidacy.

2. Theoretical framework

While classic persistence models are limited in their explanatory power for online doctoral persistence, they provide a preliminary framework for this study. Tinto's (1975) seminal work originally focused on residential, undergraduate students has evolved over the decades becoming the foundation for thousands of retention studies (Tinto, 2006-2007). Notable in his original theory and its evolutions are the concepts of social and academic integration. Tinto (1975) posited that in order to persist, students need to integrate into both academic (e.g., evidenced by GPA) and social systems (e.g., extracurricular activities) within the university. Tinto (1975) acknowledged personal (e.g., gender, race) and background characteristics (e.g., socioeconomic status, education) as important to the decision to persist; however, Bean (1980) stressed that background or external characteristics determine students' satisfaction and their decision to stay or depart from a university.

In the evolution of Bean's (1980) original work, Bean and Metzner (1985) explained that external variables play a significant role in the persistence of students who do not live on campus, and, thus developed the Student Attrition Model for the nontraditional, commuter student. Bean and Metzner purported that persistence is dependent upon the interaction of academic and external variables. Students are not likely to persist when academic and environmental variables are unfavorable. Thus, to foster persistence, at least for residential undergraduate and commuter students, these theorists hold that it is essential for universities to encourage integration and provide institutional support that minimizes students' external stressors (e.g., finances). In other words, integration and institutional variables influence persistence.

3. Literature review

To understand the salient and unique integration and institutional characteristics that promote online doctoral persistence, it is important to examine the online education and doctoral education literature.

3.1. Integration factors

Literature on doctoral and online students suggests a myriad of factors are associated with persistence. Among the factors that promote persistence are variables analogous to Tinto's (1975) constructs of integration - community, relationship, and interaction (Brockman, Colbert, & Hass, 2011; Mansson & Myers, 2012; Rovai, 2002; Terrell et al.,

2009, 2012). According to the National Association of Graduate Professional Students'' (2000) National Doctoral Program Survey, belonging, which is a construct that has been associated with and used to measure social integration (Barnett, 2014; Deil-Amen, 2011), is an additional factor that distinguishes completers from non-completers. So, while academic and social integration into the university, as originally defined by Tinto (1975), may not be relevant to online, doctoral candidates, the concepts of both academic and social integration are necessary. For example, social integration via participation in extracurricular activities may not be important for online doctoral candidates who remain in their professions and struggle to balance familial and professional lives on top of academic responsibilities (Author, 2016; Wao & Onwuegbuzie, 2011). However, participation in a community of practice focused on their dissertation topic and composed of doctoral peers can be central to persistence (Terrell et al., 2012).

3.1.1. Social integration

Community, connectedness, and social presence are all terms often used synonymously with social integration in the literature and are associated with doctoral candidates' reported intent to persist (Cockrell & Shelley, 2010; Terrell et al., 2009). In distance education literature, there is a growing body of research demonstrating the importance of social integration (i.e., community with faculty and peers) in online student retention (e.g., Boston et al., 2014; Garrison, Anderson, & Archer, 2000; Moore, 1993; Müller, 2008; Picciano, 2002; Rovai, 2002). Community has been defined by a number of researchers, and many have developed self-report instruments to measure social presence and community. Rovai, Wighting, and Lucking (2004) explained that social community "represents the feelings of the community of students regarding their spirit, cohesion, trust, safety, trade, interdependence, and sense of belonging" (p. 269) and sought to measure college and university students' sense of community through the creation of the Classroom and School Community Inventory. This concept of community has been applied to the study of online doctoral programs. In 2009, Terrell, Snyder, and Dringus operationally defined doctoral community or social integration as student-to-student connectedness and student-to faculty connectedness via the creation of a self-report instrument [i.e., Doctoral Student Connectedness Scale (DSCS)].

Student-to-student connectedness consists of having open communication, feeling cared for, and developing trust (Terrell et al., 2009). Throughout the doctoral and distance education literature, isolation from peers has been cited as a reason for drop out during the dissertation process (Ali & Kohun, 2006). Alternatively, community with peers is associated with persistence for adult learners (Rovai, 2002) and high satisfaction and increased confidence in graduate and post-doctoral students (McDaniels, Pfund, & Barnicle, 2016). Online students who are adept at developing peer relationships are more likely to persist (Kemp, 2002) as stronger social connections provide needed support and encouragement through the academic process (Müller, 2008; McDaniels et al., 2016). Moreover, participation in virtual communities is associated with feelings of trust and discriminates between persistence verses non-persistence in doctoral programs (Ivankova & Stick, 2005; Author, 2014). Golde (2005) also noted that university interaction at the microenvironment level (i.e., interaction with peers) is needed for doctoral persistence. Doctoral students need to experience a sense of connectedness with their peers, as well as faculty members, if they are going to choose to complete their degrees (Erwee, Albion, & van der Laan, 2013).

Student-to-faculty connectedness as defined by Terrell et al. (2009) is similar to student-to-student connectedness and entails open communication with a dissertation advisor, receiving valuable feedback, and feeling confident in the doctoral faculty support. Examining the perspective of doctoral students, Gardner (2009) and others (Goode, 2007; Manathunga & Goozée, 2007) found that candidates believe faculty members are vital to their completion of their dissertation and ability to graduate. Facilitation and advisement about the research process