

AN ABSTRACT OF THE DISSERTATION OF

Edward Ewe for the degree of Doctor of Philosophy in Counseling presented on May 17, 2018.

Title: Systemic Predictors of Professional Identity of Master's and Doctoral Counseling Students

Abstract approved: _____

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Understanding the development of professional identity of graduate counseling students is crucial as it contributes to and fosters the overall identity of the counseling profession. Several studies (e.g., Dollarhide, Gibson, & Moss, 2013; Gibson, Dollarhide, & Moss, 2010; Nugget & Jones, 2009) have examined the professional identity development (PID) of graduate level counseling students. Examining the factors that foster students' PID is pivotal to help counselor educators better train and prepare their students for the counseling profession (Howard, Inman, & Altman, 2006), both as counselors and counselor educators. However, there is a lack of research that examines the relationship between ecological variables and the professional identity of master's and doctoral level counseling students. In this dissertation, based on Bronfenbrenner's (1994) ecological theory, I conducted two studies that examined various ecological variables as predictors of professional identity of CACREP-accredited (a) master's-level counseling students (Study 1) and (b) counselor education doctoral students (Study 2). There were 229 master's-level students in the first study and 140 doctoral students in the second study.

The first study examined if the advisor-advisee relationship, training environments, and instructional environment (online vs. traditional, in-person delivery format) could predict the professional identity of master's-level counseling students. The research question guiding the

first study was: “To what extent do advisor-advisee relationship, training environment, and instructional environment predict the professional identity of master’s-level counseling students after controlling for the number of courses they have taken?” To address this question, I used a hierarchical linear regression to analyze the data. The bivariate analysis showed that advisor-advisee relationship and training environment were the only significant predictors of CACREP-accredited master’s-level PID. The results in the regression model indicated that advisor-advisee relationship and the number of counseling courses completed by students were significantly positively correlated with the professional identity of master’s-level students. However, instructional environment was not significantly correlated with professional identity while training environment was approaching significance ($p = .07$). The combined predictor variables in the first study explained 9% of the variance in the PID of master’s-level counseling students. Interestingly, the number of courses students had completed acted as a suppressor variable and enhanced the prediction.

The second study explored the associations between advisor-advisee relationships, peer collaboration, training environments, instructional environment, and the various aspects of professional identity of counselor education doctoral students. The question for the second study was: “To what extent does advisor-advisee relationship, peer collaboration, training environment, instructional environment (online vs. traditional, in-person delivery format) predict the professional identity of counselor education doctoral students after controlling for the number of years they have worked in the counseling field?” The results in the bivariate analysis indicated that advisor-advisee relationship, counseling training environment, peer collaboration (in professional activities) were positively and significantly correlated with the various subscales of the Professional Identity Scale in Counseling (PISC). Additionally, the hierarchical linear

regression model showed that advisor-advisee relationship, peer collaboration, and training environment significantly predicted various aspects of doctoral students' professional identity. Similar to the first study, instructional environment was not significantly correlated with professional identity of doctoral students. In the second study, all of our predictor variables, except instructional environment, were significant predictors in some aspects of the development of students' professional identity.

The findings in both studies revealed similarities and differences in the PID of master's-level students and doctoral level students. These results suggest the importance of considering various ecological factors in understanding the development of students' professional identity, including students' training level. It is also pivotal for counselor educators and counseling students to understand the importance of advisor-advisee relationship in the development of students' professional identity. Furthermore, program administrators, faculty, and students should consider evaluating the degree to which their training environment promotes PID among students, especially doctoral students. Overall, findings from both studies contribute to the growing body of knowledge of PID in the counseling field.

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Systemic Predictors of Professional Identity of Master's and Doctoral Counseling Students

by

Edward Ewe

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Edward Ewe, Author

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Chapter 1: General Introduction

Dissertation Overview

The discussion about professional identity development (PID) of counselors has long been crucial and evolving. A number of studies have been conducted regarding PID among new counselors, counselor educators, counseling practitioners, school counselors, and counseling students in both master's and doctoral programs (e.g., Brott, 2006; Calley & Hawley, 2008; Prosek & Hurt, 2014). Yet, little research has examined the associations between ecosystems and the professional identity of master's and doctoral counseling students. In this dissertation project, I studied various ecological variables as predictors of professional identity of these students.

Counseling is a relatively young field when compared to other helping professions such as clinical psychology, psychiatry, and social work. Nevertheless, it has made major advancements over the years, especially in the arena of training, credentialing, and research (Gladding, 2013). In the field of counseling, many subspecialties have emerged such as school counseling, career counseling, and mental health counseling. These subspecialties have, at times, become a challenge to the formation of a unified professional identity (Gladding, 2013). This challenge is reflected by some of the recent conference themes of the American Counseling Association (ACA) (e.g., 2017 "More than a conference, this is a show of solidarity") and the Association for Counselor Education and Supervision (ACES) (e.g., 2017 "Forging the Future of Professional Counseling . . .") that focus on fostering unity and togetherness in the field. Thus, as the field of counseling continues to evolve, there is a need to understand the development of professional identity among counseling students. Understanding such development is vital in student advisement, skills advancement, program evaluation, and assisting counseling students in fostering their PID.

Professional identity is the result of a continuing process that creates a growing understanding of oneself in a particular field. During this process, the individual is able to articulate one's own role in the discipline (Brott & Myers, 1999; Healey & Hayes, 2012). Counselor PID is then defined as how counselor preparation and personal characteristics of the counselor trainee are infused in the professional training over the lifelong career of the individual (Gazzola & Smith, 2007; Nugent & Jones, 2009). This development involves assimilating oneself with the ethics, values, and practices of professional counseling. Researchers have emphasized that professional identity consists of the integration of both the personal (values, perceptions, and beliefs) and professional (roles, affiliation, training, and skills) self with the counseling profession (Dent & Whitehead, 2001; Dollarhide, Gibson, & Moss, 2013). Unsurprisingly, this process is personalized, co-constructive, enduring, and life-changing (Auxier, Hughes, & Kline, 2003; Gibson, Dollarhide, & Moss, 2010). Students begin this development as they enter their academic training primarily at the master's-level.

Master's and doctoral students undergo different aspects of PID during their graduate studies. Most master's-level students are learning and discovering the skills, knowledge, and roles of professional counseling. Doctoral students, on the other hand, learn other critical roles in counseling such as leadership, research, supervision, and teaching in relation to counseling and practice at a more advanced level (Dollarhide et al., 2013). In addition to developing these roles, master's and doctoral students integrate personal values and beliefs with the ethics and values of professional counseling that are prevalent at the time and in the setting of their training into a professional identity. Gibson et al. (2010) and Nugget and Jones (2009) stated that the training environment shapes the PID of graduate students. Therefore, I believe that it is important to

study and understand the ecological influence of the development of professional identity among master's and doctoral counseling students.

Theoretical Framework

In this study, I explored the associations between a selected set of variables and the professional identity of counseling students based on Bronfenbrenner's (1994) ecological theory. Bronfenbrenner's theory proposed five ecological systems within which individuals interact with their ecosystem and develop. These systems are *microsystem*, *mesosystem*, *exosystem*, *macrosystem*, and *chronosystem*. At the center of this theory are the biological and psychological traits of developing individuals.

The microsystem consists of the contextual variables that directly influence individuals such as the relationship individuals have with their academic advisor. Bronfenbrenner (1994) described the mesosystem as "the linkages and processes taking place between two or more settings containing the developing person" (p. 40). An example of a mesosystem for counseling students are the interactions that the students have with faculty members within the training program. The exosystem is defined as "the processes and linkages taking place between two or more settings, at least one of which does not contain the developing person, but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives" (p. 40). For counseling students, an exosystemic variable is the interaction their faculty advisors have with another professional counselor with whom students do not have direct interaction or contact.

The macrosystem consists of greater systemic influences or practices such as values of professional counseling, social forces that influence the practice of counseling and the cultural atmosphere of the university in which the counseling program is housed. Finally, Bronfenbrenner

(1994) defined the chronosystem as “change of consistency over time not only in the characteristics of the person but also of the environment in which that person lives” (p. 40). An example of a chronosystem is changes that have taken place in the student or the program over the duration of the master’s program. As I looked at different ecological systems, I explored the associations between professional identity and a selected set of systemic variables among master’s (Study 1—Chapter 2) and doctoral level students (Study 2 — Chapter 3).

Predictor Variables of the Study

Training environment. In counseling programs that are accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), the training environment is defined as both the academic learning environment and the professional practice of counselor trainees (CACREP, 2015). For master’s-level programs, the training environment differs substantively from those of doctoral level programs. For example, professional practice for master’s-level students primarily entails honing of counseling skills at their internship sites under the supervision of a qualified supervisor who has relevant counseling and related credentials and experiences. Whereas, professional practice training for doctoral students involves field experiences that include teaching, counseling, supervision, research, leadership, and advocacy. Despite the differences in focus, the internships of master’s and doctoral students often include interactions with counselors, supervisors, counselor educators, researchers, clients, and other graduate students. Interactions and contact in academic and field placement settings shape the professional identity of both master’s and doctoral level students. As such, the counseling training environment is multisystemic (Lau & Ng, 2014).

Advisor-advisee relationship. Within the training environment, counseling trainees in a CACREP-accredited program are assigned an academic advisor (CACREP, 2015). The advisor-advisee relationship may be a positive or negative relationship where the faculty member provides guidance on various aspects of the student's development which may or may not include professional development (Schlosser & Gelso, 2001). In contrast to mentoring, little empirical research has focused on the advisor-advisee relationship in counselor education. This current study looked at how the advisor-advisee relationship plays a role in the PID of graduate counseling students.

Interactions taking place during student advisement often include academic planning, career decisions, research interests, skills development, and professional socialization (Knox et al., 2013; Schlosser et al., 2003). The depth of these interactions is influenced by the knowledge and experience of the academic advisors. Schlosser and Gelso (2001) defined an academic advisor as "the faculty member who has the greatest responsibility for helping the advisee through the graduate program" (p. 158). In addition, Huber et al. (2010) suggested that satisfied advisees were very engaged with their advisors. Therefore, advising relationship is expected to significantly influence the development of the student's professional identity.

Advising relationships differ from mentoring relationships. Mentoring is often described as an inherently positive relationship between a protégé and an individual who is actively contributing to his or her professional development (Cronan-Hillix, Gensheimer, Cronan-Hillix, & Davidson, 1986; Knox et al., 2006). Further, advising is mandatory in academic settings in general and in counselor education in particular while mentoring, by its strictest definition may or may not occur. In this dissertation project, I focused on advisor-advisee relationship as a microsystemic predictor for professional counseling graduate students.

Instructional environment. As I studied the predictive value of training environments and advisor-advisee relationships, I also examined the relationship between PID and instructional environment. Online learning has emerged and altered the androgyny of higher education (Sells, Tan, Brogan, Dahlen, & Stupart, 2011). The trend of online learning will continue to expand and develop (Granello, 2000). Means, Toyama, Murphy, Bakia, and Jones (2010) reported that online students performed better than students in face-to-face instruction. Unfortunately, no research, to the best of my knowledge, has examined the association between instructional delivery environment (online vs. traditional, in-person learning) and the PID of students. Because of the substantive differences between online learning environment and traditional, in-person learning environment, I believe it is reasonable to conceptualize instructional learning as a macrosystemic variable in the development of counseling graduate students.

Peer collaboration in professional activities. Peer relationships are known to exert influence over people throughout their lifespan (Chui, Ziemer, Palma, & Hill, 2014). Early on, children and teenagers learn and are influenced by one another, and adults receive support and help among their friends. In one study, Nelson, Dell'oliver, Koch, and Buckler (2001) revealed that social support and interpersonal contact among psychology doctoral students decreased psychological distress. In another study, students have described the benefits of working with peers in writing teams (Ferguson, 2009).

Based on personal experience and observation, I believe that peer collaboration among doctoral students is rather crucial to their PID. However, there is little research on peer collaboration among doctoral students in counselor education, let alone its association with the professional identity of these students. Within Bronfenbrenner's (1994) theoretical framework, I surmise that peer collaboration in professional development constitutes a mesosystemic variable

to the PID of graduate counseling students. For the purposes of this dissertation project, I only examined this variable in the study that specifically focuses on doctoral counseling students' professional identity (see Chapter 3).

Control variables. From a developmental perspective, I expected that master's-level students who have taken more courses have the greater opportunity to develop a stronger professional identity. Hence, in Chapter 2, which focuses on master's students, I controlled for the duration students have been in their training program in terms of how many courses they have completed. I operationalized duration, a chronosystemic variable, in terms of the number of courses taken instead of how long they have been in a program because students may be part-time or full-time. As such, those who have been in a program longer may be related to students being part-time and not related to having exposure and experience with their training. In Chapter 3, which focuses on doctoral students, I expected doctoral students who have more years of being licensed, or practicing in the field post master's training, have greater opportunity to develop a stronger professional identity. Therefore, the control variable in Chapter 3 was the number of years the doctoral students have been licensed or practicing in the field post master's training.

Thematic Relevance

In this dual-manuscript dissertation, I explored the ecological influences on the PID of graduate counseling students. The first manuscript focused on master's-level students and the second on doctoral students. In both studies, participants were recruited with the help of counselor educators through emails. Both manuscripts utilized cross-sectional, correlational methodologies to examine the extent to which a selected set of exosystemic variables predict the

self-reported professional identity of counseling graduate students, the dependent variable of the studies. The following sections provided summaries of the two studies.

Manuscript 1- Chapter 2

The purpose of Manuscript 1 is to understand if the advisor-advisee relationship, training environments, and instructional environment (online vs. traditional, in-person delivery format), can predict the professional identity of master's-level counseling students. It is titled "Relationships between a Selected Set of Multisystemic Variables and Professional Identity of Master's-Level Counseling Students." The participants of this study were 229 master's-level students in CACREP-accredited counseling programs regardless of their specialty area as PID is a common core expectation in CACREP (2015) accreditation standards. The predictor variables were advisor-advisee relationship, training environment, and instructional environment.

Professional identity, the dependent variable, was measured by the Professional Identity Scale in Counseling (PISC; Woo & Henfield, 2015). The research question for this current study was:

"To what extent do advisor-advisee relationship, training environment, and instructional environment predict the professional identity of master's-level counseling students after controlling for the number of courses they have taken?" The hypotheses were as follows:

1. H₁: Master's-level counseling students with higher levels of satisfaction in their advisor-advisee relationship would report higher levels of professional identity.
2. H₂: Master's-level counseling students with a stronger training environment of counseling would report higher levels of professional identity.
3. H₃: Because of the exploratory nature of this aspect of the study, I examined if online master's-level counseling students and traditional master's-level counseling students

would differ in their PID. Hence, I would not make any directional hypothesis as the literature has not documented any.

4. H₄: A combination of an advisor-advisee relationship, training environment, and instructional environment would significantly predict a change in PID of master's-level counseling students.

Manuscript 2- Chapter 3

The purpose of Manuscript 2 was to examine the associations between advisor-advisee relationships, peer collaboration, training environments, instructional environment, and the professional identity of counselor education doctoral students. It is titled "Relationships between a Selected Set of Multisystemic Variables and Counselor Education Doctoral Students' Professional Identity." The participants of this study were 140 doctoral-level students in CACREP-accredited counseling programs. The predictor variables were the advisor-advisee relationships, training environment, peer collaboration, and instructional environment (online vs. traditional, in-person format). Professional identity, the dependent variable, was measured by the total score of PISC (Woo & Henfield, 2015). In this study, we also examined the six subscales of PISC as predictors. They were (a) engagement behaviors, (b) knowledge of the profession, (c) attitude, (d) professional roles and expertise, (e) philosophy of the profession, and (f) professional orientation and values. The research question guiding the study was: "To what extent do advisor-advisee relationship, peer collaboration, training environment, and instructional environment (online vs. traditional, in-person delivery format) predict the professional identity of counselor education doctoral students after controlling for the number of years they have been licensed?" The hypotheses were as follows:

1. H₁: Higher levels of advisor-advisee relationships statistically significantly correlate with higher levels of professional identity among counselor education doctoral students.
2. H₂: Higher levels of professional collaboration among peers statistically significantly correlate with higher levels of professional identity among counselor education doctoral students.
3. H₃: Higher levels of training environment in counselor education statistically significantly correlate with higher levels of professional identity among counselor education doctoral students.
4. H₄ Because of the investigative nature of this aspect of the study, I examined if online and traditional counselor education doctoral students would differ in their PID. Hence, I would not make any directional hypothesis as the literature has not documented any.
5. H₅: A combination of an advisor-advisee relationship, training environment, peer collaboration, and instructional environment would significantly predict a change in PID of counselor education doctoral students.

Thematic Connection between the Two Manuscripts

The first and second manuscripts linked thematically through the topic of professional identity, the methodology, and the study of the several predictor variables such as advisor-advisee relationship, training environment, and instructional environment. The manuscripts differ in terms of the sample population (e.g., master's-level students and doctoral students), the use of PISC subscales in the second manuscript compared to only using the overall PISC scale in the first manuscript, and the inclusion of the collaboration of peers among doctoral students as

predictor variable in the second study. Additionally, the control variables differed in these studies. The number of courses taken by master's students in the first study was the control variable; whereas, the number of years' doctoral students have been licensed or practiced in the field after earning their master's degree was the control variable in the second study.

The findings in this dissertation project have the potential to inform academic advising, program evaluation, and help graduate students in their PID. Both of these studies have the potential to add to the counseling training literature on students' PID that is currently lacking in quantitative studies that specifically examine the associations of systemic variables with the student's PID.

Chapter 4

In Chapter 4, I discussed the findings in the two studies. The chapter focused on interpreting the results and discussing practical implications for the future. I also addressed limitations to the studies.

Summary

Counselor's PID is a lifelong process of assimilating oneself with the ethics, values, and practices of professional counseling. The development of professional identity requires the assimilation of unique roles and functions of being a counselor (Zhang & Parsons, 2016). However, to the best of my knowledge, no research has examined the ecological influences of the development of professional identity among master's and doctoral counseling students. Since counselors begin their PID primarily as they enter the academic training, this dissertation topic was chosen in order to highlight trends, issues, and gaps in the PID of graduate students through an ecological systems perspective. Further, I chose this topic to fill several gaps in literature and contribute to the understanding of multisystemic factors in the development of professional

identity of master's and doctoral students. It is my hope that both studies will provide empirical findings that can lead to greater insights related to PID of counseling students, thereby informing the development, research, practice, and training of graduate counseling students.

Journal Submissions

Both manuscripts will be submitted to journals associated with American Counseling Association (ACA). Manuscript 1 will be submitted to the *Journal for Counseling and Development (JCD)*. Manuscript 2 will be submitted to *Counselor Education and Supervision (CES)*.

Glossary of Terms

Ecological Systems Theory- An attractive model that explains expansively systemic layers in understanding individuals' development (Bronfenbrenner, 1979, 1994).

Chronosystem- “The patterning of environmental events and transitions over the life course and effects created by time or critical periods” (Heppner, Leong, & Gerstein, 2008, p. 248).

Exosystem- “The processes and linkages taking place between two or more settings, at least one of which does not contain the developing person, but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives” (Bronfenbrenner, 1994, p. 40).

Hybrid learning- Courses or programs where some or all of the content (30% or more) is delivered online. There is some face-to-face interaction with peers or instructors (Allen & Seaman, 2014).

Macrosystem- “The overarching pattern of micro-, meso-, and exosystem characteristic of a given culture or subculture, with particular reference to the belief systems, bodies of knowledge, material resources, customs, life-styles, opportunity structures, hazards, and life course options that are embedded in each of these broader systems” (Bronfenbrenner, 1994, p. 40).

Mesosystem- “the linkages and processes taking place between two or more settings containing the developing person” (Bronfenbrenner, 1994, p. 40).

Microsystem- “A pattern of activities, social roles, and interpersonal relations experienced by the developing person in a given face-to-face setting with particular physical,

social, and symbolic features that invite, permit, or inhibit engagement in sustained progressively more complex interaction with, an activity in, the immediate environment” (Bronfenbrenner, 1994, p. 39).

Online learning- Courses or programs where some or all of the content (50% or more) is delivered online. There is some face-to-face interaction with peers or instructors (Allen & Seaman, 2014).

Professional Identity Development- The preparation and integration of both personal characteristics and professional training over the lifelong career of counselors and counselor educators (Dollarhide, Gibson, & Moss, 2013; Gazzola & Smith, 2007; Nugent & Jones, 2009).

Traditional learning- “Regularly scheduled classes with instruction delivered face-to-face is the primary mode of instruction delivery. Content is delivered primarily in writing or orally. Web-based technology is used minimally for course management or posting syllabus or assignments” (Allen & Seaman, 2014, p. 6).

Chapter 2

Relationships between a Selected Set of Multisystemic Variables and Professional Identity of
Master's-Level Counseling Students

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Abstract

Despite the recent increased attention on professional identity in the counseling profession, the literature on professional identity development (PID) of master's-level students is limited. As such, we designed a cross-sectional, correlational study to examine whether training environment, advisor-advisee relationship, and instructional environment after controlling for the number of courses completed by students would predict their PID. We recruited 229 students from CACREP-accredited programs to complete a web-based survey. Results showed that training environment and advisor-advisee relationship were significantly associated with professional identity; however, hierarchical linear regression results showed that among the set of predictors, only advisor-advisee relationship significantly predicted students' professional identity and the number of courses students had completed enhanced the prediction by acting as a suppressor variable. Findings suggest that counselor educators and students need to pay attention to ecological factors that may impact students' PID.

Keywords: advisor-advisee relationship, Bronfenbrenner's ecological theory instructional environment, master's-level students, professional identity development, training environment

As beginners in the profession, master's-level counseling students have a limited understanding of professional counseling, including the *professional identity* of counselors (Stoltenberg & McNeill, 1997). Furthermore, counseling students often have an idealistic view of counseling during training (Moss, Gibson, & Dollarhide, 2014) but are less informed about other elements of counseling (Gladding, 2013), such as social justice advocacy, human development, cultural competency, and values and ethics of professional counseling. This perception may often result in many students developing an inadequate and uncertain professional identity (Gibson, Dollarhide, & Moss, 2010). Authors (e.g., Lau & Ng, 2012) have noted that professional development of counselor trainees should be understood ecosystemically. Therefore, understanding the factors that foster students' PID is important to informing training and preparation of counseling work and professional functioning (Howard, Inman, & Altman, 2006). However, to date, to the best of our knowledge, there is little empirical research that specifically focuses on examining the associations between systemic factors and the PID of master's-level counseling students.

Professional identity is the result of an enduring developmental process that facilitates an emergent understanding of oneself in a specialized field. Puglia (2008) described counselor professional identity as “compromised by three components, agreement with counseling philosophy, beliefs that the counseling profession includes activities such as becoming trained and certified, and professional engagement” (p. 13). In this study, PID of master's-level students is defined as the preparation of both personal characteristics and professional training over their lifelong career (Gazzola & Smith, 2007; Nugent & Jones, 2009).

Several reasons led to our decision to study the PID of master's-level students. First, research studies on the PID of students can inform counselor educators' efforts in designing

training that purposively targets PID. Second, professional identity is important to counselor preparation and counseling practice. Counseling training standards established by the Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2015) dictate that training programs should help students develop a defined counselor professional identity. In part, this is because students are preparing themselves to enter a profession that has a unique professional identity and scope of practice (Gladding, 2013). A strong professional identity would reduce role confusion (Dobrow & Higgins, 2005) as it helps to distinguish the profession from other similar vocations (Healey & Hays, 2012). Additionally, a strong identity may also prevent unethical practices and avoid harming clients when students begin practicing (Gibson et al., 2010).

Finally, studying PID will contribute knowledge to support the growth of the counseling profession. With a unified professional identity, the American Counseling Association (ACA) can create market demands for the profession such as increased license portability from state to state and strengthening the offering of counseling services over the Internet (Gale & Austin, 2003). Prior to detailing the study and its methodology, we will discuss the literature on the study variables and Bronfenbrenner's (1994) ecological theory, which guides the current study.

Bronfenbrenner's Ecological Theory

Bronfenbrenner's (1994) ecological theory is a popular model that recognizes the impact of ecosystem factors in human growth and development. Bronfenbrenner emphasized that individuals' development could not be understood without taking into consideration their ecology. Scholars in the helping and educational fields have used this model to understand the associations of systemic factors and the development of trainees. For example, Lau and Ng (2014) applied it to conceptualize the training environment of counselor trainees; Lopes and

Pereira (2012) employed it to the personal development of teachers; and Forrest, Elman, and Miller (2008) used it in the context of professional competence problems in psychology. We believe this theory is helpful to our attempt to comprehend the influence systemic variables may have on the PID of master's-level counseling students.

Bronfenbrenner's (1994) theory posits the existence of five nested systems in which an individual interacts with the environment and develops. These systems are *microsystem*, *mesosystem*, *exosystem*, *macrosystem*, and *chronosystem*. At the center of this theory are the biological and psychological traits of the developing individual. The microsystem refers to the contextual variables that directly influence the individual, for example, a student's relationship with his or her field supervisors. Bronfenbrenner defined the mesosystem as "the linkages and processes taking place between two or more settings containing the developing person" (p. 40), for example, the relationship between the graduate counseling program and the internship site with which a student is directly affiliated. The exosystem is defined as "the processes and linkages taking place between two or more settings, at least one of which does not contain the developing person, but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives" (p. 40). An example of an exosystemic variable is the relationship between the advisor of a student and the advisors' professional contacts with whom the student does not have direct interaction. The macrosystem consists of greater social and cultural influences such as any changes to the CACREP accreditation requirements that impact the counseling profession and the political environment in which the training program resides. Finally, the chronosystem as applied to the context of counseling training refers to "the sociohistorical conditions of counselors' training and reflects temporal changes and patterns of the counseling and related professions and the environment through

time” (Lau & Ng, 2014, p. 432). The time element is present across all systems such as the developmental stages of students and the duration students spend in developing a mentoring relationship with an advisor.

Literature Base

Based on Bronfenbrenner’s (1994) ecological theory, we focused on three predictor variables, namely, professional identity development, training environment, and advisor-advisee relationship and the control variable, the number of courses completed by master’s-level students. We discussed the relevant literature related to each of the variables below.

Professional identity development. Counseling scholars emphasize that professional identity comprises the integration of both the personal (values, perceptions, and beliefs) and professional (roles, affiliation, training, and skills) selves within the counseling profession (Dent & Whitehead, 2001; Dollarhide, Gibson, & Moss, 2013). Naturally, this process is individualized, co-constructive, lifelong, and transformative (Auxier, Hughes, & Kline, 2003) and begins when individuals enter master’s-level graduate training and continues until they retire from the profession (Gibson et al., 2010).

Most recently, the call for and awareness of the necessity to unify the professional identity of counselors has increased across the various counseling specialties, state licensing boards, and credentialing bodies such as the National Board for Certified Counselors (Calley & Hawley, 2008; Woo, Henfield, & Choi, 2014). Kaplan and Gladding (2011) called attention to two core principles that affect the professional identity of counselors: “strengthening identity” and “presenting ourselves as one profession” (p. 371). Therefore, understanding and advocating for the development of a unified identity as professional counselors is vital for all the stakeholders in the profession.

Further, Woo et al. (2014) described that a unified profession is fundamental to recognition by third-party payers of counseling services. Yet, it may be a challenging task to unify the profession because professional identity is an ongoing process that is shaped by various contextual influences (Zhang & Parsons, 2016), and professional identity “is neither stable nor a final achievement” (Dent & Whitehead, 2001, Discourse, power, knowledge, and identity section, para. 7). Therefore, the construction of professional identity is a continuous dynamic process that takes place in a multisystemic context.

Research has supported the notion that the PID of an individual occurs through interactions with the professional community, the ecosystem of the developing individual. For example, in a study about the professional identities of medical students, Monrouxe (2009) described how identities are negotiated through collaborations with others. Further, participants in Nelson and Jackson’s (2003) quantitative study identified the importance of relationships in their professional development. However, Pistole and Roberts (2002) elucidated that, unfortunately, most students only receive their training from a small group of mental health professionals with limited specialties and backgrounds, which may inadequately represent the full scope of counseling. We believe that further exploration of systemic factors that are associated with the PID of counseling students will help us understand the topic as the profession seeks to foster a stronger and clearer identity (Woo & Henfield, 2015).

Previous researchers have defined and explored the experiences of students’ PID. For example, Mellin, Hunt, and Nichols (2011) reported that professional counselors define counseling as a helping orientation that promotes development and wellness. Gibson et al. (2010), in a grounded theory study, noted that new counselors transform their professional identity “through self-evaluating, self-motivating, and self-locating within a professional

community” (p. 21). However, neither study explored the topic from an ecological perspective. In fact, Nelson and Jackson (2003) recommended that counselor educators should seek to understand the systemic relationships in students’ PID. In response to the lack of empirical studies examining ecological predictors of PID in counseling, we, based on Bronfenbrenner’s (1994), ecological theory, sought to explore the associations between three variables that represent the various nested subsystems of master’s-level counseling students and their PID. Our predictor variables were training environment, advisor-advisee relationship, and instructional environment (online vs. traditional, in-person).

Training environment. As counselor educators continue to understand the scope and the development of professional identity, scholars are also starting to look at how training environments affect the preparation of counselors (Lau & Ng, 2014). As part of their developmental process, counselor trainees need to receive feedback in their training environment (Auxier et al., 2003; Moss et al., 2014). Using Bronfenbrenner’s (1994) ecological theory, Lau and Ng (2014) discuss “how counselor educators and counseling trainees can better understand the systemic nature of the training environment that they create and where they train” (p. 423). Based on Bronfenbrenner’s multisystemic framework, Lau, Ng, and Vallett (in press) recently developed a 23-item scale to facilitate research on counseling training environment. The current study appears to be the first to use this scale to investigate the relationship between training environment and PID of counseling students.

In our study, we define training environment to include the academic environment (e.g., classroom learning) and the field environment (e.g., professional practice) of counseling students (Bruss & Kopala, 1993; Lau & Ng, 2014). CACREP (2015) addresses both the academic learning environment and the professional practice of counselor trainees, thus highlighting the

importance of both in counselor preparation. During field placements, the students focus on developing their skills, knowledge, and PID in practice settings (Gibson et al., 2010) where they interact with clinical supervisors, counselors, fellow graduate student interns, clients, and the communities they serve. As such, the counseling training environment involves overlapping ecosystems and multiple individuals.

To our knowledge, no peer-reviewed quantitative studies have focused on examining the extent training environment contributes to master's-level counseling students' PID. But, findings in Gibson et al.'s (2010) qualitative study support the notion that the training environment contributes to students' PID. However, the qualitative nature of their work limits the generalizability of their findings to the larger population of counseling students. In this study, we sought to recruit a large and diverse sample of master's-level counseling students from CACREP-accredited programs to examine the extent to which the training environment contributes to students' PID.

Advisor-advisee relationship. CACREP (2015) accreditation standards require training programs to assign an academic advisor to each student upon admission. Besides looking at the association between the general training environment and students' PID, we also wanted to specifically examine the extent to which the advisor-advisee relationship—a microsystemic variable— contributes to students' PID.

Before discussing the literature on advisor-advisee relationship, we first differentiate the terms “mentoring” and “advising.” These two terms vary in their applications. Mentoring is often described as an inherently positive relationship between a protégé and an individual who is actively contributing to the protégé's professional development (Cronan-Hillix, Gensheimer, Cronan- Hillix, & Davidson, 1986; Knox, Schlosser, Pruitt, & Hill, 2006). The advisor-advisee

relationship, on the other hand, may be a positive or negative relationship in which a faculty member provides guidance on various aspects of the student's development, which may or may not include professional development (Schlosser & Gelso, 2001).

In contrast to mentoring, only a few empirical research studies have focused on examining the advisor-advisee relationship in counselor education (Schlosser, Lyons, Talleyrand, Kim, & Johnson, 2011). Knox et al. (2006) and Schlosser, Knox, Moskovitz, and Hill (2003) discussed the role advisement can have in the professional development of counselors. For the current study, we focused on examining the advisor-advisee relationship, as master's-level counseling students are required to have an academic advisor and often may not experience mentoring compared to doctoral students who are at more advanced stages of career development (Ng, Lau, & Crisp, 2017).

Authors have argued for using the ecological system to guide student advising (e.g., Ng, et al., 2017; Stebleton, 2011), as student advising is multidimensional and requires the advisor to play multiple roles such as academic advisor, primary researcher, or dissertation chair (Rice et al., 2009). Furthermore, the advisor has a responsibility to guide and facilitate the progress of the advisee (Knox et al., 2013), including non-academic responsibilities such as field placement, employment, and licensure. As several authors noted above have indicated, the role of academic advisors is important to the students' PID.

Several researchers have noted the lack of empirical studies on the association between advisor-advisee relationship and professional identity among graduate students. For example, researchers in counseling psychology (e.g., Schlosser & Gelso, 2001), a discipline closely related to professional counseling, have noted the need for research on the relationship between advisor-advisee relationship and student's professional development. In a qualitative study, Schlosser et

al. (2011) noted that positive advisor-advisee relationship of doctoral psychology students could be described as a relationship in which members have a good rapport, process conflict openly, and work together to facilitate the advisee's progress through the graduate program and development as an emerging professional. Overall, there seems to be a gap in the literature on how advising plays a role in professional development of counseling students. Also, because the expectations of master's-level students and doctoral students in counseling differ (CACREP, 2015), it would be important to find out specifically how master's-level counseling students' adviser-advisee relationship can play a role in their PID. Therefore, in this study we examined the extent to which advisor-advisee relationship contributed to master's-level counseling students' PID.

Instructional environment (Online/Hybrid vs. Traditional, In-Person). Over the last decade, the influence of *online learning* in higher education in the United States has increased (Chapman, Baker, Nassar-McMillan, & Gerler, 2011). By definition, online programs deliver 50% or more of their curriculum electronically while hybrid programs deliver between 30% to 50% of their curriculum online (Allen & Seaman, 2014). To date, there are more than 20 online counseling programs that are accredited by CACREP (2017). We believe the number of online counseling programs will increase in the near future. In our study, we consider hybrid programs as online programs, as CACREP does not make a distinction between them, though it does distinguish between online and traditional, in-person programs.

Some scholars have recently examined the influence of the online learning model in counselor education. For example, Chapman et al. (2011) found that cybersupervision was more advantageous in the communication between the supervisor and supervisee than previously found in other studies (e.g., Clingerman & Bernard, 2004; Stebnicki & Glover, 2001). In

addition, Smith et al. (2015) indicated that online students have higher levels of learning compared to students in traditional, in-person graduate programs. However, in the Chapman et al.'s (2011) study, the number of participants was very limited (i.e., $N=5$) and Smith et al.'s (2015) research design was problematic due to the lack of psychometric properties of the instruments used. As the demand for online programs surges, Haberstroh, Duffey, Evans, Gee, and Trepal (2007) suggested the need for more research on the role of online learning in counselor education.

The method of delivery of online programs varies from that in traditional, in-person programs. Muilenburg and Berge (2005) discuss different components, such as the greater use of technology in online programs, interaction through a learning management system frequently throughout the week compared to in-person class time in traditional programs, and synchronous and asynchronous communication in online programs that impact the academic experience. In addition, Chen and Jeng (2010) and Smith et al. (2015) reported that online learners had greater levels of autonomy and motivation. As such, it can be argued that online programs' learning culture differs from that of traditional, in-person programs. Hence, instructional environment—online versus traditional, in-person format—represents a macrosystemic variable in accordance to Bronfenbrenner's (1994) model. As the market for online learning in counselor education increases, there is a need to understand the association between students' PID and instructional environments.

Purpose of the Study

The purpose of this study was to examine whether training environment, advisor-advisee relationship, and instructional environments (online vs. traditional, in-person delivery format) could predict the development of professional identity of master's-level counseling students in

CACREP-accredited programs. From a developmental perspective, we expected that students who had taken more courses were therefore more exposed to and had more experience with the counseling curriculum would have the opportunity to develop a stronger professional identity. Hence, we controlled for the duration students have been in their training program with how many courses they had completed. We selected to operationalize duration—a chronosystemic variable—with the number of courses students had taken instead of how long they had been in a program because the latter would be dependent on whether students were part-time or full-time.

The research question for this current study is: “To what extent do advisor-advisee relationship, training environment, and instructional environment predict the professional identity of master’s-level counseling students after controlling for the number of courses they have taken?” Based on the existing findings and Bronfenbrenner’s (1994) ecological theory, we hypothesized the following in the present study:

1. H₁: Master’s-level counseling students with higher levels of satisfaction in their advisor-advisee relationship would report higher levels of professional identity.
2. H₂: Master’s-level counseling students with a stronger training environment would report higher levels of professional identity.
3. H₃: Though we expected the type of instructional environment would impact PID, because of the exploratory nature of this aspect of the study, we did not make any directional hypothesis on instructional environment on professional identity as the literature has not documented any.
4. H₄: A combination of advisor-advisee relationship, training environment, and instructional environment, after controlling for the number of courses completed, would significantly predict the professional identity of master’s-level counseling students.

Method

Procedures

We randomly selected half of the traditional CACREP-accredited institutions ($N = 351$) and all accredited online institutions ($N = 27$) in the CACREP Program Directory posted online in May 2017 for this study. We selected all online programs because of their comparatively small number to ensure maximum probability that students in these programs were reached.

Breakdown of the selected programs by the Association for Counselor Education and Supervision (ACES) regions are as follows: 75 Southern ACES, 52 North Central ACES, 41 North Atlantic ACES, 25 Western ACES, and 9 Rocky Mountain ACES. An email was sent to counselor educators in the selected programs ($N = 1350$) asking them to forward a research participation request to their students and advisees. Eighty-six emails returned as undeliverable or recipients were not counselor educators. Two weeks after the initial email, a follow-up email was sent. The email invitation to counselor educators included basic information about the purpose of the research. Participants were directed to the study website for information on informed consent and access to the study materials.

Participants completed a web-based survey anonymously via Qualtrics (2017). They provided demographic information and completed items on the Professional Identity Scale in Counseling (PISC; Woo & Henfield, 2015), Counselor Training Environment Scale (CTES; Lau, Ng, & Vallet, in press), and Advisory Working Alliance Inventory for Students (AWAI-S; Schlosser & Gelso, 2001). Participants were required to indicate on the website that their participation was voluntary prior to accessing the research materials. Among the participants, 242 participants entered the drawing for electronic gift cards. The research protocol was approved by the authors' Institutional Review Board.

Participants

We received 368 response sets. However, only 229 were usable because quite a number of participants had not completed the survey and a few outliers were excluded from the analyses. The final sample included 184 (80.3%) traditional, in-person students and 45 (19.7%) hybrid/online students from CACREP-accredited master's-level counseling programs. The sample size exceeded the minimum of 140 participants calculated based on a power analysis with a medium effect size expectation (Free Statistics Calculators 4.0; Soper, 2006).

Of the participants, there were 194 females (84.7%), 33 males (14.4%), and 1 gender non-conforming person (0.4%). One (0.4%) participant chose not to disclose gender identity. Participants ranged in age from 21 to 62 years ($M = 31.84$, $SD = 10.12$). In terms of racial/ethnic identity, there were 170 Caucasian/White American (74.2%), 13 Black/African American (5.7%), 12 Asian American (5.2%), 11 multiracial (4.8%), 10 Hispanic/Latino/Spanish (4.4%), 7 non-U.S. Citizen (3.1%), 1 American Indian/Alaska Native (0.4%), and 2 preferred not to disclose their ethnicity (1.1%). Three participants indicated the ethnicity categories did not fit them. Breakdown of participants' program specialty is as follows: Clinical Mental Health Counseling ($n = 132$, 57.6%), School Counseling ($n = 48$, 21.0%), Marriage, Couple and Family Counseling ($n = 35$, 15.3%), Clinical Rehabilitation Counseling ($n = 6$, 2.6%), Addiction Counseling ($n = 6$, 2.6%), Career Counseling ($n = 1$, 0.4%), and College Counseling and Student Affairs ($n = 1$, 0.4%). The number of courses participants reported having completed at the time of the survey ranged from 0 to 30 courses ($M = 10.16$, $SD = 6.93$). We did not ask them if their courses were quarter or semester credits.

Measures

Professional Identity Scale in Counseling (PISC). This current study utilized the PISC (Woo & Henfield, 2015) to assess the professional identity of the participants. This instrument has 53-items that use a subject-centered Likert-type scale with a range from 1 (*not at all in agreement*) to 6 (*totally in agreement*) for item endorsement. This scale was developed to measure professional identity among various counseling professionals in the field. In this scale, professional identity includes various subdomains of self-perceived ability to demonstrate (a) knowledge and philosophy of the profession, (b) expertise and understanding of professional attitudes, behaviors, and roles, and (c) interaction with other professionals in the field (Woo & Henfield, 2015).

The PISC-Original form's total scale produced an alpha coefficient of .92 (Woo & Henfield, 2015). It was .92 in the current sample. Evidence for convergent and discriminant validities of the PISC was indicated by the "statistically significant correlations between each subscale of the PISC and the subscale of Professional Orientation and Values of the Professional Identity and Values Scale (PIVS, Healey, 2009) that aimed to measure similar content" (Woo & Henfield, 2015, p.106).

Sample items include: "I am knowledgeable of the important events and milestones (e.g., establishing ACA, state-level licensure) in counseling history" (Item 1); "I am familiar with certification organizations (e.g., National Board for Certified Counselors [NBCC]) and their requirements for credentials" (Item 2); and "I keep in contact with counseling professionals through training and/or professional involvement in counseling associations" (Item 15).

Advisory Working Alliance Inventory for Students (AWAI-S). We measured the advisor-advisee relationship using the AWAI-S (Schlosser & Gelso, 2001). The AWAI-S is a

brief self-report questionnaire that uses a 5-point Likert-type scale (1=*strongly disagree* to 5=*strongly agree*) to evaluate students' perceptions of their working alliance with their advisor. The AWAI-S has 30 items grouped into three sub-scales: rapport, apprenticeship, and identification-individuation. Schlosser and Gelso (2001) define rapport as the degree of support, encouragement, and bonding between the student and the advisor. They define apprenticeship as the degree to which students feel mentored and educated by their advisors. Finally, they define identification-individuation as the degree of identification and similarities with the advisor that the student experiences.

Schlosser and Gelso (2001) discovered and found evidence of strong possible correlations between the working alliance and advising relationship between the student and the advisor. They reported an alpha coefficient of .92 for the original study. For this study, the α was .93. In addition, evidence of criterion validity of the AWAI-S was supported by its correlation ($r = .80$) with the Counselor Rating Form—Short Version (Corrigan & Schmidt, 1983). Sample items are: “I get the feeling that my advisor does not like me very much” (Item 1); “I do not want to feel similar to my advisor in the process of conducting work” (Item 9); and “My advisor takes my ideas seriously” (Item 20).

Counselor Training Environment Scale (CTES). The CTES (Lau, Ng, & Vallet, in press) is a self-report instrument that evaluates the training environment of counseling and related programs. The instrument assesses the students' perceptions of and learning experiences in the training environment they are presently attending. The CTES is a 23-item instrument using a subject-centered Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) (Lau et al., in press). This instrument was developed based on using Bronfenbrenner's (1994) ecological theory. Lau et al. (in press) reported having established evidence for content validity

through “a multi-step process that included a target group review, an item-development team review, and an outside expert review” (p. 15). Lau et al. reported an internal consistency score of .92. The α for the present study was .80.

Sample items are as follows. Item 2 evaluates the microsystem: “I get regular feedback from my professors.” Item 9, “Program faculty are active in addressing issues that arise at my clinical field experience site,” evaluates the mesosystem. Item 13 evaluates the exosystem: “Faculty incorporate their clinical experiences into the classroom training.” Item 8, “University/college procedures and department procedures for addressing student grievances are consistent,” evaluates the macrosystem. Lastly, item 23, “My training is current and reflective of the issues impacting our society today,” evaluates the chronosystem. In our study, we utilized the global score. Higher scores in this instrument suggest students experiencing greater levels of training environment.

Results

We analyzed the data using Statistical Package for the Social Sciences (SPSS Statistics 25.0, 2017). Before analysis, we screened for missing values and study variables for violations of statistical assumptions (e.g., skew, kurtosis, extreme outliers). Variables with skewness to standard error ratio greater than 2 were transformed. A square root transformation was done on the positively skewed number of courses completed by students. A reflect and square root transformation was done on three negatively skewed measures: PISC, CTES, and AWAI-S. We removed 95 responses with many missing values that rendered them unusable and 45 outliers. We used an alpha level of .05—a level typically used in the literature—to evaluate statistical significance to reduce the possibility of a Type I error.

Then, we carried out the descriptive statistics of the demographics, three predictor variables, one control variable, and one outcome variable. In order to examine predictors of professional identity, we employed a hierarchical regression analysis using professional identity scores as the outcome variable. Predictors were advisor-advisee relationship, counselor training environment, and instructional environment. The control variable was the number of courses completed.

Bivariate Analysis

Table 1 presents the descriptive statistics and correlations of the study variables. Advisor-advisee relationship and counseling training environment were significantly positively correlated with professional identity. However, instructional environment and the number of counseling courses completed by students were not significantly correlated with professional identity. All the predictor variables and the control variable were not statistically significantly correlated among themselves, except the relationship between counseling training environment and the number of courses completed and that between counseling training environment (CTES) and advisor-advisee relationship (AWAI-S).

Bivariate correlation results showed that counseling students who reported higher levels of satisfaction in their advisor-advisee relationship reported higher levels of professional identity ($r = .26, p < .01$), supporting Hypothesis 1. Results also showed that counseling students reported a stronger training environment also reported higher levels of professional identity ($r = .13, p < .05$), supporting Hypothesis 2. Finally, contrary to the positive relationship between training environment and PID of counseling students, we found no significant differences of professional identity between traditional students and online students ($r = .05, p > .05$), refuting

Hypothesis 3. This result suggests that professional identity of master's-level students does not differ in the relation to the type of instructional environment (online vs. traditional).

Table 2.1

Means, Standard Deviations, and Zero-Order Correlations among Study Variables (N = 229)

Measures	<i>M</i>	<i>SD</i>	2	3 ^a	4	5 ^b
1. PISC ^a	7.71	1.75	.13*	.26*	-.05	-.11
2. CTES ^a	3.91	.80		.20**	-.08	.29**
3. AWAI-S ^a	4.84	1.63			-.02	.02
4. Instructional Environment	.80	.40				-.02
5. Number of Courses Completed ^b	3.14	1.14				

Note. PISC = Professional Identity Scale in Counseling. CTES = Counselor Training Environment Scale. AWAI-S = Advisor Working Alliance Inventory- Student Version

^a = Variables were transformed with reflection; lower scores indicate higher levels

^b = Variables were square root transformed

* $p < .05$, ** $p \leq .01$.

Multivariate Analysis

We performed a linear hierarchical regression to examine our fourth hypothesis expecting that all the predictor variables were expected to significantly predict the PID of master's-level counseling students after controlling for the number of courses participants had completed. A summary of the regression is presented in Table 2. Results indicated that the number of courses completed by students did not significantly predict the professional identity of students [Step 1: $F(1, 227) = 2.70, R^2 = .01, p > .05$]. Regression results further showed that, in combination, the predictors significantly accounted for 9% of the variance of the professional identity of master's

counseling students [Step 2: $F(4, 224) = 5.84, p < .01; \Delta R^2 = .09, F(3, 224) = 6.81, p < .01$].

Advisor-advisee relationship and the number of courses students had taken were statistically significant predictors of students' professional identity, but instructional environment was not. Training environment was approaching significance ($p = .07$) as a predictor. Among the predictors, advisor-advisee relationship was the strongest contributor ($\beta = .26$). The amount of variance accounted for indicated a medium effect size (Cohen, 1992).

The mild positive non-significant zero-order correlation between the number of courses completed and PISC, and the contradictory significant contribution of the number of courses in Step 2 of the hierarchical regression, suggested that the number of courses completed might be a suppressor variable, alternatively called an enhancer. We ran two analyses to confirm our suspicion. First, the partial correlation between the number of courses and PISC was significant ($p < .05$) after controlling for AWAI-S and CTES. Second, the results of regression model with the number of courses being removed revealed a decrease in R^2 , [$F(3, 226) = 6.01, p < .01; R^2 = .07$]. These results indicated that the number of courses was a suppressor variable. Because PISC was transformed with reflection, the negative β weight ($-.15$) indicates that students who had completed more courses reported higher levels of professional identity. As a suppressor variable, it appears that the number of courses taken by students enhances the extent advisor-advisee relationship and training environment and in combination explains the variance in student professional identity.

Table 2.2*Hierarchical regression of variables predicting professional identity development*

Measures	<i>B</i>	<i>SEB</i>	β	<i>t</i>	<i>R</i> ²
Predicting PISC					
Step 1					
Number of Courses Completed ^a	-.17	.10	-.11	-1.64	.01
Step 2					
Number of Courses Completed ^a	-.23	.10	-.15	-2.25*	
CTES	.28	.15	.13	1.85	
AWAI-S	.25	.07	.23	3.57**	
Instructional Environment	.16	.28	.04	.56	.09**

PISC= Professional Identity Scale in Counseling. *CTES*= Counselor Training Environment Scale. *AWAI-S*= Advisor Working Alliance Inventory- Student Version

^a = Variables were transformed; interpretation need to reverse direction.

p* < .05 *p* < .01.

Discussion

The purpose of this study was to examine the extent training environment, advisor-advisee relationship, and instructional environment predict the professional identity of master's-level counseling students from CACREP-accredited programs after controlling for the number of courses they have completed. Results of the study largely supported our expectations and Gibson et al.'s (2010) finding, indicating that counselors develop their professional identity within a professional community. Our findings support the argument for using a systemic framework to understand the ecological factors that are associated with the PID of counseling students as

advanced by other scholars (Lau & Ng, 2014; Nelson & Jackson, 2003). We further discuss the findings, their implications, and offer some recommendations below.

The discovery of the suppressor variable, the number of courses completed, shows the importance of understanding the chronosystemic influence students' PID. It seems reasonable to expect that as counseling students spend more time in their training programs, they will have the opportunity to let their advisor-advisee relationship exert greater impact on their PID.

Training Environment

As noted by Lau and Ng's (2014) work about the importance of conceptualizing the counseling training environment systemically, our findings indicate that students who came from more positive training environment reported higher levels of professional identity in our bivariate analysis. This indicates that training environment plays a role in the PID of master's-level counseling students in CACREP-accredited programs. Furthermore, our findings support Auxier et al.'s (2003) and Moss et al.'s (2014) recommendations that indicate that counselor trainees need to receive appropriate feedback in their training environment to develop their professional identity. Though our study did not examine the mechanisms by which training environment specifically influences the development of professional identity in students, it is only reasonable to expect that the information about the philosophy, values, and scope of practice of professional counseling students received in their curriculum, among other things, would foster PID in counseling students (Gibson et al., 2010).

Our study appears to be the first to use the CTES (Lau et al., in press) in a quantitative study on master's-level counseling students since the instrument was developed. Findings in this study on the positive association between the CTES and the PISC and the positive association between the CTES and the AWAI-S provide evidence to support the validity of the CTES and its

utility in research. However, it is interesting to note that findings in our multivariate analysis indicate that training environment (CTES) when combined with advising relationship (AWAI-S) did not contribute unique variance to students' professional identity (PISC). This suggests that training environment and advisor-advisee relationship have shared variance in relation to professional identity.

Advisor-Advisee Relationship

As discussed in the preceding paragraph, our findings indicate that advisor-advisee relationship contribute uniquely to students' PID beyond what the general training environment does. In this regard, our study supports previous findings in other fields about the role of academic advisors in the professional development of students (Knox et al., 2006; Schlosser et al., 2003). This finding further supports Bronfenbrenner's (1994) theory that emphasizes the importance of microsystemic relationships in an individual's development.

The present study seems to be the first large scale quantitative study that links advisor-advisee relationship in counselor education programs to the PID of master's-level students. Our findings indicate that students who have a more positive relationship with their advisors have higher levels of professional identity. We therefore concur with Knox et al.'s (2013) assertion that the advisors have a duty to monitor and facilitate the progress of their advisees, including professional development. Our findings also add to the current knowledge on the facilitative nature of the advisor-advisee relationship in helping advisees acquire knowledge, skills, and responsibilities including professional identity (Schlosser & Gelso, 2001; Knox et al., 2013).

Instructional Environment

To the best of our knowledge, we believe this is the first study that explores the association between instructional environment and PID of master's-level counseling students.

Our findings indicate that students in online/hybrid programs did not significantly differ in their PID when compared to students in traditional training programs, though the online instructional environment differs from on-ground instructional environment (Chen & Jeng, 2010; Muilenburg & Berge, 2005). This finding can be construed at some level to lend support for online delivery. However, interpretation of the present finding needs to be cautious because only 45 participants came from online/hybrid programs compared to 184 participants from traditional programs. Further, previous studies had indicated that instructional environment did differ in some outcome variables such as higher levels of learning (Smith et al., 2015) and more advantageous communication among supervisors and students in online programs (Chapman et al., 2011). Therefore, though students' PID may not differ across instructional delivery environments, student learning experience and learning outcomes may.

Limitations

Despite our efforts to recruit a representative sample of participants from CACREP-accredited master's programs, several limitations in this study exist that need to be taken into consideration when interpreting its findings. First, the use of correlational, cross-sectional design prevents us from making causal inferences of our findings. Second, though CACREP-accredited programs represent 50% of the master's counseling programs in the United States as of May 2017 (CACREP, 2017), our participants were limited to students from CACREP-accredited counseling programs who had Internet access to complete the web-based study. Moreover, our participants were recruited through emails with the help of counselor educators. Third, we had a high number of unusable response sets which might have influenced our findings. The high number of unusable response sets might be related to the web-based nature of the study in that participants might have felt freer to not complete the survey materials compared to paper

administration. Therefore, it is unknown how the results might generalize to students in non-CACREP-accredited programs and students who did not receive the recruitment emails sent to counselor educators.

In addition, we relied on self-reported measures in our studies. Hence, the data collected could be influenced by participants' degree of self-awareness, biases, and accuracy. Further, though we had a reasonably large sample size of 229, there were only 45 (19.7%) from online/hybrid programs. Future study should consider other ways of recruiting counseling students to allow for larger and more diverse sample sizes and more representative samples of the population of counseling students that includes students attending non-CACREP accredited programs, and those in countries outside of the United States.

Implications and Recommendations

Notwithstanding the above-mentioned limitations, findings in this study support hypothesis based on Bronfenbrenner's (1994) theory that our ecological predictors contribute to individuals' development. Therefore, our findings bear some significant implications regarding counselor education and the professional identity of master's-level counseling students. First, counselor educators need to consider ecological factors when fostering and assessing their students' PID. In our study, since we only investigated a limited set of ecosystemic variables that explained 9% of the variance in professional identity, future research should look at other ecological variables such as peer collaboration among students, part-time versus full-time students, and supervisor-supervisee working alliance. Further, more exploration of the interrelationships between the study variables and the suppressor effect of the number of courses completed by student should be replicated.

Second, as indicated in our findings on the advisor-advisee relationship, counselor educators need to embrace the responsibility to guide and facilitate the PID of their advisees (Knox et al., 2013). We suggest that counselor educators be more intentional in working with their advisees to develop their professional identity and other learning outcomes. For example, they should regularly and consistently meet with their advisees to purposely discuss academic, non-academic, and professional issues or concerns such as self-care plans for beginning counselors, licensure and professional credentials, and participation in the counseling profession. Additionally, advisors can encourage and solicit participation from their advisees to contribute to the advisors' clinical or scholarly work thereby allowing students to develop their identity as scholar practitioners. For example, advisors can encourage their advisees to ask professional identity and practice questions, share their interests, and explore their career development plans. We also recommend future research to examine the influence of mentoring and students' PID, especially where mentoring is different from advising (Schlosser & Gelso, 2001).

Third, counselor education programs need to foster a holistic training environment for their students as our findings support a linkage between training environment and the PID of counseling students. We suggest counselor educators create a training environment that pays attention to various ecological factors; for example, developing a strong working relationship with field supervisors—a mesosystemic factor in students' ecosystem—to ensure that the quality of field training is contributing to the PID of the students such as engaging site supervisors who have a strong counseling professional identity. Also, prospective counseling students should search for an academic program that has a training environment that purposely promotes the development of students' professional identity. In addition, counseling students should also develop meaningful relationships with their advisors and actively engage in their training

environment to develop their professional identity. Because our study did not find any significant relationship with training environment when combined with other study variables, we suggest further studies to validate our findings as well as investigate other systemic variables in the training environment that may impact student learning and developmental outcomes. Future studies should also consider longitudinal designs to track student's PID as development by definition is a process that progresses through time.

Because our study was focused on master's students in CACREP-accredited programs, researchers should consider replicating the study among students in non-CACREP-accredited programs and other helping professions such as counseling psychology students. Researchers may also want to investigate if there are differences in PID between students from CACREP-accredited programs and those from non-CACREP-accredited programs.

Lastly, because our study appears to be the first to examine the association between professional identity and instructional environment and did not find evidence to indicate instructional environment differences on students' professional identity, replication studies should be done before drawing any firm conclusions. We suspect that the small number of online students in our study could have influenced our findings. Because existing studies in counselor education did find differences in instructional environment on some counseling training outcomes, more studies should be conducted to investigate how differences in instructional environment can impact other learning outcomes that are important to the counseling field. Furthermore, researchers should consider investigating how other characteristics within online programs (e.g., hybrid vs. fully online programs; synchronous and asynchronous learning) can predict the PID of their students.

Conclusion

Based on Bronfenbrenner's (1994) ecological theory, we examined whether training environment, advisor-advisee relationship, and instructional environments could predict the development of professional identity of master's-level counseling students in CACREP-accredited programs. Our findings show that it is vital to consider ecological influences when understanding students' PID. We believe that our study has contributed significantly to the growing body of knowledge on the PID of counseling students.

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Chapter 3

Relationships among a Selected Set of Systemic Variables and Counselor Education Doctoral

Students' Professional Identity

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Abstract

The professional identity development (PID) of counselor education doctoral students is vital as these students will become the future leaders in the counseling profession. We designed a cross-sectional, correlational study based on Bronfenbrenner's ecological theory to examine whether advisor-advisee relationship, peer collaboration, training environment, and instructional environment could predict the self-reported professional identity of counselor education doctoral level students. Our results based on 140 CACREP-accredited students in a doctoral program showed that all of our predictors, except instructional environment, significantly predicted some various aspects of students' professional identity. Our findings indicate that counselor educators and doctoral students need to consider how systemic factors that may influence students' PID.

Keywords: advisor-advisee relationships, Bronfenbrenner's ecological theory, doctoral level students, instructional environment, training environment, professional identity, peer collaboration

Clarifying the concept of professional identity and understanding what aspects of education and training can foster its development are fundamental to successfully preparing and educating counselor trainees in the profession (Meany-Walen, Carnes-Holt, Minton, Purswell, & Pronchenk-Jain, 2012). Since 2013, the Council for Accreditation of Counseling and Related Educational Programs' (CACREP, 2015) accreditation standards require that new counseling core faculty hires be graduates of counselor education and supervision doctoral programs unless the new hire has taught in a graduate counseling program for a year prior to July 2013. This requirement indicates the emphasis professional counseling as a discipline places on the professional identity of counselor educators and its differentiation from other helping professions such as psychology and social work (Protivnak & Foss, 2009). However, as noted by several scholars (e.g., Carillo, 2014; Protivnak & Foss, 2009), understanding the factors that contribute to professional identity development (PID) of doctoral students remains an under-researched area.

Professional identity is the result of a continuous developmental process that facilitates an emergent understanding of oneself and one's role in a particular discipline (Healey & Hayes, 2012). In this current study, counselor educator professional identity is defined as the professional leadership roles of teaching, counseling, supervision, leadership and advocacy, and research and scholarship (CACREP, 2015). Counselor educators as well as doctoral students in counselor education must develop various skills, values, and ways of being that fulfill and refine their roles as counselors, supervisors, educators, and researchers in the field until they retire (Gale & Austin, 2003).

There were several reasons that prompted us to study the PID of counselor education doctoral students. First, the professional identity of doctoral students differs from that of

master's-level students (Dollarhide, Gibson, & Moss, 2013). Doctoral students will be counselor educators, supervisors, researchers, and advanced practitioners in either academic or clinical settings, or both (CACREP, 2015). Second, these students will be generators of new knowledge and trainers of future counselors (Sears & Davis, 2003). They will be future leaders and scholars in the field. Third, the challenges faced by doctoral students in counselor education are unique and stressful. These challenges may impact their PID in ways that fundamentally differ from master's-level students. For example, the challenges faced by first-semester doctoral students in counselor education, including self-doubt, uncertainty, and stressful life events have impacted their studies (Hughes & Kleist, 2005). Lastly, no research to date has studied the contribution of systemic variables to the PID of doctoral students in counselor education including relationships among advisor-advisee, the training environment, peer collaborations, and the instructional environment. In our study, we explored these relationships through Bronfenbrenner's (1994) ecological framework.

Bronfenbrenner's Ecological Theory

Bronfenbrenner's (1994) ecological theory is an attractive model that explains expansively systemic layers in understanding individuals' development. In addition, the theory explains development as a joint function of environmental influences and the characteristics of the individuals. Scholars in the helping and educational fields have used this model to understand the associations of systemic factors and the development of individuals. For example, Leonard (2011) used it in the context of community partnerships in one urban high school, and Lau and Ng (2014) employed it to conceptualize the counseling training environment as a multisystemic ecological system. We believe this theory is applicable to comprehending the influence systemic variables have on the PID of doctoral students.

Bronfenbrenner (1994) proposed five nested ecological systems within which individuals interact within the environment and develop. The five systems are *microsystem*, *mesosystem*, *exosystem*, *macrosystem*, and *chronosystem*. Bronfenbrenner defined the microsystem as the contextual variables that directly impact the individual, for example, a student's relationship with his or her professors. The mesosystem is "the linkages and processes taking place between two or more settings containing the developing person" (1994, p. 40). An example of the mesosystemic factor for a doctoral student is the relationship among cohort peers in the program. The exosystem is "the processes and linkages taking place between two or more settings, at least one of which does not contain the developing person, but in which events occur that indirectly influence processes within the immediate setting in which the developing person lives" (p. 40). For example, for a doctoral student, an exosystemic factor is the collegial relationship between his or her advisor and the advisor's social network with which the student has no direct contact. Bronfenbrenner described the macrosystem as the systemic influences or relationships such as laws, policies, values, or standards. A macrosystemic factor is any changes to state licensure laws, university hiring policies, or CACREP training standards that affect the counseling profession in general and a counselor's training in particular. Finally, Heppner, Leong, and Gerstein (2008) described the chronosystem as "the patterning of environmental events and transitions over the life course and effects created by time or critical periods" (p. 248). An example of a chronosystemic factor is the duration spent between the doctoral students and their advisor that would influence the development of their working relationship.

Literature Base

Based on Bronfenbrenner's (1994) ecological theory, we focused on four predictor variables, namely, professional identity, advisor-advisee relationship, peer collaboration, and training environment, and the control variable, after controlling for the number of years' doctoral students have worked in the counseling field. We discussed the relevant literature related to each of the variables below.

Professional identity. Doctoral students begin a transformative, personal, and comprehensive development process as counselor educators (Dollarhide et al., 2013). Doctoral students adhere to the code of ethics written by national organizations such as CACREP and the Association for Counselor Educators and Supervisors (ACES). Scholars emphasized that professional identity comprises the integration of both the personal (values, perceptions, and beliefs) and professional (roles, affiliation, training, and skills) selves with the counselor education profession (Dent & Whitehead, 2001; Dollarhide et al., 2013). Gazzola et al. (2011) reported similar findings in working with counseling psychology doctoral students. They noted that these students incorporated the ethics, values, and practices of their field into their professional identity. Naturally, this process is internalized, co-constructive, lifelong, and transformative (Auxier, Hughes, & Kline, 2003; Dollarhide et al., 2013). However, from a chronosystemic perspective, this transformative process may be unique to counselor education doctoral students because of the difference in time that has elapsed since their graduation from their master's program.

Counselor education doctoral students will develop additional roles as part of their professional identity compared to master's-level students. The growth trajectory of students in a counselor education program is partly determined by CACREP's (2015) doctoral training

standards in five domains (i.e., counseling, supervision, teaching, research and scholarship, and leadership and advocacy) in addition to the eight-core master's-level training areas. Dollarhide et al. (2013) stated that doctoral students must have a professional identity that holds this additional breadth and depth because they will be teaching and supervising future counselors. In addition, Lambie and Vaccaro (2011) shared that counselor education doctoral students will be contributors and guardians of knowledge as they become researchers and educators. Finally, Li, Trusty, Lampe, and Lin (2008) and Wilkerson (2006) elucidated that doctoral students will become gatekeepers in the field. The multiple roles doctoral students are expected to develop are understandably factors that impact the formation of a professional identity that is qualitatively different from that of master's-level students.

Doctoral students do not only have advanced roles and responsibilities but they also experience their PID differently from master's-level students. Dollarhide et al. (2013) discussed how participants integrated their identity as counselors and doctoral students and became novice counselor educators. Dollarhide et al. also found that their participants in their study struggled with the identity of being a doctoral student, even though some of them might have experienced success as a practitioner. Their study was qualitative in nature and their study participants were limited in number and were students of the lead researchers. As such, it is not possible to generalize their findings to the larger population of counselor education doctoral students. Therefore, there is a need for quantitative studies involving representative samples of counselor education doctoral students to provide generalizable findings to further shed light on factors associated with the PID of counselor education doctoral students.

Based on Bronfenbrenner's (1994) ecological systems theory, we explored the associations of four predictor variables with professional identity of counselor education doctoral

students. The predictors were advisor-advisee relationship, peer collaboration, training environment and instructional environment (online vs. traditional, in-person learning).

Advisor-advisee relationship. In CACREP-accredited programs, each doctoral student is required to be assigned an academic advisor (CACREP, 2015). Before we discuss advisor-advisee relationships, we want to differentiate the terms advising and mentoring as they differ in their application. Mentoring is often defined as an integrally positive relationship between two individuals; and a mentor is continuously contributing to the professional development of an apprentice or mentee (Russell & Adams, 1997; Schlosser, Lyons, Talleyrand, Kim, & Johnson, 2011). In contrast, the advisor-advisee relationship is often referred to as the relationship between a faculty member, and a student in which the former provides direction on various aspects of the latter's academic experience (Schlosser & Gelso, 2001). Student advisement interactions may be either positive or negative, or both, and often include academic planning, research interests, career decisions, and clinical and professional development (Knox et al., 2013; Schlosser, Knox, Moskovitz, & Hill, 2003). Not all advisors are mentors, and not all mentors are advisors. Some scholars have argued that academic programs who permit doctoral students to find their own advisors have shown a tendency towards experiencing a higher advisory working alliance (Huber, Sauer, Mrdjenovich, & Gugiu, 2010).

Authors have argued for studying student advising through an ecological lens (e.g., Ng, Lau, & Crisp, 2017; Stebleton, 2011). The ecological approach fits well, as student advising is multidimensional and requires advisors to play multiple roles. For example, Rice et al. (2009) identified the dimensions of a faculty advisor as someone who helps students navigate and complete degree requirements, becomes primary researcher of research projects students are involved in, and chairs students' thesis or dissertation committee. At times, an advisor may offer

personal support to an advisee, such as helping the advisee address life stressors. Henfield, Owens, and Witherspoon (2011) reported that their African-American students greatly appreciated it when their faculty advisor showed concern about their personal welfare. Since faculty advisors have a direct role in the lives of students, the advisor-advisee relationship represents a variable in the microsystem of the student (Bronfenbrenner, 1994)

Several studies have examined advisor-advisee relationships in graduate school. For example, Schlosser and Gelso (2001) created the Advisory Working Alliance Inventory (AWAI) to measure psychology doctoral students' relationship with their advisors. Schlosser et al.'s (2003) findings indicate that graduate students perceive the advisor-advisee relationship to play an important role in their graduate training. Rice, Suh, Yang, Choe, and Davis (2016) found students who had a positive relationship with their advisors had less academic stress and less desire to change their advisors. However, to date, no research has examined the relationship between the advisor-advisee relationships and the PID of counselor education doctoral students.

Peer collaboration. Peer relationships are known to exert influence over people throughout their lifespan (Chui, Ziemer, Palma, & Hill, 2014). For instance, children learn from one another, teenagers are highly influenced by their peers, and adults find comfort and support among their friends. In academic settings, doctoral students have reported that positive peer relationships were beneficial to them (Berry, 2017).

Doctoral students often experience academic, emotional, and social challenges in the pursuit of their doctorate (Golde, 2005; Stubb, Pyhältö, & Lonka, 2011). Nelson, Dell'oliver, Koch, and Buckler (2001) discussed that social support and interpersonal contact among doctoral students and peers could decrease psychological distress. Drouin (2008) suggested that a sense of community could be a protective factor against social isolation, while Pyhältö, Stubb, and Lonka

(2009) found that a sense of community could be a source of encouragement for doctoral students who were overwhelmed and exhausted. Additionally, Ferguson (2009) discussed how peer relationships among doctoral students influence writing practices, such as confidence and motivation to write and emotional support against loneliness during the writing phase of the program. Thus, peer relationships seem to bear a tremendous influence on doctoral students. However, there is no research on the effects of peer influence on the PID among counselor education students. Our study looks at the role peer collaboration in professional involvement—a mesosystemic factor—plays in the PID of counselor education doctoral students.

Training environment. The training environment constitutes an important component of effective counselor education training (Zhang & Parson, 2016). Zhang and Parson (2016) believed that a formative training environment allows maximum development of students in their theoretical knowledge, clinical skills, and professional attitudes. Further, Harper and Ritchie (2009) shared that the training environment serves as the springboard for the development of students' professional identity. Not surprisingly, CACREP (2015) accreditation standards require systematic assessment of student learning outcomes and their training environment. In our study, we define the training environment of doctoral students as both the academic environment, such as classroom learning, and the field environment, such as teaching, supervision, and research (Bruss & Kopala, 1993; Lau & Ng, 2014). Based on Bronfenbrenner's (1994) theory, the counseling training environment is an ecosystem involving multiple individuals and overlapping systems (Lau & Ng, 2014).

The training environment of doctoral students has been scrutinized by scholars for several decades especially in regard to the area of research. Hollingsworth and Fassinger's (2002) findings validated previous research by supporting a hypothesized positive relationship between

the quality of the research training environment and psychology doctoral students' self-efficacy and productivity in research. In terms of professional development, Dollarhide et al. (2013) found that participants in their study experienced internal validation of their professional identity as they progressed throughout their training environment. Also, Bruss and Kopala (1993) stated that doctoral students in psychology, a field closely related to counseling, had to redefine their sense of self and, in order to do so, they needed support from the new environment for a healthy professional development. However, there is limited research on training environment in counselor education (Lau & Ng, 2014). We concur with authors who have called for more quantitative research on systemic influences on PID in the literature (e.g., Nelson & Jackson, 2003).

Instructional environment (Online Learning vs. Traditional, In-Person). With the advent of information technology, online or Internet-supported educational programs have increased in recent decades (Chapman, Baker, Nassar-McMillan, & Gerler, 2011). As of May 2017, there are seven CACREP-accredited online doctoral-level counselor education degrees compared to 76 traditional, in-person accredited doctoral programs (CACREP, 2017). A growing body of literature has explored the benefits of online learning (Allen & Seaman, 2014; Duemer et al., 2002). For example, Sells, Tan, Brogan, Dahlen, and Stupart (2012) noted that an online doctoral program that included students from various countries had served “as a vehicle for the advancement of the profession of counseling and counselor training worldwide” (p. 51).

Allen, Seaman, and Garrett (2007) defined hybrid programs as those that deliver 30% or more of their curriculum online and online programs are those that deliver 50% or more of their curriculum online. In our study, we include hybrid programs as online programs as CACREP does not distinguish between them and consider both delivery formats as online. Given the

popularity of online education, we believe the number of online doctoral counseling programs will continue to grow. Therefore, understanding the influence of the instructional environment in counselor education is crucial, as the knowledge will likely help counselor educators to design an online learning environment that promotes students' PID.

Online programs have a different subculture compared to traditional programs. First, online students may not meet weekly or frequently in person as compared to students in traditional, in-person programs. Second, online programs have greater utilization of technology in the delivery of the academic content compared to traditional ones. As such, online students need to rely on the Internet and information technology as a primary instructional and learning environment.

Muilenburg and Berge (2005) discussed different components (technical, pedagogical, social, and managerial) in online programs that impact students' learning experience. This may include collaborative learning (Hoskins & Hoof, 2005), synchronous and asynchronous learning, and a greater dependency on a learning management system such as Canvas. For counseling students in online programs, they also rely on online supervision and often need to learn to conduct online counseling. Such learning experiences are normally not found in traditional programs. In addition, Chen and Jeng (2010) reported that online learners need to have greater levels of support and motivation in completing online programs. Therefore, an instructional environment is a macrosystemic variable within the Bronfenbrenner's (1994) ecological model.

Previous scholars have examined the role of online learning in counselor education. Sells et al. (2012) shared that online learning allowed doctoral students to learn from multiple perspectives from the comfort of their own home. Smith et al. (2015) found, in their study of master's-level counseling students, a lack of difference in level of learning between online and

traditional students while there was “a significant difference in efficiency of learning that favored online instructional methods” (p. 54). However, to our knowledge, no studies have examined the role of instructional environment play in the PID among counselor education doctoral students. As online and hybrid doctoral studies are becoming more popular, we hope our findings will meaningfully inform counselor educators in regard to the association between instructional environment (online vs. traditional, in-person) and doctoral students’ PID.

Purpose of the Study

Based on the gap in existing research and in response to the importance of PID in counselor education in general and in doctoral counselor education students in particular, we designed the study based on Bronfenbrenner’s (1994) ecological framework to investigate the associations between a selected set of systemic variables and the professional identity of doctoral students in CACREP-accredited programs. We also collected information on the number of years participants have worked in the counseling field prior to entering the doctoral program—a chronosystemic variable—to control for possible prior professional developmental history. The research question for this current study was: “To what extent do advisor-advisee relationship, peer collaboration, training environment, and instructional environment (online vs. traditional, in-person format) predict the professional identity of counselor education doctoral students after controlling for the number of years they have worked in the counseling field?”

This current study was designed to examine five hypotheses. They are:

1. H₁: Higher levels of advisor-advisee relationships statistically significantly correlate with higher levels of professional identity among counselor education doctoral students.

2. H₂: Higher levels of professional collaboration among peers statistically significantly correlate with higher levels of professional identity among counselor education doctoral students.
3. H₃: Higher levels of training environment in counselor education statistically significantly correlate with higher levels of professional identity among counselor education doctoral students.
4. H₄: Because of the investigative nature of this aspect of the study, we examined if online and traditional counselor education doctoral students would differ in their PID. Hence, we would not make any directional hypothesis as the literature has not documented any.
5. H₅: A combination of advisor-advisee relationship, training environment, peer collaboration, and instructional environment would significantly predict a higher level of the professional identity in counselor education doctoral students.

Method

Procedures

In this study, we sent an initial email invitation to all counselor educators, in CACREP-accredited doctoral programs ($N=76$) as of July 2017, whose email addresses were available on their respective program websites. We asked the counselor educators to forward the research participation requests to their doctoral students and advisees. Forty-three emails were undeliverable. Two weeks after the initial email, a final follow-up email was sent to the counselor educators. Further, we emailed participation requests to counselor educators as well as doctoral students we knew personally. We also posted similar research participation request on CESNET-Listserv and COUNSGRAD-Listserv. All emails and posting included basic

information about the research and the link to the study website. Participants completed the web-based survey voluntarily and anonymously. There were 138 participants who entered the drawing for electronic gift cards. The research protocol was approved by the authors' Institutional Review Board.

Participants

We received 217 responses and only 140 were usable. The 140 participants included 101 (72%) traditional, in-person students and 39 (28%) hybrid/online students from CACREP-accredited counselor education doctoral programs. Among the participants were 101 females (72.1%), 35 males (25.0%), 1 gender non-conforming person (0.7%), and 1 transgender person (0.7%). Two participants chose not to disclose gender identity (1.4%). Study participants ranged in age from 24 to 60 ($M = 34.28$, $SD = 7.93$). Our study included 92 Caucasian/ White American (65.7%), 18 Black/African American (12.9%), 9 Hispanic/ Latino/ Spanish (6.4%), 7 multiracial (5.0%), 5 Asian American (3.6%), 4 non-U.S. Citizen (2.9%), 1 American Indian/Alaska Native (0.7%), and 1 participant who did not disclose his or her ethnicity (0.7%). Three participants (2.1%) indicated the ethnicity categories did not fit them. Participants reported having worked or having been licensed in the field at the time of the survey from 0 to 16 years ($M = 3.94$, $SD = 3.59$). With respect to their primary area of specialization, 63% were in counselor education, 21% were in community/clinical mental health counseling, 11% were in school counseling, 1% were in career counseling, and 4% were in other. Participants reported from the following ACES regions: Southern ACES (39.3%), North Central Region ACES (19.3%), North Atlantic Region ACES (15.7%), Rocky Mountain ACES (13.6%), Western ACES (10.0%). Three participants (2.1%) chose not to disclose their affiliation.

Measures

Professional Identity Scale in Counseling (PISC). We used the Professional Identity Scale in Counseling (PISC; Woo & Henfield, 2015) to examine the professional identity of the participants. PISC includes 53 items that uses a subject-centered Likert-type response with a range from 1 (*not at all in agreement*) to 6 (*totally in agreement*) for item endorsement. This scale was developed to measure professional identity among various professions in the counseling field. There are six subscales within PISC, each identified here by the α in the validation study of the scale and the α level in the current study. They are (a) engagement behaviors (original α : 0.89; current α : 0.84), (b) knowledge of the profession (original α : 0.88; current α : 0.87), (c) attitude (original α : 0.80; current α : 0.87), (d) professional roles and expertise (original α : 0.80; current α : 0.81), (e) philosophy of the profession (original α : 0.72; current α : 0.71), and (f) professional orientation and values (original α : 0.48; current α : 0.50). Woo and Henfield (2015) reported an α of 0.92 for the global score; our global score also had an α of 0.92). Sample items in this scale include: “I am satisfied with my work and professional roles” (Item 11); “I actively engage in professional counseling associations by participating in conferences and workshops every year” (Item 13); and “I keep in contact with counseling professionals through training and/or professional involvement in counseling associations” (Item 15).

Advisory Working Alliance Inventory for Students (AWAI-S). In our study, we utilized the AWAI-S (Schlosser & Gelso, 2001) to measure the advisor-advisee relationship. The AWAI-S assesses student’s perception of the working alliance between the students and their advisor. This inventory is a 30-item self-report questionnaire that uses a 5-point Likert-type scale with a range from 1 (*strongly disagree*) to 5 (*strongly agree*). The questionnaire consists of three

sub-scales: rapport, apprenticeship, and identification-individuation (Schlosser & Gelso, 2001; Rice et. al, 2016). Schlosser and Gelso (2001) defined rapport as the degree of support and encouragement experienced by the student as part of the bond with the advisor. They defined apprenticeship as the degree to which students feel taught and mentored by their advisors. Finally, they defined identification-individuation as the degree of identification and similarities with the advisor. In the original study, Schlosser and Gelso (2001) reported an α of 0.92 for the AWAI-S. In the current study, the α was 0.96. They also discovered strong possible correlations between the working alliance and advising relationship between a student and an advisor. In addition, the criterion validity between the AWAI-S and the Counselor Rating Form—Short Version (Corrigan & Schmidt, 1983) was 0.80. Items in this inventory include: “My advisor welcomes my input into our discussions” (Item 4); “My advisor strives to make program requirements as rewarding as possible” (Item 28); and “My advisor helps me recognize areas where I can improve” (Item 29).

Counselor Training Environment Scale (CTES). The CTES (Lau, Ng, & Vallet, in press) is an instrument that evaluates the training environment of counseling and related programs. The self-report instrument assesses students’ perceptions and learning experiences within the training environment in the counseling program they are presently attending. The CTES is a 23-item instrument that uses a subject-centered Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) (Lau et al., in press). This instrument was designed based on Bronfenbrenner’s (1979, 1992) ecological theory. Lau et al. (in press) reported an α of 0.92 for the total scale in their original study. In our study, the α was 0.87. Lau et al. reported establishing content validity through “a multi-step process that included a target group review, an item-development team review, and an outside expert review” (p. 15) and for factor analysis.

Sample items on the CTES are as follows. Item 3 evaluates the microsystem: “My clinical site supervisor treats me with respect.” Item 11, “Students are made aware of opportunities to volunteer in community activities,” evaluates the mesosystem of the training environment. Item 13 explores the exosystem: “Faculty incorporate their clinical experiences into the classroom training.” Item 8, “University/college procedures and department procedures for addressing student grievances are consistent,” evaluates the macrosystem of the training environment. Item 20, “The program has helped me become mindful of my personal development through time,” evaluates the chronosystem of the training item. In our study, we utilize the global score. Higher ratings on the Likert-type Scale indicate students’ experience of a stronger training environment.

Peer collaboration. Participants were asked if their peers collaborated among themselves on professional activities such as presenting at conferences, working on research projects, advocating on social justice issues, or co-teaching counseling courses. The question uses a 5-point Likert-type scale with a range from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

Results

We conducted a power analysis using Free Statistics Calculators 4.0 (Soper, 2006) with a medium effect size ($f^2 = 0.15$) that indicated the need for 120 participants. In this research, we received 217 responses and were able to analyze 140 completed responses. Fifty-two responses were incomplete and 25 were outliers. We used the Statistical Package for the Social Sciences (SPSS Statistics 25.0, 2017) for data analysis. We screened and cleaned the data for missing values and normality assumptions in regression (e.g., skew, kurtosis, extreme outlines) prior to analyses. We performed a logarithmic transformation on the positively skewed variable identified as number of years worked or licensed in the field and reflect square root

transformation on several negatively skewed measures: PISC's subscale 3, AWAI-S, Peer Collaboration, and CTES. Furthermore, we performed a reflect and logarithmic transformation on PISC's subscales 4 and 5. Finally, we used an alpha level of .05—a level typically used in the literature—to evaluate statistical significance to reduce the possibility of a Type I error.

Basic descriptive statistics of the predictor variables, control variable, and outcome variables are reported in Table 1. We used a hierarchical regression analysis to examine the predictors of professional identity. The predictor variables were advisor-advisee relationship, counselor training environment, peer collaboration, and instructional environment. The number of years licensed or worked in the field by counselor education doctoral students was our control variable.

Bivariate Analysis

Table 1 shows the descriptive statistics and correlations of the predictor variables. We included both the global score and subscale scores of the PISC in the bivariate analysis. The advisor-advisee relationship, counseling training environment, peer collaboration (in professional activities) were positively and significantly correlated with various scales of PISC. Additionally, the number of years licensed or worked in the field by students was negatively and significantly correlated with the Philosophy of the Profession subscale in the PISC. Interestingly, while peer collaboration and training environment were significantly correlated with the total PISC score as expected, advisory working alliance (AWAI-S) was not significantly correlated with PISC as expected. Further, the instructional environment and the number of years working or licensed were not significantly correlated with the overall professional identity (PISC) as expected. Several predictor variables and the control variable were statistically significantly correlated

among themselves, for example, AWAI-S and Peer Collaboration, AWAI-S and CTES, Peer Collaboration and CTES, and Peer Collaboration and Instructional Environment.

Our bivariate analyses between the predictor variables and the scales of PISC showed that Engagement Behavior (Subscale 1), Attitude (Subscale 3), Professional Roles and Expertise (Subscale 4) and Philosophy of the Profession (Subscale 5) were variously significantly correlated with the predictors (see Table 1). Only Professional Orientation and Values (Subscale 6) was significantly correlated with the number of years a student had been licensed or worked in the field. This partially supports our expectation that students who have previously worked or been licensed would have the opportunity to develop a stronger professional identity and our argument to control for the number of years a student has been licensed or worked as a chronosystemic variable.

Though advisor-advisee relationship was not significantly correlated with overall professional identity (Total PISC) as expected, counselor education doctoral students with higher levels of satisfaction in their advisor-advisee relationship reported stronger development of the professional attitude ($r = .30, p < 0.01$) and role and expertise ($r = .18, p < 0.05$) as part of their professional identity, providing some support for the first hypothesis. Results support Hypothesis 2 in that doctoral students with higher levels of peer collaboration scores reported higher scores in the total PISC scale ($r = .21, p < 0.05$), more engagement behaviors ($r = .26, p < 0.01$), and more positive attitudes in PID ($r = .20, p < 0.01$). Counselor education doctoral students who reported a stronger counseling training environment reported higher scores in the total PISC ($r = .23, p < 0.01$) and four PISC subscales: Engagement Behaviors ($r = .19, p < 0.05$), Professional Attitudes ($r = .26, p < 0.01$), Professional Roles and Expertise ($r = .25, p < 0.01$), and Philosophy of the Profession ($r = .22, p < 0.01$), supporting Hypothesis 3. Finally, we found no correlation

between any subscales of PISC and the instructional environment of doctoral students, indicating a lack of support for the fourth hypothesis.

Multivariate Analysis

We performed a hierarchical linear regression to examine our fifth hypothesis that expected all the predictor variables to significantly predict the PID of doctoral level counseling students. Regression results (see Table 2) indicated that the number of years worked or licensed in the field by doctoral students did not significantly predict the professional identity of students. Results in Step 2 of the hierarchical linear regression analysis showed that the overall model significantly accounted for 9% of the variance in students' professional identity (PISC Total) [$F(5, 134) = 2.79, p = 0.02; R^2 = .09$]. However, only training environment ($\beta = .20$) positively and significantly contributed to the model.

We were puzzled by our results that showed the advisor-advisee relationship and peer collaboration in professional activities were not significant contributors to the model. We conducted a post-hoc analysis to further examine how our predictor variables were associated with the different subscales of PISC. We conducted hierarchical linear regression analyses using the six subscales of PISC. Regression results showed that, of the six subscales, the predictor variables were significant contributors in the two models: (a) the Engagement Behavior subscale and (b) the Attitude subscale (see Table 3).

Post hoc hierarchical linear regression analysis, as shown in Table 3, showed that the number of years worked or licensed in the field by doctoral students did not significantly predict the professional engagement behaviors of students [Step 1: $F(1, 138) = 1.37, R^2 = .01, p > 0.05$]; however, in combination, the predictors significantly accounted for 10% of the variance in the engagement behaviors of counselor education doctoral students [Step 2: $F(5, 134) = 3.00, R^2 =$

.10, $p = 0.01$; $\Delta R^2 = .09$, $F(5, 134) = 3.39$, $p = 0.01$]. However, only peer collaboration ($\beta = .19$) contributed positively and significantly to the model. In this analysis, the amount of variance accounted for indicated a medium effect size (Cohen, 1992).

In terms of the professional attitude, post hoc hierarchical linear regression analysis (Table 3) showed that the number of years worked or licensed in the field by doctoral students were not significant predictors [Step 1: $F(1, 138) = 0.28$, $R^2 = .00$, $p > .05$]. The predictors, in combination, however, significantly accounted for 13% of the variance in the professional attitude of counselor education doctoral students [Step 2: $F(5, 134) = 4.04$, $p < .01$; $\Delta R^2 = .13$, $F(4, 134) = 4.98$, $p < 0.001$]. However, only advisor-advisee relationships ($\beta = .20$) and counseling training environment ($\beta = .18$) were the significant contributors in the model. The amount of variance accounted for, in this analysis, indicated a medium effect size (Cohen, 1992).

Discussion

The purpose of this study was to examine the associations between a selected set of systemic variables and the professional identity of doctoral level counselor education students in CACREP-accredited programs. The major findings of this study indicate that advisor-advisee relationship, counselor training environment, and peer collaboration are significant predictors of the different aspects of PID of doctoral level counselor education students. These findings are noteworthy as they support several of our expectations. First, PID is multilayered and can be better understood through a systemic lens. Second, our findings show that the ecosystems surrounding the students are interrelated (e.g., peer collaboration and AWAI-S) and influence the students' professional identity. Lastly, our findings support the use of Bronfenbrenner's (1994) ecological theory in conceptualizing and researching PID.

The predictor variables were able to account for several domains of professional identity in both our bivariate and multivariate analyses. More specifically, our studied variables were associated with 4 of the 6 subscales of PISC. Our predictor variables were not associated with the Knowledge of the Profession subscale and only our control variable—years of working/licensed— was associated with the Professional Orientation and Values subscale. We discuss the findings, their implications, and offer some recommendations in greater detail below.

Advisor-Advisee Relationship

Our findings show that advisor-advisee relationship was not a significant predictor in the overall PID of counselor education doctoral students in our regression model even though it was a significant predictor of the Attitude subscale and Professional Roles and Expertise subscale in our bivariate analysis. This is interesting as it may indicate that students may have developed certain professional identity components such as professional knowledge and behavior through their work experience before they entered their doctoral program. Therefore, it was less surprising to us that our results did not indicate a significant relationship between advisor-advisee relationship and the overall PID of doctoral students among our combined predictor variables.

On the other hand, our findings do suggest that the advisor-advisee relationship was a significant predictor of professional attitude development, a factor in the larger construct of professional identity. This is especially noteworthy given that advisor-advisee relationships among doctoral students are very personal and multidimensional (Rice et al., 2009; Henfield et al., 2011). Not only do faculty advisors help students navigate the academic realm, they may provide support especially when an advisee may be experiencing various life stressors and tragedies. For example, I (Ewe) recalled and appreciated my advisor (Dr. Ng) when he called me

to express his condolences and thoughts when my late wife succumbed to cancer. Such action, while not being required of an advisor, solidified our working relationship and provided personal insights of how an advisor can influence a student's professional identity as a counselor educator. This example has shaped my professional work ethic and attitude, especially when working with students who are experiencing tragedies and loss. Therefore, we concur with Stebleton's (2011) assertion that academic advisors need to utilize an ecological framework as a lens to understand their students' development. We believe that our findings add to the literature by demonstrating the importance of the role of the academic advisors in some aspects of their doctoral advisees' PID.

Peer Collaboration

Even though peer collaboration has a mildly significantly positive zero-order correlation with the PISC total score of doctoral students, our study showed that peer collaboration was not a significant predictor in our hierarchical regression model. Similar to the advisor-advisee relationships, doctoral students may have had the work experience in the field that has developed and sharpened their overall professional identity. However, our study adds to the knowledge base by indicating that peer collaboration among doctoral students uniquely contributes to their engagement behaviors in professional identity. This finding is consistent with Ferguson's (2009) assertion that peer relationships among doctoral students affect productivity and development during their training. Furthermore, our study also supports Drouin's (2008) and Pyhältö et al. (2009)'s findings that indicate peer collaboration can create a community of encouragement and camaraderie for students.

In my (Ewe) own doctoral journey, my cohort was a tremendous support and encouragement. Not only did they reach out while my late wife was battling cancer, they

constantly supported me by ensuring my own self-care. Such support played a crucial role in my journey. Furthermore, our cohort members had the privilege of attending and presenting at various national conferences and co-taught in the classroom. Such experiences propelled us to develop our identity as counselor educators. Therefore, we (Ewe and Ng) believe that fostering peer collaboration among counselor education doctoral students is important and beneficial for the students' professional engagement.

Training Environment

Findings in this study on the positive zero-order correlations between the CTES, overall PISC, the Engagement subscale, the Attitude subscale, Professional Roles and Expertise subscale, and Philosophy of the Profession subscale may show that the training environment plays a crucial role in the various aspects of PID of counselor education doctoral students. Additionally, CTES was the only significant predictor of the overall PID of doctoral students in the regression model as well. This may indicate that our predictor variables have shared variance with one another and CTES was the strongest predictor among the combined variables. Additionally, our findings concur with previous studies in other helping fields, such as psychology, that demonstrates the need for students to have support from their environment for a healthy professional development (e.g., Bruss & Kapola, 1993).

In my (Ewe's) doctoral program, receiving feedback from my instructors and doctoral peers played a tremendous role in my development as a counselor educator. Such constructive feedback in my doctoral program shaped my teaching, supervision, and counseling work and advanced my skills and attitude as a counselor educator even though I have worked in various universities and clinical settings prior to my doctoral work. In addition, I became more aware of social justice issues and the need for advocacy as a result of my doctoral work.

Instructional Environment

Likely the first study that examined the association between professional identity of doctoral students and their instructional environment, our study suggests that the nature of instruction environment—online/hybrid versus traditional— is not associated significantly with students' PID. Our study appears to support Smith et al.'s (2015) study that the level of learning between online and traditional students was similar, at least in terms of PID. However, interpretation of the current study needs to be cautious, as we had limited number of online/hybrid students ($n = 39$) compared to those from traditional, in-person programs. Replication studies are needed to further verify this finding.

Limitations

This study has several limitations. First, our participants were students in CACREP-accredited doctoral programs in the United States who were recruited via emails with the help of counselor educators and through listservs. Therefore, our findings cannot be generalized to all doctoral counseling students who were non-CACREP-accredited programs or living outside the United States. Also, because our study used self-reported questionnaires, we have to consider biases when interpreting the results. Another limitation to our study is the high number of incomplete and unusable responses which might have influenced our findings. This high number of unusable responses might be related to the web-based nature of the study in that participants might have felt less pressured to not complete the study materials compared to paper copy survey method. Finally, a cross-sectional study does not allow for confident causal conclusions.

Implications and Recommendations

Despite the above limitations, there are several significant findings regarding counselor education and the PID of doctoral students. First, doctoral students' PID is significantly related to their training environment, particularly as it relates to the professional engagement behaviors and attitude of doctoral students. Unlike master's-level counseling students who often are developing their counseling skills and knowledge, counselor education programs should focus on fostering a training environment for doctoral students that intentionally help them develop a well-defined counselor educator's professional identity through course work, advising, and professional involvement. Further, we believe doctoral students should seek opportunities during their internship, a critical part of their training environment, that allow them to experience a breadth of professional experience including teaching, researching, supervising, and advocating. This may not only strengthen their professional identity but also prepare them for career opportunities when they graduate. Therefore, we suggest that counselor preparation programs assess the effectiveness of each aspect of their training environment to ensure that the environment promotes doctoral students' PID.

Counselor educators, on the other hand, need to continue to provide a deep and meaningful advisor-advisee relationship with their advisees. The advisors' actions can also become exemplary models for their students to emulate in the future when they become advisors. As such, we recommend counselor educators to converse with their advisees about their professional development frequently. Future research should also explore how mentoring, instead of advisor-advisee relationships, at a doctoral level can predict students' PID.

Our findings also indicate that counselor education doctoral programs should encourage peer collaboration among their students. Also, we believe that peer collaboration can increase

professional activities such as presentations and research among doctoral students, and provide support and encourage professional networking among students even after graduation. We recommend future research to explore how peer collaboration among different cohorts in the program and peer collaboration between doctoral students in cohort and non-cohort can predict PID of doctoral students.

Interestingly, there were no associations between the studied variables and the professional knowledge subscale of PISC in our findings. One plausible explanation might be that doctoral students have already developed a good understanding about the counseling field prior to starting their doctoral studies. Instead, our findings indicate that variables in their learning environment are associated with their development of professional role, involvement, and attitude as leaders and educators in counseling. Therefore, we suggest that counselor educators develop collaborative and experiential learning opportunities in doctoral programs to develop skills and self-efficacy in such new roles. Additionally, we recommend future studies to explore other ecological variables that may account for the Professional Knowledge subscale.

We also recommend qualitative research that explores students' lived experiences in relation to their professional identity development in different instructional environment similar to Carrillo's (2014) study as well as the processes involved in students' PID in online, hybrid, as well as traditional instructional environment. Finally, counselor educators need to assess ecological factors when developing the professional identity of doctoral students. Our predictor variables only accounted for 10-13% of the variance in the professional identity of counselor education doctoral students. Therefore, future studies are warranted to explore other systemic variables that may account for the different aspects of PID that were not accounted for by our predictor variables. For example, we suggest exploring ecological variables such as part-time

versus full-time doctoral enrollment, training satisfaction, and research opportunities in doctoral programs that may account for the PID of doctoral students.

Conclusion

In our study, we examined whether CACREP-accredited counselor education doctoral students' advisor-advisee relationship, peer collaboration, training environment, and instructional environment after controlling for the number of years they are licensed or worked in their field would predict their PID. We discovered that all of our predictor variables, except instructional environment, were significant predictors in some aspects of the development of students' professional identity. Therefore, it is important to consider various ecosystems when understanding students' PID throughout their academic endeavor. We believe that our study has contributed significantly to the growing body of knowledge on the PID of counselor education doctoral students.

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Table 3.1*Means, Standard Deviations, and Zero-Order Correlations among Study Variables (N = 140)*

Measures	α	M	SD	2	3 ^a	4	5 ^b	6 ^b	7	8 ^a	9 ^a	10 ^a	11	12 ^c
1. PISC- Total	.92	277.18	22.24	.87**	.82**	-.77**	-.76**	-.56**	.47**	-.16	-.21*	-.23**	.12	-.11
2. PISC- Subscale 1	.84	66.54	10.29		.68**	-.53**	-.51**	-.35**	.25**	-.14	-.26**	-.19*	.16	-.10
3. PISC- Subscale 2	.87	51.97	5.75			-.50**	-.51**	-.29**	.35**	.02	-.15	-.13	.07	-.11
4. PISC- Subscale 3 ^a	.84	2.58	.92				.67**	.48**	-.30**	.30**	.20*	.26**	-.12	.05
5. PISC- Subscale 4 ^b	.81	.45	.37					.60**	-.39**	.18*	.05	.25**	-.02	.03
6. PISC- Subscale 5 ^b	.71	.43	.33						-.36**	.12	.06	.22**	.04	.10
7. PISC- Subscale 6	.50	20.39	2.57							.06	.11	-.03	-.04	-.19*
8. AWAI-S ^a	.96	5.23	1.95								.35**	.37**	-.12	.04
9. Peer Collaboration ^a		.27	.23									.22**	-.35**	.10
10. CTES ^a	.87	4.32	.93										.09	-.08
11. Instructional Environment		1.72	.45											-.31**
12. Number of years worked or licensed in the field ^c		.58	.32											

Note. PISC = Professional Identity Scale in Counseling. Subscale 1- Engagement Behaviors Subscale 2- Knowledge of the Profession Subscale 3 Attitude Subscale 4- Professional Roles and Expertise Subscale 5- Philosophy of the Profession Subscale 6- Professional Orientation and Values. CTES = Counselor Training Environment Scale. AWAI-S = Advisor Working Alliance Inventory- Student Version

^a = Variables were square root transformed with reflection; lower scores indicate higher levels; interpretation need to reverse direction.

^b = Variables were logarithmic transformed with reflection; lower scores indicate higher levels; interpretation need to reverse direction.

^c = Variables were logarithmic transformed

** $p < .01$ * $p < .05$.

Table 3.2
Hierarchical regression of variables predicting professional identity development

PISC (Total Score)					
Variables	<i>B</i>	<i>SEB</i>	β	<i>t</i>	<i>R</i> ²
Step 1					
Years in the field ^c	-7.78	5.88	-.11	-1.32	.01
Step 2					
Years in the field ^c	-6.64	6.02	-.10	-1.10	
AWAI-S ^a	-.34	1.06	-.03	-.32	
Peer ^a	-11.88	9.05	-.12	-1.31	
CTES ^a	-4.81	2.17	-.20	-2.22*	
IE	3.16	4.59	.06	.69	.09*

PISC= Professional Identity Scale in Counseling. *CTES*= Counselor Training Environment Scale.

AWAI-S= Advisor Working Alliance Inventory- Student Version Peer= Peer Collaboration. IE= Instructional Environment.

^a = Variables were square root transformed with reflection; lower scores indicate higher levels; interpretation need to reverse direction.

^b = Variables were logarithmic transformed with reflection; lower scores indicate higher levels; interpretation need to reverse direction.

^c = Variables were logarithmic transformed

* $p < .05$ ** $p < .01$.

Table 3.3
Hierarchical regression of variables of PISC subscales

Variables	Engagement Behavior Subscale 1		Knowledge of the Profession Subscale 2		Attitude Subscale 3 ^a		Professional Roles and Expertise Subscale 4 ^b		Philosophy of the Profession Subscale 5 ^b		Professional Orientation and Values Subscale 6	
	β	R^2	β	R^2	β	R^2	β	R^2	β	R^2	β	R^2
Step 1												
Years in the field ^c	-0.10	.01	-0.11	.01	.05	.00	.03	.00	.10	.01	-0.19	.04
Step 2												
Years in the field ^c												
AWAI-S ^a												
Peer ^a												
CTES ^a												
IE												

CTES= Counselor Training Environment Scale. AWAI-S= Advisor Working Alliance Inventory- Student Version Peer= Peer Collaboration. IE= Instructional Environment.

^a = Variables were square root transformed with reflection; lower scores indicate higher levels; interpretation need to reverse direction.

^b = Variables were logarithmic transformed with reflection; lower scores indicate higher levels; interpretation need to reverse direction.

^c = Variables were logarithmic transformed

* $p < .05$ ** $p < .01$.

Chapter 4: General Conclusions

This chapter summarizes the findings and implications of the two dissertation studies that examined the association between various ecological variables and professional identity development (PID) of master's-level and doctoral level counseling students respectively, through Bronfenbrenner's (1994) ecological theory. The cross-sectional, correlational studies were analyzed using hierarchical linear regressions. Participants in these studies were students from CACREP-accredited counseling programs. The first study consisted of 229 master's-level counseling students while the second study comprised of 140 counselor education doctoral level students. Towards the end of the chapter, I will offer recommendations for future research.

Summary of Manuscript I

The first manuscript—Chapter 2—examined whether training environment, advisor-advisee relationship, and instructional environment could predict the development of professional identity of master's-level counseling students. In October 2017, I emailed counselor educators from randomly selected CACREP-accredited programs to help with recruiting master's-level students to complete a web-based survey. A total of 229 responses were included in the analyses. The research question for this study was: “To what extent do advisor-advisee relationship, training environment, and instructional environment predict the professional identity of master's-level counseling students after controlling for the number of courses they have taken?”

The bivariate correlation results showed a significantly positive correlation between advisor-advisee relationship and professional identity of master's-level counseling students ($r = .26, p < .01$). Further, results also indicated a mild, but statistically significant positive correlation between students' training environment and their professional identity ($r = .13, p <$

.05). However, I did not find significant association between professional identity and the type of instructional environment (traditional vs. online/hybrid delivery; $r = .05, p > .05$). This indicates that there is no difference in levels of professional identity between students in traditional, in-person counseling programs and those in online/hybrid programs. This result suggests that the development of professional identity of master's-level students in online and traditional instructional environment are similar.

Further, using the hierarchical linear regression, I examined if all the predictor variables in combination significantly predicted the PID of master's-level counseling students after controlling for the number of courses they had completed. Initial analysis indicated that the number of courses completed by students did not significantly predicted the professional identity of students by itself [Step 1: $F(1, 227) = 2.70, R^2 = .01, p > .05$]. However, results in Step 2 of the hierarchical linear regression showed that the predictor variables in combination significantly accounted for 9% of the variance in the professional identity of master's counseling students [Step 2: $F(4, 224) = 5.84, p < .01; R^2 = .09, F(3, 224) = 6.81, p < .01$]. But only advisor-advisee relationship and the number of courses students had taken significantly contributed to the variance in student professional identity. Among the predictors, advisor-advisee relationship as measured by AWAI-S was the strongest contributor ($\beta = .26$). Training environment was approaching significance ($p = .07$) in the regression analysis while instructional environment was not a significant predictor among the combined predictor variables.

Additional two analyses revealed that the number of courses completed by students was a suppressor variable. This was indicated by the significant partial correlation between the number of courses and PISC ($p < .05$) after controlling for AWAI-S and CTES. Further, the results of the regression model with the number of courses removed revealed a decrease in R^2 , ($F(3, 226) =$

6.01, $p < .01$; $R^2 = .07$). As a suppressor variable, it appears that the number of courses taken by students enhances the extent to which advisor-advisee relationship and training environment in combination explained the variance in professional identity.

Summary of Manuscript II

The purpose of the second study was to investigate whether (a) advisor-advisee relationship, (b) peer collaboration in professional activities, (c) training environment, and (d) instructional environment (online vs. traditional, in-person format) could predict various aspects of the professional identity of counselor education doctoral students after controlling for the number of years they had worked in the counseling field. In this cross-sectional, correlational study, I emailed counselor educators in all doctoral level CACREP-accredited programs listed in the CACREP in July 2017 and recruited 140 doctoral students to complete a web-based survey. The research question that guided this current study was: “To what extent do advisor-advisee relationship, peer collaboration, training environment, and instructional environment (online vs. traditional, in-person format) predict the professional identity of counselor education doctoral students after controlling for the number of years they have worked in the counseling field?”

I performed bivariate analyses among the study variables, including the subscales of PISC. The results showed that Engagement Behavior (Subscale 1), Attitude (Subscale 3), Professional Roles and Expertise (Subscale 4) and Philosophy of the Profession (Subscale 5) were significantly positively correlated with advisor-advisee relationship, peer collaboration in professional activities, and training environment. Only Professional Orientation and Values (Subscale 6) was significantly correlated with the number of years a student had been licensed or worked in the field. This finding indicates the length of professional work experience of doctoral students prior to starting their doctoral studies is only related to a specific aspect of their

professional identity. Despite its apparent limited relationship with professional identity, the length of work experience was still treated as a control variable (chronosystemic) in the analyses.

Results of the study indicated that there were positive significant correlations between advisor-advisee relationship and the development of professional attitude, role, and expertise of counselor education doctoral students. Interestingly, advisor-advisee relationship was not significantly correlated with overall professional identify (Total PISC) as hypothesized.

The results also showed a mild positive correlation between peer collaboration and the overall professional identity ($r = .21, p < 0.05$), engagement behaviors ($r = .26, p < 0.01$), and professional attitudes ($r = .20, p < 0.01$). Further, there was a significant positive correlation between counseling training environment and the total PISC ($r = .23, p < 0.01$) and four PISC subscales: Engagement Behaviors ($r = .19, p < 0.05$), Professional Attitudes ($r = .26, p < 0.01$), Professional Roles and Expertise ($r = .25, p < 0.01$), and Philosophy of the Profession ($r = .22, p < 0.01$). Finally, there was no correlation between any subscales of PISC and the instructional environment of doctoral students, indicating that doctoral student professional identity does not differ across instructional environment.

I ran a hierarchical linear regression to examine the fifth hypothesis that expected all the predictor variables to significantly predict the overall professional identity of doctoral level counseling students. Regression results in Step 1 of the model indicated that the number of years worked or licensed in the field by doctoral students did not significantly predict the professional identity of students. Results in Step 2 of the hierarchical linear regression analysis indicated that only training environment significantly and positively accounted for 9% of the variance in students' professional identity (PISC Total), indicating a medium effect size (Cohen, 1992).

Surprisingly, the results indicated that the advisor-advisee relationship and peer collaboration in professional activities were not significant contributors to the model. I conducted six post-hoc, hierarchical linear regression analyses to further examine how the predictor variables correlated with the six subscales of PISC. Regression results showed that, of the six subscales, the predictor variables significantly contributed to the 2 of the 6 subscales, namely, the Engagement Behavior subscale and the Attitude subscale. The first post hoc hierarchical linear regression analysis showed that the number of years worked or licensed in the field by doctoral students did not significantly predict the professional engagement behaviors of students [Step 1: $F(1, 138) = 1.37, R^2 = .01, p > 0.05$]. The predictors in combination in Step 2 of the hierarchical linear regression analysis significantly accounted for 10% of the variance in the engagement behaviors of counselor education doctoral students [Step 2: $F(5, 134) = 3.00, R^2 = .10, p = 0.01; \Delta R^2 = .09, F(5, 134) = 3.39, p = 0.01$]. However, peer collaboration ($\beta = .19$) was the only significant contributor.

The second post hoc hierarchical linear regression analysis indicated the number of years worked or licensed in the field by doctoral students was not a significant predictor of professional attitude in the model [Step 1: $F(1, 138) = 0.28, R^2 = .00, p > .05$]. The predictors in combination in Step 2 of the hierarchical linear regression analysis significantly accounted for 10% of the variance in the professional attitude of counselor education doctoral students [Step 2: $F(5, 134) = 4.04, p < .01; \Delta R^2 = .13, F(4, 134) = 4.98, p < 0.001$]. In this analysis, only advisor-advisee relationships ($\beta = .20$) and counseling training environment ($\beta = .18$) were significant contributors.

Limitations

There are several limitations to both of my studies that need to be considered when interpreting the findings. First, I am not able to make causal inferences of the findings as the design of the studies were correlational and cross-sectional. Second, the participants in both of our studies were limited to students from CACREP-accredited counseling programs in the United States who had Internet access to complete the web-based study. I recruited, through the help of counselor educators, master's-level counseling students through emails and counselor education doctoral students through emails and list-servs. Also, my studies relied on self-reported measures, which could be influenced by participants' biases.

Therefore, the findings of both my studies might not generalize to students in non-CACREP-accredited programs, students who did not receive the recruitment emails sent to counselor educators, as well as students who lived outside of the United States at the time of the study.

Implications and Recommendations

In reviewing the findings of both studies, there were several implications on PID and counselor preparation. The findings in both studies support the call to use an ecological perspective to understand and investigate professional identity of master's-level and doctoral level counseling students. Furthermore, the findings showed that the ecosystems of students are interrelated and multilayered, as proposed by Bronfenbrenner's (1994) ecological theory. Therefore, it is hoped that counselor educators will foster and assess the professional identity of their students from a systemic perspective.

Findings from both studies indicated the vital role of advisor-advisee relationship in counselor education programs even though in various ways. My first study showed a significant relationship between advisor-advisee relationship and the overall PISC of master's-level

students. My second study, however, showed advisor-advisee relationship as only a strong predictor of the Attitude subscale and Professional Roles and Expertise subscale and not the overall PISC of doctoral students. One possible explanation of such differences is that master's-level students need their advisor's guidance as they are new to the profession, whereas since some aspects of doctoral students' professional identity (e.g., knowledge and values) are more developed, they may only need advisement in specific areas of their professional identity (e.g., attitude and professional roles). Therefore, academic advisors need to develop a meaningful relationship with their students to understand the students' development and how the advisor can best guide each student. I suggest advisors meet with their advisees frequently and purposefully, integrate professional development into students' personal growth, and allow students to collaborate on professional activities such as research, presenting in conferences, and advocating on social justice issues. In terms of research, more investigation can be done to further investigate the differences of the studies' findings. Further, future studies can include understanding the role of mentoring in the PID of master's-level and doctoral level counseling students.

As indicated in our findings on the counseling training environment, counselor educators need to ensure that their students are engaging in academic and counseling settings that foster strong professional identity. This may include the need to develop strong working relationship with other professionals and the opportunities for students to develop their professional identity through leadership and advocacy work. Further, I suggest that counselor educators highlight the importance of the training environment when prospective students in master's-level and doctoral programs begin their graduate work so that they can intentionally develop their professional identity. Since my studies showed no significant relationship between training environment and

professional identity among master's-level students but revealed a significant relationship between training environment and professional identity among counselor education doctoral level students in the hierarchical regression model, I suggest further studies to validate my findings. The differences of results in both of the studies may possibly suggest that master's-level students' PID is more reliant on their relationship with their advisors above and beyond the influence of their training environment while doctoral students' PID is more reliant on their training environment beyond influence of their advisors. More studies are needed to further verify our findings and shed light on the differences. However, such mixed findings indicate that studies on counseling students' development need to consider the training level of students.

My findings did not find any statistically significant differences between the relationship of instructional environment and professional identity of both master's-level and doctoral level counseling students. However, I suggest further replication studies to confirm my findings since the sample size of the two studies for online students were limited. Based on my findings, I believe that the lack of difference between traditional and online programs may indicate that students are able to develop their professional identity despite of the instructional environment. This may be welcoming news as more and more online counselor education programs are emerging. I suggest future research examining how other characteristics within online programs are associated with student development, such as synchronous and asynchronous learning and hybrid versus fully online delivery.

In regards to peer collaboration, my findings indicated the importance of a collaborative environment among doctoral students. I believe strong peer collaboration can increase activities that promote PID while providing support for students throughout their academic journey. Furthermore, students can collaborate among themselves in research and professional

presentations that can solidify their identity as budding counselor educators. I suggest future research on PID of counseling students in cohort programs compared to students in non-cohort programs. Since my first study did not explore peer collaboration among master's-level students, I suggest future research in this area.

Finally, another area of research is studying the professional identity of students in non-CACREP accredited programs. This includes understanding ecological variables in non-CACREP accredited counseling programs that can predict PID of their counseling students. Finally, it would be beneficial to the literature to understand the differences of professional identity of students in accredited and non-accredited programs.

Conclusion

Based on Bronfenbrenner's (1994) ecological theory, I examined whether various ecological variables could predict the development of professional identity of master's-level counseling students and counselor education doctoral students in CACREP-accredited programs. I discovered that advisor-advisee relationship and the number of courses taken by students were significant predictors in the master's-level counseling students' professional identity and advisor-advisee relationship, peer collaboration, and training environment were significant predictors in counselor education doctoral students' professional identity. My studies showed that it is helpful to consider ecological influences when studying both master's-level and doctoral level counseling students' professional identity. I believe that my studies have contributed significantly to the growing body of knowledge on the professional identity of counseling students.

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Appendix A- IRB Approval Documents



Human Research Protection Program
 Institutional Review Board
 Office of Research Integrity
 8308 Kerr Administration Building, Corvallis, Oregon 97331-2540
 (541) 737-8008
IRB@oregonstate.edu | <http://www.research.oregonstate.edu/irb>

**EXEMPT
 DETERMINATION**

Date of Notification	10/27/2017	Date Acknowledged	10/27/2017
Principal Investigator	Kok-Mun Ng	Study ID	8310
Study Title	Relationships between a Selected Set of Multisystemic Variables and Professional Identity of Master's-Level Counseling Students		
Study Team Members	Edward Ewe		
Review Level	Exempt	Category(ies)	2
Submission Type	Initial Application		
Funding Source	None	PI on Funding	N/A
Proposal #	N/A	Category #	N/A

The above referenced study was reviewed by the OSU Human Research Protection Program (HRPP) office and determined to be exempt from full board review.

EXPIRATION DATE: 10/26/2022

The exemption is valid for 5 years from the date of approval.

Annual renewals are not required. If the research extends beyond the expiration date, the investigator must request a new exemption. Investigators should submit a final report to the HRPP office if the project is completed prior to the 5 year term.

Comments:

Please note when applicable, if the PI has not already done so, the HRPP staff will update the version date on the protocol and consent document(s).

Principal Investigator responsibilities:

- > Certain amendments to this study must be submitted to the HRPP office for review prior to initiating the change. These amendments may include, but are not limited to, changes in funding, study population, study instruments, consent documents, recruitment material, sites of research, etc. For more information about the types of changes that require submission of a project revision to the HRPP office, please see: http://oregonstate.edu/research/irb/sites/default/files/website_guidancedocuments.pdf
- > All study team members should be kept informed of the status of the research. The Principal Investigator is responsible for ensuring that all study team members have completed the online ethics training requirement, even if they do not need to be added to the study team via project revision.
- > Reports of unanticipated problems involving risks to participants or others must be submitted to the HRPP office within three calendar days.
- > The Principal Investigator is required to securely store all study related documents on the OSU campus for a minimum of three years post study termination.



Human Research Protection Program
 Institutional Review Board
 Office of Research Integrity
 8308 Kerr Administration Building, Corvallis, Oregon 97331-2140
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IRB@oregonstate.edu | <http://research.oregonstate.edu/irb>

**EXEMPT
 DETERMINATION**

Date of Notification	12/18/2017	Date Acknowledged	12/18/2017
Principal Investigator	Kok-Mun Ng	Study ID	8332
Study Title	Relationships Among A Selected Set of Multisystemic Variables and Counselor Education Doctoral Students' Professional Identity Development		
Study Team Members	Edward Ewe		
Review Level	Exempt	Category(ies)	2
Submission Type	Initial Application		
Funding Source	None	PI on Funding	N/A
Proposal #	N/A	Case #	N/A

The above referenced study was reviewed by the OSU Human Research Protection Program (HRPP) office and determined to be exempt from full board review.

EXPIRATION DATE: 12/17/2022
 The exemption is valid for 5 years from the date of approval.
 Annual renewals are not required. If the research extends beyond the expiration date, the investigator must request a new exemption. Investigators should submit a final report to the HRPP office if the project is completed prior to the 5 year term.

Comments:

Please note when applicable, if the PI has not already done so, the HRPP staff will update the version date on the protocol and consent document(s).

Principal Investigator responsibilities:

- Certain amendments to this study must be submitted to the HRPP office for review prior to initiating the change. These amendments may include, but are not limited to, changes in funding, study population, study instruments, consent documents, recruitment material, sites of research, etc. For more information about the types of changes that require submission of a project revision to the HRPP office, please see: http://oregonstate.edu/research/irb/sites/default/files/website_guidancedocuments.pdf
- All study team members should be kept informed of the status of the research. The Principal Investigator is responsible for ensuring that all study team members have completed the online ethics training requirement, even if they do not need to be added to the study team via project revision.
- Reports of unanticipated problems involving risks to participants or others must be submitted to the HRPP office within three calendar days.
- The Principal Investigator is required to securely store all study related documents on the OSU campus for a minimum of three years post study termination.

Appendix B- Demographics Questionnaire for Study 1

Q1 I am 18 years or older.

- Yes
- No

Q2 Please indicate your age. You can leave the answer blank if you choose not to disclose.

Q3 Please indicate your gender.

- Male
- Female
- Transgender
- Gender non-conforming
- Prefer not to disclose

Q4 Is the program you're currently enrolled in CACREP-accredited?

- Yes
- No

Q5 If yes, please indicate the program specialty you are enrolled in:

- Clinical Mental Health Counseling
- School Counseling
- Addiction Counseling
- Marriage, Couple, and Family Counseling
- Career Counseling
- Clinical Rehabilitation Counseling
- College Counseling and Student Affairs

Q6 Please indicate your race/ ethnicity/ national origin.

- Caucasian or White American
- Black or African American
- American Indian or Alaska Native
- Asian American
- Native Hawaiian or Pacific Islander
- Hispanic/ Latino/ Spanish American
- Multiracial
- Non-U.S. Citizen
- Other
- Prefer not to disclose

Q7 Please indicate the (estimated) number of counseling courses you have completed so far in your master's-level graduate program.

Q8 Please indicate the instructional environment—learning delivery—of your program

- Hybrid (Definition- 30-50% of your coursework was delivered via the internet with some face to face, in-person interactions with peers and faculty)
- Fully Online (Definition: 50% or more coursework was delivered via the Internet)
- Traditional, In-Person, On Ground (Definition: Less than 30% of your course work was delivered via the Internet)

Appendix C- Demographics Questionnaire for Study 2

Q1 Do you currently reside in the United States?

- Yes
- No

Q2 I am 18 years or older.

- Yes
- No

Q3 Please indicate your age. You can leave the answer blank if you choose not to disclose.

Q4 Is the program you are currently enrolled in CACREP-accredited?

- Yes
- No

Q5 Please indicate your Association for Counselor Education and Supervision (ACES) region.

- North Atlantic Region ACES (Members are from District of Columbia, Europe, Puerto Rico, Virgin Islands, Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont)
- North Central Region ACES (Members are from Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin)
- Rocky Mountain ACES (Members are from Montana, Idaho, Wyoming, Utah, Colorado, and New Mexico)
- Southern ACES (Members are from Alabama, Arkansas, Florida, Georgia, Kentucky, Latin America, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia)
- Western ACES (Members are from Alaska, Arizona, California, Hawaii, Nevada, Oregon, and Washington, as well as Pacific Rim countries)
- Prefer not to disclose

Q6 Please indicate your gender.

- Male
- Female
- Transgender
- Gender non-conforming
- Prefer not to disclose

Q7 Please indicate your ethnicity/nationality.

- Caucasian or White American
- Black or African American
- American Indian or Alaska Native
- Asian American
- Native Hawaiian or Pacific Islander
- Hispanic/ Latino American
- Multiracial
- Non-U.S. Citizen
- Other
- Prefer not to disclose

Q8 Please indicate your primary area of specialization.

- Counselor Educator
- Community/ Clinical Mental Health Counselor
- School Counselor
- Career Counselor
- Other (Please Specify) _____
- None
- Prefer not to disclose

Q9 Please indicate the number of years licensed or worked in the counseling field **prior to starting your doctoral studies.**

Q10 Please indicate the instructional environment of your doctoral program.

Hybrid (Definition- 30-50% of your coursework was delivered via the Internet with some face to face, in-person interactions with peers and faculty)

Fully Online (Definition: 50% of your coursework was delivered via the Internet)

Traditional, In-Person, On Ground (Definition: Less than 30% of your course work was delivered via the Internet)

Q11 Level of Peer Collaboration

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My peers in the doctoral program collaborate frequently with one another on professional activities. (This may include presenting at conferences, working on research projects, advocating on social justice issues, or co-teaching counseling courses.)	<input type="radio"/>				

Q12 Level of Training Satisfaction

	Extremely satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Extremely dissatisfied
How satisfied are you with the overall quality of training you have been receiving from your doctoral program?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix D- Professional Identity Scale in Counseling

This inventory is developed to assess your thoughts and beliefs about the counseling profession and your professional identity. Please read carefully and indicate your agreement with each statement by marking the number that best fits with your thoughts.

*Not at all in Agreement**Neutral/Uncertain**Totally in Agreement*

[----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 -----]

1. I have memberships of professional counseling associations (e.g., national, state-wide, and/or regional).

2. I actively engage in professional counseling associations by participating in conferences and workshops every year.

3. I engage in certification/licensure renewal process (e.g., LPC: Licensed Professional Counselor, NCC: National Certified Counselor).

4. I have contributed to expanding my knowledge base of the profession by participating in counseling research (e.g., by being interviewed, taking surveys).

5. I have conducted counseling research.

6. I have published research findings in my field.

7. I follow up with theoretical, practical, and technical advancement in my profession by keeping up with literature (e.g., professional counseling journals, books) in the field.

8. I engage in or seek opportunities to serve in non-required leadership positions (e.g., counseling association, CSI: Chi Sigma Iota, interest network, committee, volunteering work, community service).

9. I educate the community and public about my profession.

10. I advocate for my profession by participating in activities associated with legislation, law, and policy on counseling on behalf of the profession.

11. I seek feedback/consultation from professional peers/colleagues as a form of professional development.

12. I regularly communicate with a mentee who is interested in his/her professional development.

13. I keep in contact with counseling professionals through training and/or professional involvement in counseling associations.
14. I keep involved in ongoing discussions with counseling professionals about identity and the vision of my profession.
15. I know the origins of the counseling profession.
16. I am knowledgeable of the important events and milestones (e.g., establishing ACA, state-level licensure) in counseling history.
17. I am knowledgeable about ethical guidelines (e.g., codes of ethics/standards of practice) in counseling.
18. I am familiar with accreditation organizations (e.g., CACREP: Council for Accreditation of Counseling & Related Educational Programs) and their standards for professional preparation.
19. I am familiar with certification organizations (e.g., NBCC: National Board for Certified Counselors) and their requirements for credentials.
20. I am familiar with professional counseling associations (e.g., ACA: American Counseling Association) and their roles and accomplishments in the profession.
21. I am knowledgeable of professional counseling journals (e.g., JCD: The Journal of Counseling & Development, journal(s) relevant to my specialty area) and their contents' foci and purposes in the profession.
22. I am able to distinguish similarities and differences between my profession and other mental health professions (e. g., counseling psychology, social work, and psychiatry).
23. I am familiar with laws (e.g., court cases, licensure) and regulations related to my profession.
24. I am able to distinguish the counseling philosophy from the philosophy of other mental health professions (e. g., counseling psychology, social work, and psychiatry).
25. My profession has a well-established theoretical body of knowledge.
26. My profession provides unique and valuable services to society.
27. I value the advancement and the future of my profession.
28. I recommend my profession to those who are searching for a new career related to helping professions.
29. I am comfortable having discussions about the role differences between counseling and other mental health professions (e.g., counseling psychology, social work, and psychiatry).

30. My personality and beliefs are well matched with the characteristics and values of my profession.
31. I am satisfied with my work and professional roles.
32. I have a solid work-life balance and feel congruent.
33. As a counseling professional, I share my positive feelings (e.g., satisfaction) when working with people in other fields.
34. I value various professional roles (e.g., counselor, educator, consultant, and advocate) that a counseling professional can hold.
35. A counseling professional's roles and duties vary depending on settings, diverse populations served, and the person's specialty.
36. Regardless of different roles (e.g., counselor, supervisor, or consultant), a major goal is client welfare.
37. I believe a counseling professional should value the importance of advocacy for the populations that the person serves.
38. I believe a counseling professional should value the importance of advocacy for the profession that the person belongs to.
39. I will/have completed professional training and standard education to perform my duties in my roles.
40. I have professional knowledge and practical skills required to successfully perform my roles.
41. I am confident that there will be positive outcomes of my work and services.
42. I am knowledgeable of ethical responsibilities and professional standards relevant to my roles.
43. The preventive approach is emphasized in the counseling philosophy.
44. It is important to view clients holistically, focusing on integration of the mind, body, and spirit.
45. It is important to empower clients through an emphasis on personal strengths.
46. Advocacy for clients is emphasized in the counseling philosophy.
47. Clients are able to make constructive and positive changes in their lives.

48. Interactions in counseling are based on the relationship between counselor and client.

49. Research is an important part of the counseling profession.

50. I believe counseling is different from other mental health professions (e.g., counseling psychology, social work, and psychiatry).

51. It bothers me to meet people who do not recognize my profession.

52. I would like to be more involved in professional development activities.

53. I believe core counselor education courses (e.g., career counseling, multicultural counseling, and group counseling) should be taught by counselor educators instead of other mental health professionals (e.g., psychologists, social workers, and psychiatrists).

SCORING THE PISC

The 53 items are distributed among 6 subscales as indicated below in the scoring key. Each subscale score is the sum of the responses given to the items on that subscale. A total score can be reached by adding the six subscale scores together. For more information, please contact the author. This scale can be used with author's permission.

Scale 1 - Engagement Behaviors

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

Scale 2 - Knowledge of the Profession

15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Scale 3 -- Attitude

25, 26, 27, 28, 29, 30, 31, 32, 33

Scale 4 - Professional Roles and Expertise

34, 35, 36, 37, 38, 39, 40, 41, 42

Scale 5 -- Philosophy of the Profession

43, 44, 45, 46, 47, 48, 49

Scale 6 -- Professional Orientation and Values

50, 51, 52, 53

Appendix E- The Advisory Working Alliance Inventory- Student Version

These 30 items pertain to your perceptions about your relationship with your advisor. For the purposes of this study, the term advisor is referring to the faculty member that has the greatest responsibility for helping guide you through your graduate program (e.g., advisor, major professor, committee chair, dissertation chair). Please respond to the items using the following scale:

Strongly Disagree *Neutral* *Strongly Agree*

[1 ----- 2 ----- 3 ----- 4 ----- 5]

1. I get the feeling that my advisor does not like me very much.
2. My advisor introduces me to professional activities (e.g., conferences, submitting articles for journal publication).
3. I do not want to be like my advisor.
4. My advisor welcomes my input into our discussions.
5. My advisor helps me conduct my work within a plan.
6. I tend to see things differently from my advisor.
7. My advisor does not encourage my input into our discussions.
8. My advisor has invited me to be a responsible collaborator in his/her own work.
9. I do not want to feel similar to my advisor in the process of conducting work.
10. My advisor is not kind when commenting about my work.
11. My advisor helps me establish a timetable for the tasks of my graduate training.
12. My advisor and I have different interests.
13. I do not feel respected by my advisor in our work together.
14. My advisor is available when I need her/him.
15. I feel like my advisor expects too much from me.
16. My advisor offers me encouragement for my accomplishments.
17. Meetings with my advisor are unproductive.

18. I do not think that my advisor believes in me.
19. My advisor facilitates my professional development through networking.
20. My advisor takes my ideas seriously.
21. My advisor does not help me stay on track in our meetings.
22. I do not think that my advisor has my best interests in mind.
23. I learn from my advisor by watching her/him.
24. I feel uncomfortable working with my advisor.
25. I am an apprentice of my advisor.
26. I am often intellectually “lost” during my meetings with my advisor.
27. I consistently implement suggestions made by my advisor.
28. My advisor strives to make program requirements as rewarding as possible.
29. My advisor does not educate me about the process of graduate school.
30. My advisor helps me recognize areas where I can improve.

Appendix F- Counseling Training Environment Scale (CTES)

The purpose of the CTES is to assess your perceptions and experiences of the counseling training environment in the counseling and related mental health training program you are attending *right now*. **Please note that due to the nature of some of the items, you must be at least in your second clinical placement of your training.**

The items will assess your perceptions about what your current training environment is *actually like*. Please read each item and using the 5-point Likert-type scale (1 = *Strongly Disagree* [SD]; 2 = *Disagree* [D]; 3 = *Agree* [A]; 4 = *Strongly Agree* [SA]; 5 = *Not Applicable* [NA]), rate your level of agreement with each item by selecting the appropriate number.

<i>In my counseling training program...</i>	SD	D	A	SA	NA
1. Questions from students are welcomed in all my classes	1	2	3	4	5
2. I get regular feedback from my professors	1	2	3	4	5
3. My clinical site supervisor treats me with respect	1	2	3	4	5
4. My clinical site supervisor creates a safe environment for the discussion of difficult topics	1	2	3	4	5
5. Students have access to University/college resources to facilitate learning and training (e.g., writing labs)	1	2	3	4	5
6. Our program has a good relationship with the local community	1	2	3	4	5
7. Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement	1	2	3	4	5
8. University/college procedures and department procedures for addressing student grievances are consistent	1	2	3	4	5
9. Program faculty are active in addressing issues that arise at my clinical field experience site	1	2	3	4	5
10. Students are kept abreast of the mental health needs of the community	1	2	3	4	5
11. Students are made aware of opportunities to volunteer in community activities	1	2	3	4	5
12. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients	1	2	3	4	5
13. Faculty incorporate their clinical experiences into the classroom training	1	2	3	4	5
14. Faculty are well-connected within the profession	1	2	3	4	5
15. My clinical site supervisor shares clinical resources with me	1	2	3	4	5
16. Training curricula meets state standards for professional licensure and/or certification	1	2	3	4	5
17. An emphasis is placed on adhering to the ethical codes set forth by the profession	1	2	3	4	5

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|---|---|---|---|---|---|
| 18. We are taught to recognize both within-group and between-group differences | 1 | 2 | 3 | 4 | 5 |
| 19. My knowledge, awareness, and skills in multicultural counseling has been challenged | 1 | 2 | 3 | 4 | 5 |
| 20. The program has helped me become mindful of my personal development through time | 1 | 2 | 3 | 4 | 5 |
| 21. The program is intentional in facilitating students' growth and development | 1 | 2 | 3 | 4 | 5 |
| 22. My training curricula reflects the current trends of the profession | 1 | 2 | 3 | 4 | 5 |
| 23. My training is current and reflective of the issues impacting our society today | 1 | 2 | 3 | 4 | 5 |