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Experiences with and Attitudes toward Interprofessional Teams among Clinical, Counseling, and School Psychology Doctoral Students

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Experiences with and Attitudes toward Interprofessional Teams among Clinical, Counseling, and

School Psychology Doctoral Students

by

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Presented to the Graduate and Research Committee

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Abstract

Utilizing a sample of 214 clinical, counseling, and school psychology doctoral students recruited from APA-accredited programs, the present mixed-methods study examined whether and to what extent demographic variables and interprofessional experiences—both educational and practice oriented—were related to their self-reported attitudes toward interprofessional health care teams (IPTs) as well as their readiness for interprofessional learning. No significant differences in attitudes toward IPTs or readiness for interprofessional learning were found between doctoral students from clinical, counseling, and school psychology programs. Hierarchical linear regression analyses indicated that greater amounts of interprofessional experience were related to more positive attitudes toward IPTs, in addition to positive team behaviors and perceived competence in interprofessional practice. Qualitative analyses identified common themes of positive and negative experiences regarding experienced participants' interprofessional experiences. The most common roles reported by students on IPTs are mental health therapeutic service provision (e.g., individual/group therapy), consultation to the IPT, and assessment. Challenging team dynamics, navigating hierarchical structures, and role uncertainty were the most frequently described challenges encountered by students working on IPTs. Students reported positive feelings about their contributions on IPTs, increased competency in interprofessional practice, and improvement in patient care as the most common benefits of IPTs. Findings demonstrate the importance of the provision of clinical interprofessional experiences in psychology doctoral training as well and the opportunity to discuss these experiences in co-occurring coursework within their training programs.

Chapter I

Introduction

Psychologists and psychology doctoral students are increasingly working as members of interprofessional health care teams in a variety of settings to address the complex biological, psychological, and social needs of the clients they serve (American Psychological Association, 2015; Rozensky, Johnson, & Kaslow, 2014). Attitudes toward this type of collaboration with individuals from professions outside of one's own can influence outcomes associated with team experiences and performance. For example, research demonstrates that team members' negative stereotypes and attitudes regarding other healthcare professionals impede effective collaboration and communication within teams and decrease job satisfaction (Carpenter & Hewstone, 1996; Hind et al., 2003; Institute of Medicine, 2000; Jacobsen & Lindqvist, 2009). Further, negative attitudes of students and faculty toward interprofessional teamwork and education may limit the involvement of psychology doctoral students in opportunities to develop competencies in interprofessional team treatment (Curran, Sharpe, & Forristall, 2008; Hoffman & Redman-Bentley, 2012). Thus, it is imperative to identify factors that contribute to the endorsement of positive attitudes toward interprofessional practice and education among psychology doctoral students. Despite the increasing presence of psychologists and psychology doctoral students on health care teams, the majority of existent research has failed to examine attitudes toward interprofessional teams in psychology doctoral students.

The development of one's attitudes toward other disciplines and readiness for interprofessional training may begin in graduate school by means of interprofessional education (IPE; Wright & Lindqvist, 2008). IPE is said to occur when "students from two or more professions learn about, from, and with each other to enable effective collaboration and improve

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health outcomes" (World Health Organization, 2010, p. 7). Presently, the American Psychological Association (APA) is a member of the Interprofessional Education Collaborative (IPEC), which was created to promote educational experiences that prepare psychology doctoral students for work on interprofessional care teams. IPEC's competency statement declares that psychologists must "use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of the patients and populations served" (IPEC Expert Panel, 2011, p. 21). Although the APA endorses IPE and becoming competent in it, most psychology doctoral students do not participate in formal educational training in interprofessional care as part of their graduate programs (Larkin & Klonoff, 2014; Suls, Krantz, & Williams, 2013).

Recently, however, training programs and professional organizations, such as the APA, have increased their emphasis on providing IPE opportunities for doctoral students in psychology in order to increase their exposure, comfort, and competency in integrated care and their understanding of their professional roles within an interprofessional context (Olson & Bialocerkowski, 2014; Wellmon, Gilin, Knauss, & Linn, 2012; Zucchero, Hooker, Harland, Larkin & Tunningley, 2011). Specific training programs may influence their students' awareness of and readiness for participation in interprofessional care teams and IPE in clinical and educational settings. For instance, the biopsychosocial model of health care delivery is a trademark of health psychology; therefore, students in clinical and counseling psychology programs that are a part of the Council of Clinical Health Psychology Training Programs (CCHPTP), or that have a health psychology specialty track, may be more likely to have training experiences that facilitate positive attitudes and readiness for the interprofessional learning characteristic of the biopsychosocial model. In fact, interprofessional relationship competencies

comprise a significant amount of behavioral anchors within health psychology training. For example, knowledge and appreciation of the roles and primary responsibilities of other health care professionals (e.g., physicians, nurses, social workers) as well as behavior that demonstrates appropriate respect for the professional autonomy of other health care professionals have been identified as specific requirements for successful practice (Larkin & Klonoff, 2014).

Despite health psychology being labeled as a "clinical" specialty, a minority of health psychologists receive their training in counseling psychology and school psychology programs. It is estimated that approximately 20% of practicing health psychologists also identify as counseling psychologists (Nicholas & Stern, 2011). Likewise, the subspecialty of pediatric school psychology incorporates competencies from both school psychology and health psychology to prepare its students to serve as a liaison between families, educational professions, and health care providers to promote interprofessional collaboration between parties (Power, DuPaul, Shapiro, & Kazak, 2003; Power, DuPaul, Shapiro, & Parrish, 1995). Although the majority of school psychologists work in school settings, a significant number of doctoral-level school psychologists have expanded their range of clinical activities beyond education-based assessment and now function in roles that do not differ measurably from clinical child psychologists; thus, the roles between clinical child psychologists and school psychologists are becoming increasingly blurred (Johnson, Janicke, & Reader, 2008). Similar to their colleagues in clinical psychology programs, students in pediatric school psychology programs and counseling psychology programs may also receive training to provide services in medical settings that expose them to opportunities to work within an interprofessional treatment team (Nicholas & Stern, 2011; Shapiro & Manz, 2004).

Literature suggests that the unique roles, responsibilities, and training environments of psychologists and psychology students within an interprofessional context may vary slightly by sub-specialties of clinical, counseling, and school psychology (e.g., Cobb et al., 2004; Neimeyer, Rice, & Keilin, 2009). Traditionally, clinical psychology students are more likely to be employed and trained in medical settings, whereas counseling psychology students are more likely to be placed in college counseling centers for practicum and internship (Neimeyer et al., 2011). School psychology doctoral students are most likely to be trained and employed in a school setting (Cobb et al., 2004). Although counseling and school psychology are not traditionally trained in medical centers, it is worth noting that each specialty brings important contributions to interprofessional team care and, with proper training, students can be well equipped to thrive in this environment. For instance, Power et al. (1995) highlighted several roles for pediatric school psychologists on interprofessional teams that included patient advocate, effective communication promoter in interprofessional teams, and intervention evaluator. Further, they may serve as a liaison between the school and medical setting, educating staff in both arenas about the child's illness and promoting peer education/support programs (in the school environment) or educational intervention progress monitoring and expertise surrounding educational issues for children suffering from chronic illness (Power et al., 2003).

Similarly, training backgrounds of counseling psychology students offer several core values that are needed for appropriate provision of services within an interprofessional team. Specifically, counseling psychology prides itself in taking a more "whole person…culture-centered" approach to treatment (American Psychological Association, 2014b), a perspective that may be overlooked in settings such as hospitals where patient issues are often centered on pathology. Counseling psychologists and students with appropriate training in medical settings

are prepared to provide competent services within an interprofessional team and, in doing so, bring a specialty-specific perspective that "emphasizes normative, developmental issues across the life span, resulting in a strength-based approach, and often focus on prevention over remediation…further, they provide procedures that emphasize provision of culturally-sensitive health care, with multicultural competence, and awareness and sensitivity to issues of social justice" (Nicholas & Stern, 2011, p. 336). Although the training backgrounds of clinical, counseling, and school psychologists may vary, their curricula are more similar than different (Cobb et al., 2004), suggesting that the three subspecialties can share similar roles and responsibilities on an interprofessional team.

The Competency Benchmarks Work Group (Fouad et al., 2009) for professional psychology identified four interprofessional system competencies including (a) understanding the contributions of other professions, (b) functioning within an interprofessional context, (c) understanding the impact of interprofessional collaboration on outcomes, and (d) the ability to form working relationships with professionals from other disciplines. In other words, it is important that health service psychology doctoral students from *all* training backgrounds develop these competencies. Despite calls from leaders in the field that more attention should be given to applied graduate interprofessional training experiences is needed (e.g., Suls et al., 2013; Suls & Rothman, 2004; Van Liew, 2012), little is currently known about the nature of psychology doctoral students' readiness for interprofessional education, available training experiences, their attitudes toward such experiences, or the variation of readiness, attitudes, and experiences between training program types.

Perhaps as a result of the paucity of research examining students' interprofessional experiences, a lack of consensus exists among researchers and professionals regarding the

essential elements of IPE across the helping professions (Ko, Bailey-Kloch, & Kim, 2014). Yet, one established characteristic and theoretical backbone of current IPE programming and research is modeled after Allport's (1954) *intergroup contact hypothesis*, which later evolved into intergroup contact theory (e.g., Browne & Hewstone, 2005; Pettigrew, 1998). Contact theory posits that increased exposure to individuals from "outside" groups (e.g., individuals from professions outside of one's own) reduces prejudicial attitudes by enhancing knowledge about the outgroups, reducing anxiety about intergroup contact, as well as increasing empathy and perspective taking (Pettigrew & Tropp, 2008).

Application of intergroup contact theory to IPE suggests that students in the health and social sciences who work and interact with students from professional fields outside of their own will develop more positive attitudes toward interprofessional care and collaboration (Hewstone, Carpenter, Franklyn-Stokes, & Routh, 1994). In IPE, students from the helping professions are encouraged to work together in an applied setting to increase their competency in interprofessional collaboration and understanding; further, contact with members of other disciplines aids in the establishment of roles and identity within the context of a team (Craddock, O'Halloran, Borthwick, & McPherson, 2006). With this theory in mind, a number of studies have examined changes in health care student attitudes toward interprofessional teams and readiness for interprofessional learning after being exposed to an interprofessional education interventions, such as a day-long training on interprofessional care or a semester-long interprofessional education course (e.g., Anderson & Thorpe, 2008; Ruebling et al., 2014; Wellmon et al., 2012; Zucchero et al., 2011; Zucchero, Hooker, & Larkin, 2010). Indeed, longitudinal studies that examined health care graduate and undergraduate students' exposure to and involvement in IPE showed increases in students' positive attitudes toward other professions

(Jacobsen & Lindqvist, 2009), a greater understanding of one's own and others' professional roles (Wellmon et al., 2012), improved attitudes toward interprofessional collaboration (Hayashi et al., 2012), and improved perceptions of one's own competency (Kenaszchuk, Rykhoff, Collins, McPhail, & van Soeren, 2012). Unfortunately, the existing research has not yet examined the contact hypothesis as it relates to readiness for IPE or attitudes toward interprofessional teams in samples that include a robust and diverse sample of psychology graduate students from varying training backgrounds and degree types.

Given the APA's increased emphasis on interprofessional collaboration and competencies, along with the established positive effect of IPE training on readiness for interprofessional education and attitudes toward interprofessional collaboration (e.g., Ruebling et al., 2014), more attention must be given to psychology doctoral students' attitudes toward this type of professional development. Further, assessing student attitudes toward collaborative, interprofessional care and education is imperative because attitudes and beliefs are thought to be the "foundation" of individual action and behavior (Sibille, Green, & Bush, 2010). Ultimately, attitudes toward interprofessional team may influence willingness to participate in team-based care, the quality of team functioning, and the overall quality of patient care (Heinemann, Schmitt, Farrell, & Brallier, 1999). The increasing presence of psychologists and psychology students on health care teams warrants the exploration of their attitudes toward interprofessional practice and education.

Because discipline-specific culture and values can influence interprofessional collaboration (Pecukonis, Doyle, & Bliss, 2008), the majority of existent research compares graduate students' training between different disciplines (e.g., physician's assistant, medical student, social work, pharmacy, nursing) in terms of their attitudes toward interprofessional

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education and practice. Results of this research are varied, with numerous studies reporting overall positive attitudes displayed across disciplines (e.g., Olson & Bialocerkowski, 2014; Wamsley et al., 2012; Wellmon et al., 2012). Wamsley et al. (2012) compared IDT attitudes of graduate students in dental, medical, nurse practitioner, pharmacy, and physical therapy programs prior to and after completing an interprofessional exposure exercise. Consistent with the results of other studies that examined attitudes toward IDT (e.g., Curran et al., 2008; Leipzig et al., 2002; Park, Hawkins, Hamlin, Hawkins, & Bamdas, 2014), Wamsley et al. found significant differences in attitudes across disciplines. For example, dental students reported less favorable team valuing attitudes than nurse practitioner, pharmacy, and physical therapy students. Medical students also reported significantly less favorable attitudes toward team efficiency and physician's shared role than students from the other programs. Similarly, Curran et al. (2008) also found that medical students—as well as nursing students—reported less positive attitudes toward interprofessional collaboration than pharmacy and social work students. Attitudinal differences toward health care teams were also found between physician assistant and nurse practitioner students, with nurse practitioner graduate students reporting more negative attitudes than those in training to be physician's assistants (Obediede, Bauman, Beach, Neuhaus, & Leftwich, 2013). These programmatic differences may indicate a need to pay closer attention to the ways that clinical educators expose their students to interprofessional clinical and education experiences, especially in those professions that report more negative attitudes.

In addition to the establishment of interprofessional contact by means of experience and training background as a contributing factor of attitudes toward IDT and IPE, other studies have extended beyond cross-disciplinary comparisons to examine how attitude differences may be related to graduate students' personal attributes. For example, females displayed more positive

attitudes toward interprofessional collaboration in health care teams as compared to the male students (Curran et al., 2008; Hertweck et al., 2012; Ko et al., 2014; Lie, Fung, Trial, & Lohenry, 2013). Consistent with contact theory, students with a greater number of years spent in graduate training and more interprofessional practice exposure by means of clinical experience are also thought to display more positive attitudes toward interprofessional teams and interprofessional education when compared to beginning graduate students and those with fewer interprofessional practice experiences (Curran et al., 2008; Ko et al., 2014; Lie et al., 2014; Ogbeide, Bauman, Beachy, Neuhaus, & Leftwich, 2013).

Developmental maturation—measured by chronological age—has also been identified as a predictor of more positive attitudes toward interprofessional teams, with older students reporting more positive attitudes than younger students (Ko et al., 2014). However, research that examines the relationship between age and attitudes toward interprofessional teams is extremely limited and neglects to examine students' readiness for interprofessional education and experiences. The small number of existing studies on personal attribute predictors, although inclusive of multiple disciplines (e.g., medical students, nursing, pharmacy, and social work students), fail to include psychology graduate students in their samples. The present study aims to fill this gap in the literature by determining whether the amount of contact with interprofessional teams, as well as student age, gender, and years spent in one's program are also predictors of attitudes toward IDT and readiness for IDE in psychology students.

Unfortunately, little research on attitudes toward interprofessional teams and readiness for interprofessional education has surveyed psychology doctoral students. To the author's knowledge, only three cross-disciplinary studies have included psychology students in their samples. The first, conducted by Wellmon et al. (2012), included 35 clinical psychology

doctoral students in a sample of 123 graduate students from education, physical therapy, and social work programs. Although graduate physical therapy and social work students demonstrated significant increases in positive attitudes related to team valuing and shared leadership, clinical psychology students' scores in these areas did *not* significantly increase after the educational experience intervention. However, clinical psychology students *did* demonstrate significant improvements in their perceptions of competency and autonomy on the education perception scale.

Zucchero et al. (2010) and Zucchero et al. (2011) examined the attitudes of graduate students toward interdisciplinary teams before and after a symposium on an interdisciplinary approach to treating older adults with dementia. Zucchero et al. (2010) included six clinical psychology doctoral students and eight master's level counseling psychology students in their sample of 109 undergraduate and graduate students in the health sciences. Although their primary interest was the change in attitudes in the overall sample of graduate students, they provided discipline specific post-hoc analyses detailing pre- and post-test scores on the Attitudes Toward Health Care Teams Scale (ATHCT). Results showed a significant increase in positive attitudes toward interdisciplinary teams in master's level counseling students, but not the clinical psychology doctoral students. However, the doctoral students had significantly higher attitudes toward interprofessional teams than the counseling master's students prior to the intervention. Zucchero et al. (2011) also included six clinical psychology doctoral students in their sample of 106 students from five health care disciplines (health services administration, nursing, occupational therapy, psychology, and social work) who received the same replicated symposium focused on training students on interdisciplinary care for older adults. Although they

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did not include differences in attitudes across disciplines, positive attitudes increased

significantly in the full group after the interdisciplinary symposium.

Although Wellmon et al. (2012), Zucchero et al. (2010), and Zucchero et al. (2011)

examined psychology graduate students' attitudes toward interprofessional teams (among

students of several other disciplines), the small number of psychology students included were

drawn from only two clinical psychology training programs and no students from counseling or

school psychology doctoral programs were included. In existent studies that did include

psychology graduate students, the researchers' primary focus was on the overall *change* in

attitudes toward interprofessional teams after an educational experience intervention, and they

did not examine any predictors of students' attitudes toward interprofessional teams.

Furthermore, they did not examine readiness for interprofessional education. The present study

will contribute to an increased understanding of psychology students' attitudes toward

interprofessional teams by including students from various training backgrounds (e.g.,

Counseling, Clinical, and School Psychology) in addition to assessing their readiness for

interprofessional education.

A recent systematic review of interprofessional attitude research across health science

disciplines by Olson and Bialocerkowski (2014) stressed the importance of expanding beyond

quantitative evaluation toward the understanding of process via qualitative methodology. One

mixed-method study conducted by Wamsley et al. (2012) compared graduate students from

dental, medical, nurse practitioner, pharmacy, and physical therapy programs and, through focus

groups, identified several thematic outcomes including the establishment of professional roles,

skills, and confidence, as well as the benefits of understanding other professionals' roles in

patient care. In alignment with the Interprofessional Education Collaborative general

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competency statement regarding knowledge of one's own role and responsibilities, the present study intends to explore the establishment of professional roles in a sample of doctoral level psychology students within an interprofessional team context. Further, this study aims to identify students' perceptions of the benefits and drawbacks of being a part of interprofessional teams by asking those with previous interprofessional team involvement to elaborate on their personal negative and positive experiences.

In addition to encouraging the use of qualitative methodology to better understand the unique experience of students, Olson and Bialocerkowski (2014) also discussed the importance of training context—including geographic location and institution type—in the examination of attitudes toward interprofessional teams and education. Perhaps most importantly, they also emphasized that attitudinal findings among graduate students are not transferable across professions, program types, or countries; therefore, research that examines the attitudes between groups of psychologists from various training programs is warranted. Thus, the present study will compare attitudes between groups of psychology students from clinical, counseling, and school psychology programs.

Given psychologists' and psychology graduate students' increasing involvement in interprofessional care teams across a variety of settings, more research is needed to learn more about their attitudes toward interprofessional collaboration and education, as well as a better understanding of their unique roles and experiences with interprofessional teams in both clinical and educational settings. The present study is the first known examination of clinical, counseling, and school psychology doctoral students' attitudes toward interprofessional treatment teams and readiness for interprofessional education. Further, it is also the first to examine their individual qualitative experiences working as a part of an interprofessional team.

Based on the findings of two prior studies completed with students from other health professions, Ko et al. (2014) and Wellmon et al. (2012), and the contact hypothesis (Allport, 1954), the present study will examine whether and to what extent interprofessional experiences—both educational and practice oriented—predict clinical, counseling, and school psychology students' self-reported attitudes toward interprofessional practice in health care teams and readiness for interprofessional learning.

The following quantitative research questions wereaddressed in a sample of doctoral level students receiving Ph.D. or Psy.D. degrees from clinical, counseling, and school psychology programs:

1) Do clinical psychology, counseling psychology, and school psychology students differ in their readiness for interprofessional education and attitudes toward interprofessional health care teams?

Hypothesis 1: Because the present study is the first known investigation to examine differences in attitudes toward interprofessional teams and readiness for interprofessional education by students' training background (i.e., clinical, counseling, and school psychology), the first research question is largely exploratory in nature. However, the literature on training program differences may infer that clinical psychology students (e.g., Cobb et al., 2004; Neimeyer, Taylor, Wear, & Buyukgoze-Kavas, 2011) may possess significantly more positive attitudes and readiness given their increased likelihood of exposure to interprofessional teams within medical settings than counseling and school psychology graduate students. Further, clinical psychology students are most frequently

sampled in the current literature on attitudes toward interprofessional

teams and may also be more likely to endorse positive attitudes toward

interprofessional teams and readiness for interprofessional education due

to the increased emphasis on clinical practice and training opportunities

that may present more opportunities for exposure.

2) Do psychology students' chronological age, gender, and year in one's training

program (i.e., 1st year, 2nd year, etc.) predict greater readiness for interprofessional

education and more positive attitudes toward interprofessional health care teams?

Hypothesis 2: Consistent with the findings of Ko et al. (2014), it is

predicted that older chronological age, identification with the female

gender, and a more advanced year of graduate training will be significant

predictors of more positive attitudes toward interprofessional health care

teams and greater readiness for interprofessional learning.

3) Does psychology student involvement in interprofessional team experiences—

including interprofessional courses and applied practice experience—predict

greater readiness for interprofessional education and more positive attitudes

toward interprofessional health care teams?

Hypothesis 3: Based on the theoretical underpinning of the contact theory

as supported by Curran et al. (2008), Ko et al. (2014), Lie et al. (2013),

and Ogbeide et al. (2013), it is hypothesized that more student

involvement in interprofessional team experiences and interprofessional

education will significantly predict greater levels of positive attitudes

toward interprofessional teams in addition to greater readiness for

interprofessional education.

Although quantitative interprofessional education research has identified health science

graduate students' personal characteristics—such as gender, age, and the amount of

interprofessional training experience—as predictors of readiness for interprofessional education

and interprofessional teams (e.g., Curran Sharpe, & Forristall, 2007; Ko et al., 2012), they failed

to include psychology students in their sample of students. Further, although studies

acknowledge quantitative questions regarding group differences between program (discipline)

types and have begun to explore predictive relationships, no known studies assess the nature of

American psychology students' unique experiences working in interprofessional care teams. The

present study addresses this gap by using open-ended questions to identify common themes and

experiences in regard to interprofessional education and clinical training among psychology

graduate students with interprofessional experiences. Thus, the following qualitative questions

will also be explored:

1) What perceived roles do participants believe they have as a psychology student on
   interprofessional care teams?

2) What roles do participants believe that *licensed or post-graduate psychologists* have
   on interprofessional care teams?

3) What are common negative experiences/perceptions, or personal difficulties that
   participants have experienced as a member of an interprofessional care team?

4) What are common positive experiences/perceptions, or personal accomplishments
   that participants have experienced as a member of an interprofessional care team?

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Chapter II

Literature Review

The Biopsychosocial Model and Interprofessional Team Care

The biopsychosocial model (Engel, 1977) of patient care, proposed in opposition to the biomedical model, suggests that biological, psychological, and social factors all have a crucial role in the explanation of disease and illness (Garroway & Rybarczyk, 2015). Historically, the United States health care system was comprised of a biomedical model that largely failed to consider holistic factors of patient care (Pincus, Pechura, Keyser, Bachman, & Houtsinger, 2006). In 1977, George Engel coined the term *biopsychosocial* when he called for an expansion of the dominant biomedical model of disease that failed to incorporate social, psychological, and behavioral dimensions of illness, in addition to neglecting cultural factors unique to each patient.

Presently, the United States is shifting away from the biomedical model toward the biopsychosocial model of healthcare delivery, which promotes the use of interprofessional health care teams as an important treatment modality (Larkin & Klonoff, 2014). The biopsychosocial model (Engel, 1977) is a philosophy and practical clinical guide. Philosophically, it provides a way of comprehending how suffering , disease, and illness are affected by multiple levels of organization—from the societal to the molecular; at the practical level, it provides a way of understanding the client's subjective experience as a critical contributor to accurate diagnosis, health outcomes, and compassionate care (Borrell-Carrió, Suchman, & Epstein, 2004).

The biopsychosocial model of sparked a paradigm shift that was met with resistance by many members of the medical community who felt that the psychological and social factors of patient care—unlike physical, biological markers—were "soft sciences" and did not deserve the same respect or weight in explaining patient symptoms. However, over the past 25 years, a

substantial amount of research has demonstrated the importance of these factors in patient

outcomes (DiTomasso, Golden, Morris, & Chiumento, 2010). One implication of this shift is

increased utilization of collaborative interprofessional teams to serve patients who have

medically and psychologically complex problems (Suls & Rothman, 2004). Attention to the

interaction between biological, psychological, and social factors is crucial to the production of

positive patient outcomes (DiTomasso et al., 2010). Described philosophically as the "mind-

body connection", the biopsychosocial model of health care delivery posits that the actions or

activities of the body influence the mind and that the workings or activities of the mind can

influence the body (Halligan & Aylward, 2006).

Although the United States health care system has made considerable strides in

incorporating psychological and social factors into patient care, it continues to operate as if

physical (biological) and psychosocial components of patient care are completely separate

entities (Pincus et al., 2006). The distinct separation of physical and psychosocial needs may be

especially pronounced in medical settings, such as hospitals and long-term care facilities, that

may not be equipped with the resources to address the multitude of factors present in the

biopsychosocial model. Because the biopsychosocial framework operates on the premise of

systems theory, interventions that are implemented focus heavily on interprofessional team work

requiring collaboration between disciplines (Vetere, 2007). For example, inpatient pediatric and

geriatric care have traditionally involved frequent—albeit varied—collaboration between

professionals, such as psychologists, social workers, certified nursing assistants, nurses,

physicians, dieticians, and therapists (i.e., occupational, physical, speech) in order to provide

optimal patient care (Goldsmith, Wittenberg-Lyles, Rodriguez, & Sanchez-Reilly, 2010).

The American Psychological Association recommends that psychologists work within a biopsychosocial model via interprofessional teams to treat clients with complex medical and psychosocial needs (American Psychological Association, 2014b). The biopsychosocial model of treatment incorporates the opinions and skills of multiple treatment providers to produce a holistic conceptualization of patients; furthermore, this model of treatment is described by some as the "cornerstone" of the aforementioned optimal patient care that integrates multiple vantage points of various disciplines relevant to presenting clinical issues (Carney, Gumm, & Zeiss, 2015, p. 74). The biopsychosocial model does not suggest that that one discipline (i.e., medicine, social work, psychology) has a greater role than another in the comprehension of the etiology of patient problems and disease processes; rather, all disciplines are equally valued with a large emphasis placed on their integration (Belar, 2003). The transferability of biopsychosocial theory to practice is represented by clinical collaboration in the form of the health care teams that characterize interprofessional care.

The term 'interprofessional care' is sometimes used interchangeably with the terms 'integrated health care' or 'interdisciplinary health care' and refers to a high degree of collaboration across various types of health professionals that serve patients by means of biopsychosocial assessment, treatment planning, treatment implementation and outcome evaluation (American Psychological Association, 2008). The term 'multidisciplinary' is also used in the literature to describe situations in which members of multiple professions share responsibility for patients. However, in multidisciplinary treatment, the team members have roles that are independent from one another and only take responsibility for the clinical work of their profession; no common treatment plan is developed, and less communication between disciplines occurs (Carney et al., 2015; Zeiss & Steffen, 2001). Interdisciplinary teams, on the

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other hand, are characterized by shared leadership and power in decision making across all professionals involved, but usually have an assigned coordinator that is chosen based on skills, interest, and functional responsibilities rather than hierarchical process (APA, 2008).

Recently, Carney et al. (2015) drew attention to the potential confusion that may arise from the labeling of various team approaches and the lack of attention to clarification of the terms to describe them. Specifically, they explained that published articles on health care teams utilize the terms *interprofessional, interdisciplinary,* and *multidisciplinary* without clearly defining the differences between the terms. For the purposes of the present study, it is important to understand the terms *interprofessional* or *interdisciplinary*. The differences between the two terms are deemed minimal, and the terms are often used interchangeably to describe teams that are composed of providers from different disciplines that "collaboratively and interdependently plan, implement, and evaluate outcomes of health care…team members have consensus and clarity regarding goals and strategies, recognize their shared responsibility for patients, and the unique competencies, contributions, and roles of each discipline, as well as the areas of overlapping function" (Kasl-Godley & Kwilosz, 2011, p. 204). Historically, the term *interdisciplinary* originated in the United States and tends to be utilized by Americans, whereas the term *interprofessional* is used internationally; however, the United States is increasingly moving toward the use of the term *interprofessional* teams (Carney et al., 2015). In alignment with the most current literature, the present study utilizes the term *interprofessional* to describe team experiences in clinical practice and educational settings (interprofessional education; IPE).

Summary. The United States' health care system is shifting from the biomedical model to the biopsychosocial model of patient care (Johnson, 2012). Increasingly present in a variety of care settings, interprofessional teams are driven by the biopsychosocial model and incorporate

multiple treatment modalities to deliver holistic patient care (APA, 2008; Carney et al., 2015).

The literature utilizes the terms *interprofessional* and *interdisciplinary* interchangeably to describe collaborative treatment efforts (Carney et al., 2015). However, in agreement with the most current literature, the present study utilizes *interprofessional* to refer to both educational and clinical experiences.

Interprofessional Team Efficacy

An interprofessional team approach to treatment can benefit individuals of all ages in a variety of different treatment settings, despite it being more common in inpatient geriatric and pediatric care settings (Costanza, DiCowden, & Row, 2014). Interprofessional care teams have demonstrated cost-effectiveness for a variety of chronic medical and mental health conditions, resulting in shorter length of stays, lower staff turnover, and better patient outcomes in a diverse number of settings, especially in the care of older adults with complex needs (Kasl-Godley & Kwilosz, 2011; Yeager, 2005). Furthermore, effective interprofessional teams result in improved staff morale and creativity, reduced duplication of services, and a decreased likelihood that patient problems will be unacknowledged (Lichtenberg, Strzepek, & Zeiss, 1990). From a practical standpoint, implementation of well-functioning interprofessional teams is advantageous to health care organizations.

Intervention studies, in particular, have demonstrated that interprofessional care leads to better patient outcomes than non-team based care. For example, within the VA system, older adult patients at sites receiving an interprofessional care treatment modality demonstrated higher functional status, decreased dependency, better mental health, and decreased mortality (Lemieux-Charles & McGuire, 2006). Interprofessional team care has also been shown to be more effective in the area of depression care for both adolescents and older adults in primary

care settings when compared to typical fragmented care that does not utilize an interprofessional approach to treatment (Carney et al., 2015; Richardson et al., 2015). Interprofessional teams have also been shown to be efficacious in reducing symptoms and improving the psychological outcomes of students seeking help for eating disorders in college counseling centers (Mitchell, Kline, & Maduramente, 2014) as well as decreasing older adults' depressive symptoms, problematic alcohol use, and medication misuse by means of in-home community services (Schonfeld et al., 2010).

The inclusion of behavioral and mental health professionals on interprofessional teams has resulted in superior treatment outcomes when compared to traditional, fragmented care in medical settings such as primary care (Archer et al., 2012; Lee, Mericle, Ayalon, & Arean, 2009; Williams, Unutzer, Lee, & Noël, 2009; Woltmann et al., 2012), Veterans Affairs Medical Centers (VAMC; Karlin, Visnic, Shealy McGee, & Teri, 2014), long-term care facilities (Emery, Millheiser, Garcia, Marquine, & Golden, 2011; Zwijsen et al., 2011), and general hospitals (von Renteln-Kruse & Krause, 2007). Additionally, the use of interprofessional teams with psychologists were found to produce positive outcomes in clients seeking services at college counseling centers (Mitchell et al., 2014) as well as in-home community mental health services (Frederick et al., 2007; Schonfeld et al., 2010). For example, the use of an interprofessional treatment team approach over traditional "stand-alone" individual psychotherapy treatment was associated with college students staying in therapy longer and with planning their treatment termination in advance (Mitchell et al., 2014). Additionally, the efficacy of collaborative in-home depression care management (DCM) over standard care has been established by means of numerous randomized control trials (Frederick et al., 2007). In such cases, integration of

psychology services within the interprofessional team was instrumental to the production of superior outcomes over individuals receiving fragmented individual services.

Summary. Given the identified positive influences that monitored interprofessional team care interventions have on patient outcomes across a variety of settings, failure to provide collaborative care across disciplines or utilization of dysfunctional interprofessional teams may decrease the quality of patient care and influence health outcomes in a negative way (Curran et al., 2007).

The Current State of Health Service Psychology and Interdisciplinary Training

With the enactment of the Patient Protection and Affordable Care Act (ACA), the structure, focus, and priorities of the United States healthcare system are shifting to favor the prioritization of behavioral and mental health care (Rozensky, 2014). As such, the increasing presence of interprofessional treatment teams across a variety of settings influences the employment opportunities for psychologists (Wahass, 2005). Therefore, training competencies of psychology doctoral students have expanded to include knowledge of health care policy by means of interprofessional education experiences and interprofessional collaboration (Cubic, Mance, Turgesen, & Lamanna, 2012). In 2009, the American Psychological Association (APA) joined the advisory board of the Interprofessional Education Collaborative (IPEC) to produce the Interprofessional Education (IPE) project that hosts learning institutes where up to 30 different disciplines unite to learn about interprofessional learning models, assessment strategies, and other aspects of IPE (DeLeon et al., 2015). APA's endorsement of IPEC and the IPE project represented the beginning of a conceptual shift from the traditional "silo" approach where psychologists practice independently from other disciplines (i.e., private practice) to a more

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collaborative practice where they work alongside of other health care professionals to produce integrated care (DeLeon et al., 2015).

In addition to becoming active in IPEC, the APA created the Health Service Psychology Education Collaborative (HSPEC) in 2010 to promote interprofessional collaboration and IPE opportunities within the field of psychology and to delineate training competencies for psychology doctoral programs. As a component of its work, HSPEC created a statement of core competences—paired with steps to achieve them—in order to better prepare psychologists from all training backgrounds for work in health care settings. Known as the Professional Psychology in Health Care Services Blueprint for Education and Training, the statement identified six core competencies (science, professionalism, relational, applications, education, and systems competencies; HSPEC, 2013) for future directions in the training of psychologists. Furthermore, the Blueprint advised students to become knowledgeable about the core competencies for interprofessional practice, including values/ethics across professions and interprofessional practices, their own professional roles and responsibilities within a health care team, interprofessional communication, and effective teamwork. Further, this systems competency suggested that psychology students to be able to operate within various types of service delivery models (e.g., fee-for-service, capitated) (HSPEC, 2013). Finally, the Health Service Psychology Education Collaborative (2013) Blueprint acknowledged that although many graduate training programs in psychology currently operate on a biopsychosocial model, *all* programs must shift from a psychosocial focus to a biopsychosocial focus in order to encompass the skills necessary to provide health care services such as assessment, screening, counseling/psychotherapy, diagnosis, consultation and supervision.

Although the Blueprint document outlined numerous aspirational training goals—including the promotion of science and practice integration, uniform and accredited training, clearly defined competencies, evidence-based, culturally informed practical applications, a higher standard of scientific training, and a seamless educational trajectory—it also stated that "this vision for preparing professional psychologists is far from where we stand in 2012" (HSPEC, 2013, p. 412). In agreement with this statement is the American Psychological Association of Graduate Students (APAGS) who cautioned that the implementation of the aspirational Blueprint recommendations involve several challenges that pertain to psychologists' professional identities and abilities to work with other health care professionals (Doran, Meyerson, & El-Ghoroury, 2014). Specifically, Doran et al. (2014) raised concern that many psychologists and psychology students do not identify as health service providers because they may not view their work as relevant to medicine and physical health. Similarly, Carney et al. (2015) cautioned that use of the interprofessional care delivery models are not currently a part of the core training of psychologists, so it is important for psychology students and professionals to seek advanced training and support in order to develop a relevant skill set. Altogether, achieving competency in the area of interprofessional practice requires training programs to provide suitable interprofessional training opportunities for its students; failure to do so perpetuates the fragmentation of psychological services and physical health care that prevents psychology from being labeled as a health service profession (Doran et al., 2015).

Summary. The Patient Protection and Affordable Care Act (ACA) initiated a shift in health care service delivery to favor the prioritization of behavioral and mental health care, increasing presence of interprofessional treatment teams across a variety of settings (Rozensky, 2014; Wahass, 2005). As a result, training competencies of psychology doctoral students have

expanded to include knowledge of health care policy by means of interprofessional education

experiences and interprofessional collaboration (Cubic et al., 2012). The Health Service

Psychology Education Collaborative (2013) Blueprint was created to offer an aspirational set of

recommendations for training programs to better prepare their students for work in the health

service industry; however, the field of psychology must continue to develop more opportunities

for its students to receive adequate education in medical settings and the area of interprofessional

practice (Cubic et al., 2012; DeLeon et al., 2015).

Psychologists' and Psychology Students' Interprofessional Roles and Experiences

Interprofessional teams may be coordinated by a psychologist or may include a

psychologist as a participant (Suls et al., 2013); thus, psychologists and students who work on

these medical teams frequently collaborate with a diverse variety of professionals such as social

workers, certified nursing assistants, nurses, physicians, dieticians, and physical therapists to

provide optimal patient care (Goldsmith et al., 2010; Suls & Rothman, 2004). Psychologists and

psychology students often provide traditional direct psychotherapy services to patients and their

families. Consequently, they are able to offer additional insight and alternative perspectives to

health care providers from other disciplines to bolster empathy and promote understanding of

contextual and cultural factors that may influence quality care provision. Altogether,

psychologists and psychology students are versatile contributors to interprofessional teams.

The specific roles of psychologists and psychology students within interprofessional care

teams may be twofold and may vary by setting. Their roles on an interprofessional team could

include advocating for a person-centered care approach to treatment, providing

conceptualizations of needs and psychotherapy services, as well as consulting on assessment and

interventions for patients presenting with behavioral and mental health issues (American

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Psychological Association, 2015; Carney et al., 2015). Not only do psychologists and

psychology students provide traditional mental health services and consultations to patients

treated by interprofessional teams, they may also offer a variety of other activities to assist

members of the team itself and improve the practice setting in which the team resides. Because

they are uniquely trained to foster effective interpersonal communication and group facilitation,

psychologists can provide leadership, guidance, and direction in the interprofessional team

meeting process to maximize its effectiveness and functionality (Carney et al., 2015; Carney &

Norris, 2016).

Kasl-Godley and Kwilosz (2011) further describe multiple ways that psychologists can

expand their roles in health care settings, with a specific focus on opportunities in palliative care.

For example, psychologists can provide staff in-services, present at ground rounds, or organize

continuing education workshops on setting-specific topics such as stress management,

compassion fatigue, and self-care for staff who provide end of life care. Additionally, in a

palliative care setting, the psychologist may encourage other members of the health care team to

examine their own beliefs, feelings, and attitudes toward death, in addition to helping them

explore the ways that their own experiences with grief, family issues, and spirituality may

influence the care they provide. Finally, psychologists may hold similar responsibilities in a

primary care setting. For example, the Cube Model specifically identifies six functional roles of

professional psychology in primary care settings, including assessment, intervention,

consultation, research/program evaluation, supervision/training of other professionals, and

management/administrative tasks (Nash, McKay, Vogel, & Masters, 2012; Rodolfa et al., 2005).

Professional Identity. An additional contributor to the variance in the roles and

responsibilities of psychologists and students within an interprofessional team environment may

be the amount of training and time spent in their profession. Although a small amount of non-empirical work has highlighted the roles of practicing psychologists on interprofessional teams across a variety of settings, virtually no literature examines the roles and responsibilities of psychology students who participate on interprofessional teams. Therefore, differences in roles and experiences between psychologists and students may be best understood through the use of a social identity approach. Social identity refers to a person's self-concept as it relates to his or her membership in social groups, including one's profession (Brewer, 2001). Psychology graduate students are proposed to have two identities—one of a student and one of a professional—which may enhance or hinder their experiences in interprofessional practice and interprofessional education (Burford, 2012). O'Neill and Wyness (2005) further suggested that a shared "student" identity may act as a common ground across professions and serve as a factor that may influence attitudes toward interprofessional socialization.

Practicing psychologists, on the other hand, may have a more solidified professional identity that fosters increased confidence and assuredness in their roles and responsibilities within an interprofessional team. Although empirical research examining the transition from student to doctor in psychologists is non-existent, research has examined this process in physicians. The transition from medical student to physician is more than just receiving one's degree; it involves a process of "becoming" a physician and internalizing one's identity as a medical doctor (Monrouxe, Rees, & Hu, 2011). When compared to other developmental transitions—such as from intern to resident and resident to attending physician—the transition from student to doctor has been shown be the most significant, fostering increased confidence and understanding of one's own role on an interprofessional team (Burford, 2012). Thus, it may be assumed that the transition from psychology student to a licensed practicing psychologist is

similar in nature. More research is needed to clarify the experiences of the transition from psychology student to licensed practicing psychologist within an interprofessional context.

Challenges of Interprofessional Care. Although numerous positive outcomes are associated with the provision of interprofessional team care, psychology students and practicing psychologists may face several unique challenges when working as a member of a team. For example, the process through which a psychologist (or psychology student) contacts and forms successful working relationships involves the acquisition of skills to facilitate interaction and avoid "turf battles" with individuals from other disciplines (Suls & Rothman, 2004). Few pre-or postdoctoral programs provide adequate training to facilitate the development of productive collaborations and team communication (Cubic et al., 2012). Therefore, psychologists and students may feel underprepared and uncertain about their own responsibilities and ill equipped to communicate with other members of the team.

Furthermore, the medical environments that typically house a biopsychosocial model of care are highly time-oriented settings in which a large number of clients are usually being seen and discussed in a limited amount of time, which is inconsistent with the typical 50-minute psychotherapy session and extensive time provided for supervision in other settings (DiTomasso et al., 2010). As a result, psychologists and students may not be able to spend the desired amount of time to produce optimal results or may have to adjust their expectations and treatment modalities to fit the needs of the patients being treated by the team. Finally, dealing with resistant members of the interprofessional team who may not fully understand or appreciate the role of the psychology professional is a challenge within an interprofessional team model of health care delivery (Carney et al., 2015; DiTomasso et al., 2010; Suls & Rothman, 2004).

Summary. The roles of psychologists in interprofessional care teams are diverse and may vary by setting. Although contextual training differs between clinical, counseling, and school psychology programs (Neimeyer et al., 2009), the curriculum models of the three sub-specialties are more alike than different (Cobb et al., 2004). As a result, all students in these fields have the potential to gain training experience with interprofessional teams. Additionally, the experiences of practicing psychologists and psychology students on teams may differ as a result of varying levels of experience and confidence in one's abilities (Suls & Rothman, 2004). Finally, psychology students and practicing psychologists may face multiple challenges as a member of interprofessional care teams including "turf battles" resulting from a lack of role identification, in addition to time constraints and resistant team members (DiTomasso et al., 2010; Suls & Rothman, 2004). Unfortunately, research has yet to examine the differences in experiences, roles, and responsibilities of psychologists and students within an interprofessional context. One goal of the present study is to gain awareness of the unique challenges and positive experiences that psychology doctoral students face as participants in interprofessional teams. Further, it explores psychology students' perceptions of their roles on interprofessional teams.

Interprofessional Education (IPE)

Interprofessional education (IPE) occurs when "students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes" (World Health Organization, 2010, p. 7). IPE has been identified as a vital element in the development of positive attitudes for interprofessional collaboration within health care settings by increasing students' positive attitudes toward other professions (Jacobsen & Lindqvist, 2009) and level of interprofessional collaboration (Hayashi et al., 2012). Increases in student health professionals' knowledge, skills, attitudes, and beliefs are evident following

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interdisciplinary education interventions; furthermore, students show an increased comprehension of their own professional roles and of the ways that their discipline-specific perceptions may differ from other professions (Cooper, Carlisle, Gibbs, & Watkins, 2001; Rodger, Mickan, Marinac, & Woodyatt, 2005). Although numerous advantages of interprofessional education have been established in several health care graduate student populations (e.g., medical students, nurse practitioners, social workers), the majority of previous outcome research has failed to include psychology doctoral students. This omission may be due in part to the lack of training and mentorship in collaborative, interprofessional experiences within psychology doctoral programs; instead, psychologists are more likely to be trained separately within their own "silo", making it more likely that they may display more competitive behaviors instead of partaking in collaborative care (Blount & Miller, 2009; DeLeon et al., 2015).

In 2016, the American Psychological Association (APA) became a member of the Interprofessional Education Collaborative (IPEC), a program created to promote educational experiences that prepare health care doctoral students for work on interprofessional care teams. Created in 2009, the IPEC represents the collaboration of representatives from different health care fields, including the American Association of Colleges of Nursing, the American Association of Colleges of Pharmacy, the Association of American Medical Colleges, the American Association of Colleges of Osteopathic medicine, the American Dental Education Association, and the Association of Schools of Public Health (IPEC, 2011). The Association of American Medical Colleges received funding to launch an interprofessional education portal to promote interprofessional education competencies, and in 2016 the American Psychological Association, the Physician Assistant Education Association, and the American Physical Therapy

Association became full members of this collaboration (Larkin & Klonoff, 2014). IPEC declared that interprofessional competencies must be a) patient/family centered, b) community/population oriented, c) relationship focused, d) process oriented, e) linked to developmentally appropriate learning activities, educational strategies, and behavioral assessments, f) able to be integrated across the learning continuum, g) sensitive to the systems context/applicable across practice settings, h) stated in common language that is meaningful across the professions, and i) is outcome driven (IPEC, 2011, p.2). Using these characteristics as a framework, IPEC created four domains of interprofessional practice including 1) values/ethics, 2) roles/responsibilities, 3) interprofessional communication, and 4) teams and teamwork.

Traditional health care professions—such as medicine, nursing, dentistry, pharmacy, public health, and osteopathic medicine—have all begun to incorporate IPE and training as part of their core competencies; some professions have gone so far as to add this requirement to their accreditation standards (IPEC, 2011). However, professional psychology programs rarely encourage or require students to take classes offered with other disciplines (Larkin & Klonoff, 2014). Furthermore, some psychology programs may not have the capabilities to access such programming if they are located in schools who do not train other graduate students in the medical professions. Although most psychology doctoral students do not participate in formal educational training in interprofessional care as part of their graduate programs, they may have the opportunity to do so during internships and postdoctoral fellowships completed in medical centers (Larkin & Klonoff, 2014; Suls et al., 2013). In these settings, activities such as didactic trainings and grand rounds are available and offer students the chance to interact with professionals from many different fields; however, psychology students must actively seek out

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such opportunities, as they are typically not included as a component of the typical psychology training curriculum (Larkin & Klonoff, 2014).

The theoretical underpinning for IPE research and interventions is the *intergroup contact theory* (e.g., Browne & Hewstone, 2005; Pettigrew, 1998) originating from Allport's (1954) *intergroup contact hypothesis*. Allport (1954) suggested that the best way to reduce hostility between groups was to bring them together under the conditions that each group has equal status, be working on common goals, be made aware of group similarities and differences, have institutional support, and perceive each other as typical members of their group. Further, the environment through which contact occurs must be cooperative. Similar to Allport's original suggestions, the application of intergroup contact theory to IPE involves students from the helping professions working together to increase their interprofessional competencies and understanding of one another's roles. To the author's knowledge, no studies have examined the contact hypothesis as it relates to psychology graduate students' IPE experiences.

Olson and Bialocerkowski (2014) completed a systematic review of the IPE literature from 1998 to 2013 to clarify the most effective approach to pre-licensure, university-based IPE interventions that provided optimal learning experiences for students, in addition to providing a summary of the most frequent types of IPE experiences. Their results indicated that patient scenarios or simulation and practice-based learning within highly competitive and competitive American and Canadian educational institutions were most commonly described in the IPE literature. Pre-licensure students included in the samples were most often undergraduate students and graduate students in physiotherapy, occupational therapy, nursing, pharmacy, and medical school programs. Of the 17 studies reviewed, only one included psychology graduate students in its sample. A concerning finding of their review was that demographic background

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information beyond the profession and year of study—such as a gender and age—were not provided in the majority of studies. None of the studies in their review described the student participants' socioeconomic status or cultural backgrounds despite their references to the importance of culture in patient interactions and students' attitudes toward IPE. Two crucial barriers commonly identified by the reviewed studies were students' limited experience with interprofessional teams and a misunderstanding of their professional roles within a team context. Altogether, Olson and Bialocerkowski's literature review of IPE drew attention to the need for future research to include more demographic details of students receiving IPE interventions when exploring students' understanding of their roles on interprofessional teams.

Summary. Given the demonstrated benefits of graduate student involvement in interprofessional education experiences, more attention must be given to this type of professional development in psychology graduate students. Although the American Psychological Association has collaborated with the IPEC to create additional IPE opportunities for graduate students in the health sciences, few psychology graduate students have the opportunity to engage in clinical or educational interprofessional opportunities during their graduate training (Larkin & Klonoff, 2014). The majority of existing literature that examines the efficacy of IPE excludes psychology graduate students; furthermore, they neglect to describe important demographic characteristics such as gender, race, and age, which may have influences on students' attitudes and experiences (Olson & Bialocerkowski, 2014).

Readiness for Interprofessional Education and Training

Readiness for interprofessional learning is often used as an outcome variable for studies examining the effectiveness of interprofessional education interventions. As a construct, readiness for interprofessional learning assesses students' preparedness for educational activities

designed to increase effectiveness at participating in collaborative practice (Parsell & Bligh, 1999; Wellmon et al., 2012). Parsell and Bligh (1999) identified four dimensions of characteristics needed for positive interprofessional learning outcomes to occur, which include affirmative relationships between different professional groups, knowledge of roles and responsibilities, collaboration and team work, and benefits to patients/professional practice. The first dimension, affirmative relations between professional groups, pertains to the variation in attitudes between professional groups that may include professional identity, prejudice, stereotypical views about other professions, and the historical legacy regarding professional status and knowledge. The second dimension of roles and responsibilities is concerned with the knowledge and skills that are needed to work on an interprofessional team and for interprofessional learning. The third dimension, collaboration and teamwork, considers the behaviors that professionals actually need to be able to do in order to implement effective, holistic patient care within the context of a team. The fourth and final dimension, benefits to patients and professional practice, places emphasis on the outcomes of interprofessional learning and the influence of learning outcomes on the provision of "seamless care for patients" (Parsell & Bligh, 1999, p. 96). The four dimensions were ultimately utilized as factors for a scale to measure readiness for professional learning (RIPLs; Parsell & Bligh, 1999) scale.

Group differences in Readiness for Interprofessional Education. Although research on psychology doctoral students' readiness for IPE is lacking, numerous studies have examined the differences in readiness for IPE in samples of other graduate students and undergraduates in the health sciences. For example, readiness for IPE has been shown to vary by gender, level of contact—or amount of exposure—to work on interprofessional teams, and time spent in one's training program (Lie, Fung, Trial, & Lohenry, 2013; Ruebling et al., 2014). In a sample of 271

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pharmacy, physician assistant, and medical students, Lie et al. (2013) found that women displayed significantly more readiness for interprofessional education than men; additionally, students with more exposure to interprofessional teams in their clinical training demonstrated greater readiness for interprofessional education. Their results conflict with those of King et al. (2012) who failed to find gender differences in the readiness of professional learning in a sample of 1,526 undergraduate students in the health sciences.

Differences in readiness for interprofessional education by years spent in one's training program have not been established in graduate student samples, but have been detected in undergraduate students. The literature suggests that students entering the health profession programs (i.e., who are earlier in their training) hold more positive attitudes toward IPE and increased readiness for interprofessional education than students at the end of their professional preparation who did not have any IPE courses (McFayden et al., 2006; Pollard & Miers, 2008; Pollard, Miers, & Gilchrist, 2004; Ruebling et al., 2014). The authors suspected that students take on less favorable and more realistic expectations of interdisciplinary team work as they advance through their training. Although considerable evidence suggests that students may hold more readiness for interprofessional education earlier in their training, it is important to consider that these findings were largely established in undergraduate students in the health sciences in the United Kingdom. Results cannot be generalized to American graduate students. To date, only one study by Wellmon et al. (2012) examined change in readiness for interprofessional learning prior to and after an interprofessional education intervention; however, the psychology students in their sample consisted only of clinical psychology doctoral students from a single training program. Wellmon et al. found no significant differences in clinical psychology students' readiness for interprofessional education when compared to graduate students from

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other professions; however, they demonstrated a significant increase in their readiness for interprofessional education after being exposed to the educational intervention. More research on group differences in readiness for interprofessional education in psychology students from varied training backgrounds is needed. The present study aims to fill this void in the literature by examining readiness for interprofessional education in a sample of doctoral students in clinical, counseling, and school psychology programs.

Summary. Four dimensions of characteristics needed for positive interprofessional learning outcomes have been established and include affirmative relationships between different professional groups, knowledge of roles and responsibilities, collaboration and team work, and benefits to patients/professional practice (Parsell & Bligh, 1999). These four dimensions are presently used to assess readiness for interprofessional learning in samples of graduate and undergraduate students in the health sciences. Research provides some evidence for group differences in readiness for interprofessional education by gender, exposure to interprofessional team work, and time spent in one's training program; however, findings are conflicted and have largely been the product of international studies conducted in the United Kingdom (e.g., Pollard & Miers, 2008; Pollard et al., 2004). Research has yet to examine differences in readiness for interprofessional education among psychology doctoral students. No studies have established demographic variables as predictors of readiness for interprofessional education in psychology doctoral students; therefore, more research is needed to clarify relationships between psychology doctoral students' personal characteristics and their readiness for interprofessional education in the United States.

Attitudes toward Interprofessional Teams

Whereas readiness for interprofessional learning encompasses students' preparedness for educational activities designed to increase effectiveness at participating in collaborative practice (Parsell et al., 1999; Wellmon et al., 2012), attitudes toward interprofessional teams are described as student perceptions toward collaboration with other professional disciplines (McFadyen, Maclaren, & Webster, 2006). The most common components of attitudes toward interprofessional teams have previously included one's value placed on interprofessional teams, belief in the cost of team care/efficiency, and attitudes toward shared leadership among professions within the team (Heinemann et al., 1999). To the author's knowledge, only one cross disciplinary study conducted by Wellmon et al. (2012) quantitatively examined students' readiness for interprofessional learning and attitudes toward interprofessional teams simultaneously before and after an interprofessional education intervention. However, they failed to explain the relationships between these outcome variables and instead focused on the overall change in their values before and after an interprofessional education intervention. Regardless of this shortcoming, their results provided a greater understanding of discipline-specific group changes in readiness and attitudes toward interprofessional education and interprofessional teams. Namely, they found that the 35 clinical psychology students along with physical therapy graduate students, endorsed the most positive attitudes across the 125 students from four professional groups included in the study. However, readiness for interprofessional learning did not differ by students' discipline. Perhaps as a result of their high initial pre-test scores, clinical psychology students' positive attitudes toward interprofessional education and interprofessional teams did *not* significantly increase after the interprofessional educational intervention.

The majority of literature on attitudes toward interprofessional teams utilizes a mixed-methods approach to explore quantitative differences between pre-and post-test surveys supplemented by a focus group or open-ended questionnaire to assess changes in students' attitudes over time (Olson & Bialocerkoski, 2014). Although much of the existent research incorporates pre-and post-tests to examine attitude change after educational interventions, a small number of studies have used cross sectional designs to examine student attitudes across disciplines without the use of an education intervention. In both study designs, increased emphasis is placed on the differences in attitudes across disciplines; less attention is paid to the reasons for this attitude variation or how attitudes may differ across academic institutions and program types within disciplines. For example, three studies included psychology doctoral students incorporated students from Psy.D. training programs but failed to include students from Ph.D. training programs. Additionally, when including medical students, studies largely neglected to specify the type of training program in which they are enrolled (i.e., M.D. or D.O. program). Despite these setbacks, literature on attitudes toward interprofessional teams and interprofessional education has identified numerous quantitative group differences in samples of undergraduate and graduate students.

Group differences in attitudes toward Interprofessional Teams. Several studies have examined attitudes toward interprofessional collaboration in relation to students' personal attributes. For example, Ko, Bailey-Kloch, and Kim (2014) conducted a cross-sectional survey among health professional graduate students from six professional schools including social work, nursing, medicine, pharmacy, public health, and law. Their results indicated that gender, age, and amount of contact with interprofessional teams were predictors of more positive attitudes toward interprofessional teams. Specifically, they found that female students, older students, and

students with longer interprofessional practice experiences held more positive attitudes toward interprofessional collaboration in health care teams. Their results aligned with those of Curran et al. (2008) who distributed surveys to medicine, nursing, pharmacy, and social work programs and found that female students, more advanced students, and students with prior experience of IPE reported significantly more positive attitudes toward interprofessional team work. Regardless of profession, female students and students with more interprofessional exposure have altogether been shown to demonstrate more positive attitudes toward interprofessional teams than male students and students with less exposure to interprofessional teams in clinical practice (Hertweck et al., 2012; Wilhelmsson, Ponzer, Dahlgren, Timpka, & Faresjö, 2011). Less is known about the impact of other student characteristics—such as chronological age and years spent in training—on attitudes toward interprofessional teams. No studies have examined personal predictors of attitudes toward interprofessional teams in psychology doctoral students; more research is needed to clarify relationships in this population.

Qualitative Exploration of Attitudes toward Interprofessional Teams. In addition to quantitative methodology, qualitative approaches have also explored attitudes toward IPE and interprofessional teams. The most common method of qualitative exploration of student attitudes toward interprofessional teams and readiness for interprofessional education has been by means of focus groups that examine the unique experiences of students across disciplines. For example, Wamsley et al. (2012) conducted a mixed-method study that utilized focus groups with graduate students from dentistry, medicine, nursing, pharmacy, and physical therapy graduate programs in the United States to gather more information about perceptions of an experiential interprofessional learning where students were required to work together to coordinate care for a hypothetical patient who presented with multiple chronic health conditions.

Each focus group was audio-recorded and transcribed; transcripts were then analyzed thematically by one author who was the primary coder for all focus groups.

In the focus groups, students described the challenges they faced during the interprofessional education experience. Most frequently, they mentioned a difficulty in negotiating roles between disciplines (e.g., between nurse practitioner and medical students), followed by personality issues/team disagreements, and a lack of clinical experience that some students possessed. Positive outcomes included an increased understanding of their own and others' professional roles as well as the skills that their discipline brings to an interprofessional team. Some students expressed a greater appreciation of other professions after the case study exercise. An overwhelming number of students reported that the educational exercise gave them a chance to educate students about their discipline, in addition to realizing the great importance of communication skills in interprofessional teams. Finally, they described increased confidence and comfort in interacting with professionals and students from other disciplines.

Although less frequently used, short questionnaires have also been utilized to gain a better understanding of thematic experiences of students within an interprofessional context. For example, a longitudinal study conducted by Jakobsen, Hansen, and Eika (2011) examined survey responses from 428 Danish graduate students in occupational therapy, physiotherapy, and nursing to determine the most important learning outcomes associated with an interprofessional clinical training experience they had as graduate students. After graduating from their respective programs, the student alumni were again asked the same questions regarding their interprofessional experiences. The first time students were surveyed about the interprofessional experience, qualitative analyses indicated that the learning of clinical skills, ethics, and communication was the most important training outcome. However, over time, their perceived

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importance of learning outcomes from an interprofessional clinical training experience change so that professional identity took precedence over any other learning outcomes. Professional identity was described as having responsibility, independence, increased insight regarding complicated clinical situations, self-efficacy and as being acknowledged as a member of one's profession. Results of this study suggested that individuals develop new perspectives as they increase their professional experience; furthermore, it draws attention to the need to consider developmental differences in the understanding of roles and identity within an interprofessional training context.

Summary. A large amount of research studies examining attitudes toward interprofessional teams and experiences with interprofessional education use a mixed-methods approach to explore quantitative differences between pre-and post-test surveys supplemented by a focus group or open-ended questionnaire to assess changes in students' attitudes over time (Olson & Bialocerkoski, 2014); however, a small number of studies have also used cross sectional designs to examine student attitudes across disciplines without the use of an education intervention. Instead, these studies pay greater attention to predictors of students' attitudes toward interprofessional teams and education. Greater level of exposure to interprofessional experiences, as well as a longer amount of time spent in one's training, have been identified as predictors of students' positive attitudes toward interprofessional teams and education (Curran et al., 2008; Kenaszchuk et al., 2012; Ko et al., 2014; Lie et al., 2013). Being female has also been identified as a significant predictor of attitudes toward interprofessional team collaboration (Ko et al., 2014). Unfortunately, no research has examined these differences in psychology doctoral students.

Purpose of the Current Study

The present study is the first to examine clinical, counseling, and school psychology doctoral students' attitudes toward interprofessional treatment teams and their readiness for interprofessional education. Based on two prior studies completed with students from other health professions, Ko et al. (2014) and Wellmon et al. (2012), and intergroup contact theory (Allport, 1954; Browne & Hewstone, 2005), the present study will examine whether and to what extent interprofessional experiences—both educational and practice oriented—predict clinical, counseling, and school psychology students' readiness for interprofessional learning and their self-reported attitudes toward interprofessional practice in health care teams.

Further, no known studies examine unique experiences of psychology graduate students in interprofessional teams practicing in the United States. Using a discovery-oriented qualitative methodological approach, the present study will include open-ended questions to identify common themes and experiences with interprofessional health care teams and related clinical training experiences among clinical and counseling psychology graduate students, specifically related to respondents' beliefs regarding their perceived roles on interprofessional teams in addition to positive and negative aspects of interprofessional team care and involvement.

Chapter III

Method

Participants and Procedure

Participants were recruited by means of an e-mail advertisement (see Appendix A) sent to 335 training directors of APA-accredited doctoral training programs in clinical psychology, counseling psychology, and school psychology in the United States. Training director contact information was obtained from the most recent updates of training programs' websites. Forty-seven training directors confirmed via email that they had completed the request to forward the advertisement to their doctoral listserv; however, given that student participants reported being from doctoral programs in states without a training director's explicit confirmation, it seems likely that additional training directors may have forwarded the announcement without confirming, as requested, with the researcher that they had. Three training directors from clinical psychology programs and one training director from a school psychology program replied that they were unable to forward the request due to restrictions from their academic institution.

For the quantitative portion of the study, a power analysis was conducted using G*Power 3. 1 software (Faul, Erdfelder, Buchner & Lang, 2009) to estimate a recommended *a priori* sample size. Assuming $\alpha = .05$, a medium effect size of $f^2 = .10$ (i.e., mult. $R^2 = .17$ per Cohen [1988], see Table 10.2.3 for $s = 2$), and 80% power, a sample size of 81 was needed for the one-way MANOVA comparing the three program types on four outcome variables; however, a sample size of 134 was recommended for the proposed linear multiple regression models with five predictors (assuming $\alpha = .05$, medium effect size of $f^2 = .10$ [i.e., mult. $R^2 = .09$ per Cohen (1988), see Table 10.2.3 for $s = 1$], and 80% power). Therefore, 134 participants (approximately 44-45 from the three different program types) were needed to meet the recommended sample

size for both the regression and MANOVA analyses. Assuming that approximately 20% of those consenting to complete the survey might drop out before completing a sufficient portion to be included in the analysis, a minimum sample of 168 participants was recruited to ensure that enough complete data were obtained.

Of the 246 individuals who accessed the survey link, 214 participants completed at least 80% of the ISVS, RIPLS, and ATHCT quantitative items and were retained for the quantitative analyses, which exceeded the minimum sample size planned for these analyses. Of the remaining 32 individuals who accessed the survey link, two did not advance beyond the informed consent page and exited from the survey; one was not completing a PhD or a PsyD program and was therefore routed out of the survey for failure to meet the eligibility criteria. The remaining 29 individuals completed at least some part of the demographic measure. The majority of the remaining 29 individuals (71.4%; $n = 21$) did not complete any of the quantitative scales (i.e., RIPLS, ATHCT, ISVS). Approximately 10.3% ($n = 3$) answered at least 80% of the items for one out of three scales, and 27.5% ($n = 8$) answered at least 80% of the items for 2 out of 3 scales. Approximately 31.0% ($n = 9$) of these participants did not report whether or not they had had team experience. Approximately 89.6% ($n = 26$) of these excluded individuals were female, and the majority were in their third year (41.4%, $n = 12$) or second year (20.7%; $n = 6$) of their doctoral program. Ages of those with incomplete data ranged from 22 to 33, with four individuals choosing not to record their age. Approximately 41.4% ($n = 12$) indicated that they were from a clinical psychology program, 28.1% ($n = 9$) from a counseling psychology program, and 31.0 % ($n = 9$) from a school psychology program. Fifty-five percent of non-responders ($n = 16$) were pursuing a Ph.D. and 44.8% ($n = 13$) were pursuing a Psy.D. Approximately 41.4% (n

45

= 12) reported having practicum experience with interprofessional team involvement; 37.9% (n = 11) reported having no practicum experience with interprofessional teams.

Data collection took place between January 2016 and March 2016; responses were monitored during this period to maximize the likelihood that approximately equal numbers of participants were obtained for each of the three program types. One additional recruitment reminder was sent approximately four weeks after the first invitation was sent to program directors from the program types (Clinical, Counseling, or School Psychology) as well as to program directors in states that had low participation. Approximate response rates were then calculated for each program using program student enrollment numbers from the American Psychological Association's *Graduate Study in Psychology* (American Psychological Association, 2014a) that details enrollment statistics and related characteristics of all APA accredited doctoral programs in clinical, counseling, and school psychology. Student totals from programs whose directors declined to forward the study in writing were eliminated from the total. The response rates for counseling (63 out of approximately 1988 possible students), clinical (90 out of approximately 13,405 possible students), and school psychology (61 out of approximately 1481 possible students) were 3.17%, 0.70%, and 4.12%, respectively. However, the assumption that all students in all programs received the study invitation seems unlikely. Thus, response rates were also calculated using only the programs whose training directors confirmed distribution of the study invitation to their students; these response rates for counseling (63 out of 657 students), clinical (90 out of 895 students), and school (61 out of 217 students) psychology were 9.6%, 10.1%, and 28.1%, respectively. Due to the uncertainty of listserv distribution among training directors, the true response rate cannot be calculated. It

seems likely that the true response rates fall between the aforementioned percentages for each training program.

This cross-sectional study utilized an online survey on the Qualtrics platform to extend the geographic range of graduate student participants. As described in the study advertisement (see Appendix A), the criteria for students to participate consisted of the following requirements: (a) be over the age of 18 and (b) identify as a doctoral student from an APA-accredited program in the field of counseling, clinical, or school psychology in the United States. Students who were completing their pre-doctoral clinical internships were also included in the sample ($n = 29$, 13.7%). Informed consent was provided prior to participants' beginning the first measure (see Appendix B) and was obtained by means of asking participants to check a box indicating that they agree to participate in the online study. Participants then proceeded to the survey, which was estimated to take approximately 15-25 minutes to complete. At the end of the survey, participants could elect to enter their e-mail address onto a list from which the 50th participant would receive a $25 gift card to Barnes and Noble bookstore or to remain anonymous and have the researcher donate $1 to the participant's choice of the Michael J. Fox Foundation for Parkinson's Research or Susan B. Komen for the Cure. Of the 214 participants who completed the survey, 83 (39.5%) chose to enter their e-mail address to be added to the list from which every 50th participant would receive a gift card. The 50th individual from this group was notified via e-mail and sent a digital gift card. Fifty-five individuals (25.7%) chose to donate to Susan G. Komen for the Breast Cancer Cure, and 72 (33.6 %) chose to donate to the Michael J. Fox Foundation for Parkinson's Research. Four remaining participants (1.9 %) did not elect to donate or enter their e-mail for the gift card.

Two-hundred and fourteen doctoral students (181 women, 84.6%; 33 men, 15.4%) participated in the quantitative portion of this study; 197 of these participants also provided data used for the qualitative portion. Ages of participants ranged from 21 to 61 ($M = 27.69$, $SD = 4.76$). The ethnicity distribution of the sample was as follows: 76.6% White/Caucasian ($n = 164$), 8.9% Black/African American ($n = 19$), 6.5% Asian/Pacific Islander ($n = 14$), 3.7% Hispanic/Latino ($n = 8$), 1.9% multi-ethnic ($n = 4$), 0.9% American Indian/Alaska Native ($n = 2$), 0.9% Middle Eastern ($n = 2$), and 0.5% Carribean ($n = 1$). Participants' years of doctoral training ranged from 1 to 10, with the majority in their third year of training (25.2 %, $n = 54$), first year of training (23.4%, $n = 50$), and fifth year of training (17.3%; $n = 37$). Graduate students from 32 of the 50 United States were represented in the sample, with the highest number residing in Pennsylvania (9.3%, $n = 20$), Indiana (7.0%; $n = 15$), and Colorado (7.0 %; $n = 15$).

The demographics of the current sample were compared to the most recent publicly available statistics from the American Psychological Association in an attempt to examine similarity between the present sample and the population of psychology doctoral students. Specifically, APA's Commission on Accreditation Annual Report Online (2015) described the ethnic demographics of doctoral students enrolled in clinical, counseling, and school psychology programs in the year 2015, citing 66.31% as White, 12.47% Hispanic-Latina, 8.04% Asian, 7.16% Black/African American, 2.09% multi-ethnic, 0.57%, 0.38% Canadian, American Indian/Alaskan Native, 0.24% Native Hawaiian/Pacific Islander, and 2.74% unknown/unreported.

Participants were currently enrolled as doctoral students in APA-accredited clinical ($n = 90$, 42.1%), counseling ($n = 63$, 29.4%), and school ($n = 61$, 28.5%) psychology programs. Participants reported enrollment in either a Ph.D. ($n = 178$) or Psy.D. ($n = 65$) program. Several

participants indicated that they belonged to a program that was a member of the council of

Clinical Health Psychology Training Programs (4.7%, $n = 10$) or Council of Professional

Geropsychology Training programs (2.8 %, $n = 6$). A small minority of participants (1.9%, $n = 4$) belonged to a training program that was part of both of the aforementioned programs.

Participants' training settings varied, with the majority of clinically practicing

respondents reporting that they received clinical training in college counseling/student mental

health (46.7%, $n = 100$), primary/secondary school settings (41.9%, $n = 89$), outpatient

psychology clinics (39%, $n = 84$) or community mental health agencies (38.8%, $n = 83$). Of note,

fewer participants indicated that they had received training in settings where interprofessional

teams are commonly found, such as a major medical center (17.3%, $n = 37$), primary care clinic

(12.6%, $n = 27$), nursing home (3.7%, $n = 8$), or Veterans Hospital (7.0%, $n = 15$; see Table 1 for

additional descriptions of participant training experiences). The majority of participants preferred

to solely use the term "client" to describe individuals under their care (51.4%, $n = 110$) rather

than to solely use the term "patient" (11.7%, $n = 25$); however, approximately 31% of

participants ($n = 67$) reported using both terms. The remainder of the sample (5.6 %, $n = 12$)

preferred an alternative term to describe the individuals under their care, with the term "student"

being the most frequent alternative.

The majority of participants (77 %, $n = 165$) indicated that they had never taken a course

pertaining specifically to professional health care teams or integrated care at the graduate level;

however, 58 % ($n = 125$) indicated that interprofessional health care teams or integrated care had

been a topic covered in a graduate-level psychology course. Only 17.3% ($n = 37$) of participants

indicated that their current graduate program consistently offered courses dedicated specifically

to interprofessional health care teams/integrated care. Approximately 28.82% ($n = 32$) of

experienced participants and 16.67% ($n = 17$) of inexperienced participants reported taking courses pertaining to interprofessional health care teams or integrated care. Participants indicated that the main means by which they learned about interprofessional health care teams or integrated care were through their clinical practicum experiences in psychology (69%, $n = 148$) and graduate level coursework (52.3%, $n = 112$; see Table 2 for more information regarding participants' learning opportunities). Approximately 51% ($n = 111$) of the sample reported that they had worked as a member of an interprofessional care team in their clinical practica. Participants with experience as a member of an interprofessional care team generally reported having a positive experience, most frequently reporting an 8 out of possible 10-point quality rating ($n = 110$, $M = 7.94$). Approximately 49% ($n = 103$) of the sample indicated that they had no experience working on interprofessional care teams as a psychology graduate student.

Materials and Measures

Demographic Information. A demographic questionnaire (see Appendix C) asked participants to report their age, gender, type of program in which they are enrolled, degree type (i.e., Psy.D. or Ph.D.), year in their current program, total years of study in psychology, and clinical experience. Additionally, to describe the sample more fully, participants indicated their race and ethnic background, as well as whether or not their program was member of the Council of Clinical Health Psychology or Council of Professional Geropsychology training programs. Given the online nature of the data collection, participants were also asked to indicate the state in which their program is located, as well as the nature of their clinical training environments in an effort to assess the geographical representativeness of the sample. One participant who indicated that they "Do not identify with a gender" (see item 1, Appendix C) was excluded from the

multiple regression analyses, given that gender was conceptualized as a dichotomous variable for the analyses.

Description of interprofessional teams and interprofessional education. After completing the demographic survey, participants were provided with the researcher's intended definition of the term "interprofessional team" and given examples of interprofessional teams within both inpatient and outpatient settings (see Appendix D). For the purposes of this study, the term "interprofessional team" was defined as "a relatively small work group in health care who have a collective identity and shared responsibility for a patient or group of patients" (IPEC, 2011, p. 2). School-based interprofessional teams were explicitly excluded for the purposes of this study.

An interprofessional education description was also provided to participants in an attempt to help them to accurately identify their involvement. For the purposes of the present study, "interprofessional education" was defined as instances when "students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes" (World Health Organization, 2010, p. 7; see Appendix D).

Experience with interprofessional teams and education. Similar to the questionnaire utilized by Ko et al. (2014), an additional survey (see Appendix E) was used to obtain information about participants' experiences working as a part of an interprofessional treatment team and in receiving coursework dedicated specifically to integrated care or interprofessional health care teams. Thus, participants were asked whether or not they have ever taken courses pertaining to interprofessional teams or integrated care at the graduate level. Interprofessional course experience was used as a dichotomous categorical variable (0 = no experience, 1 = experience). Experience with interprofessional teams in practice settings was measured by

asking "What is the total time you have been a member of interprofessional teams (e.g.,

including professional paid work experience, practicum, field placement, and voluntary work

experience)?" and was collected as a continuous variable ranging from 0 to 20 years.

Additionally, all participants were asked two questions regarding language and experiences on

interprofessional care teams (e.g., the use of the term patient/client, their beliefs regarding

psychologists' roles on interprofessional care teams in health care; see Appendix E).

Participants who indicated that they had *not* had clinical experience working on an

interprofessional team were directed to answer several hypothetical questions about

psychologists working on interprofessional health care teams (e.g., What challenges do you

foresee psychologists or students having as a member of an interprofessional health care team;

see Appendix E). Participants who indicate that they *have* had clinical experience working on an

interprofessional team were directed to the qualitative portion of the survey that asked four open-

ended questions and one Likert item. The first two open-ended questions gathered information

regarding participants' beliefs about their own perceived role within an interprofessional team

(e.g., What role(s) do you believe you personally have/had as a psychology student on the

interprofessional care team; see Appendix E). The second two open-ended questions gathered

information about participants' views of the benefits and difficulties of working on an

interprofessional team. Finally, participants were asked to rate their overall experience as a

member of an interprofessional team on a scale of 1 (*poor*) to 10 (*excellent*).

Attitudes toward interprofessional care teams. Participants' attitudes toward

interprofessional care teams were measured using two different scales encompassing five

constructs: perceptions of quality of care, perceptions of time constraints imposed by

interprofessional care, self-perceived ability to work with others, value in working with others

and comfort in working with others. Perceptions of quality of care and time constraints were

measured using the 14-item version of the Attitudes toward Healthcare Teams Scale (ATHCT;

Heinemann et al., 1999; Kim & Ko, 2014; see Appendix F) and the Interprofessional

Socialization and Valuing Scale (ISVS; King, Shaw, Orchard, & Miller, 2010; see Appendix F).

The 14-item ATHCT scale was adapted by Curran et al. (2008) from Heinemann et al.'s (1999)

original 21-item measure and assesses perceptions of the quality of care that can be provided by

interprofessional team members and the quality of cooperation necessary to provide this optimal

care (Heinemann et al., 1999; Wellmon et al., 2012). Ko and Kim (2014) confirmed the validity

of a two-factor model for the 14-item version of the ATHCT in a sample of graduate students.

The 14 ATHCT items use a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*)

and form two subscale scores by summing their respective items: (1) Quality of Care (items 1, 2,

3, 4, 5, 6, 7, 8, 9, 10, and 11), and (2) Time Constraints (items 12, 13, and 14). Negatively

worded items from the time constraints subscale are reversed-coded (items 12, 13, 14; e.g.,

"Working in teams unnecessarily complicates things."). The range of possible scores is 5 – 55

for the quality of care subscale and 3 – 15 for the time constraints subscale. For both subscales,

higher scores suggested more positive attitudes toward interprofessional care teams. Consistent

with previous literature (e.g., Curran et al., 2008, Ko et al., 2014, Wamsley et al., 2012) that

conducted separate analyses for each subscale, the present study utilized the two subscales as

separate dependent variables.

In a sample of graduate students from the health sciences, Cronbach's alpha for the

reduced 14-item version's two factors (quality of care and time constraints) was .92 and .86,

respectively (Kim & Ko, 2014), and Curran et al. (2008) also found strong evidence of reliability

of the factors in its sample, calculating a Cronbach's alpha of .90 and .85. However, Ko et al.

(2014) found poorer reliability for the second factor, with a Cronbach's alpha of .56, but confirmed the good reliability of the first factor with a Cronbach's alpha of .82. Reliability of the ATHCT quality of care subscale in the present sample was .86. Reliability of the ATHCT time constraints subscale was .80 in the present sample.

In addition to the reduced version of the ATHCT, participants were given the Interprofessional Socialization and Valuing Scale (ISVS; King et al., 2010, see Appendix G), a 24-item self-report measure that was created to measure the degree to which individuals display interprofessional socialization and collaborative clinical practice within health care settings. The 24 ISVS items use a Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Responses to one negatively worded item (24; "I believe that interprofessional practice is difficult to implement") are reverse coded, and item responses are summed to create a total score. Thus, possible scores on the ISVS range from 24 – 144. Higher scores indicate a greater presence of self-perceived ability to work with individuals from other disciplines as well as greater comfort and valuing of interactions with members from disciplines outside of one's own. Psychology graduate students were included in the initial validation of the ISVS, in which King et al. (2010) reported a Cronbach's alpha of .90 for the full 24-item measure. Reliability of the ISVS was .95 for the current sample of psychology doctoral students.

In a recent review of interprofessional education outcome measures, the ISVS met all stringent pre-determined standards for instrument development in the areas of test content, internal structure, response processes, validity, and reliability (Oates & Davidson, 2015). Further, the ISVS was identified as an instrument that displayed a stable subscale structure over time. It should be noted that King et al. (2010) also identified three subscales of the ISVS including (1) self-perceived ability to work with others (items 1, 2, 3, 4, 5, 6, 7, 8, 9; e.g., "I am

able to listen to other members of the team"); (2) value in working with others (items 10, 11, 12, 13, 14, 15, 16, 17, 18; e.g., "I believe that interprofessional practice is not a waste of time"); and (3) comfort in working with others (items 19, 20, 21, 22, 23, 24; e.g., "I feel comfortable debating issues in a team"). However, because the ISVS met the stringent psychometric criteria for validity, reliability, and scale construction proposed by Oates and Davidson (2015), it was used as a unidimensional total score in the present study to measure the degree to which participants endorsed positive interprofessional socialization practices.

Readiness for interprofessional education. Readiness for interprofessional education was measured using the Readiness for Interprofessional Learning Scale (RIPLS; Parsell & Bligh, 1999; see Appendix H), a 19-item measure that utilizes a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) to assess student readiness for educational activities that increase exposure to collaboration between disciplines; higher scores represent more readiness and positive attitudes toward interprofessional learning (Li et al., 2013; Parsell & Bligh, 1999). Three items (10, 11, and 12) are reverse-scored. Consistent with the cross-sectional usage of the summative score by Lie et al. (2013), the present study used a summed score (range 19-95) for the RIPLS to indicate participants' attitudes toward interprofessional education, with higher scores indicating more readiness for interprofessional learning. The RIPLS has been utilized with graduate students from varying professions (e.g., Lie et al., 2013), including clinical psychology doctoral students (e.g., Wellmon et al., 2012). The reliability of the total RIPLS score was .85 in Lie et al.'s sample of graduate students and for the current sample of psychology doctoral students in the present study. Cronbach's alpha for the RIPLS measure has also been measured at .87 in a sample of undergraduate students (King et al., 2012) and .89 in a sample of graduate students (Ruebling et al., 2014).

Although the current study used the total score from the RIPLS, it should be noted that Parsell and Bligh (1999)'s original RIPLS scale initially had three subscales, which McFadyen et al. (2005) later divided the professional identity subscale into positive and negative constructs, creating four subscales. The first subscale, team work and collaboration (items 1, 2, 3, 4, 5, 6, 7, 8, 9), encompasses the importance of effective teamwork and collaborative skills in order to maximize the quality of patient care (King et al., 2012). The second and third subscales, negative professional identity (items 10, 11, 12) and positive professional identity (items 13, 14, 15, 16), encompass the process of acquiring a professional identity as students advance through their programs (King et al., 2012). The fourth and final subscale, understanding roles and responsibilities (items 17, 18, 19) encompasses attitudes toward the boundaries between disciplines, focusing specifically on the hierarchies that may exist in clinical practice (King et al., 2012). When examining longitudinal change, the majority of studies have utilized the RIPLS subscales; however, , the current study followed Lie et al. (2013), who utilized the total RIPLs score in a cross-sectional study to compare differences in students from medicine, pharmacy, and physician assistant graduate programs.

Data Analysis Plan

Quantitative analyses. Quantitative data analysis was performed using IBM SPSS ®. To test Hypothesis 1, a one-way MANOVA was conducted to compare the three program types (i.e., clinical, counseling, and school psychology) on four outcome variables assessing attitudes toward interprofessional teams (i.e., Quality of Care and Time Constraints [subscales of the ATHCT] and the total score of the ISVS) and readiness for interprofessional education (total score of the RIPLs). To address Hypotheses 2 and 3, four univariate hierarchical linear regressions were conducted to examine demographic variables (gender, age, and year in

program) in addition to interprofessional experiences (i.e., coursework [Y/N] and years of experience) as predictors of participants' attitudes toward interprofessional care teams (as measured by the two subscale scores of the ATHCT and ISVS) as well as their readiness for interprofessional education (as measured by the total score of the RIPLS). Participants' demographic variables were entered in step one (gender, age, year in program), followed by interprofessional experiences in step two. Missing item-level data were addressed by calculating pro-rated sums for each of the four dependent variable outcome measures (i.e., the two ATHCT QOC and ATHCT TC subscales, the ISVS, and the RIPLS) for any participant completing at least 80% of the items of that outcome measure.

Qualitative analyses. To address the qualitative questions from the Experience with Interprofessional Teams questionnaire, the discovery-oriented method (Hill, 1990; Mahrer, 1988) was used to develop categories (themes) for the open-ended items regarding perceptions of psychologists and psychology student roles in interprofessional teams and to determine themes for any negative and positive interprofessional team experiences reported by participants. Proportion of the content (themes) was then calculated for participants who answered the open-ended questions.

The qualitative data analysis took place over the course of eight consensus meetings occurring between May and July of 2016. The research team consisted of two doctoral graduate students in counseling psychology and a counseling psychology faculty member who provided an initial training in the coding process. First, a random set of responses to the six open-ended items on the Experience with Interprofessional Teams Questionnaire (see Appendix E) were selected in order to develop mutually exclusive list of categories within the broad topic areas of each open-ended question. Each team member reviewed this random set of responses

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independently and sorted participant responses into potential categories. Categories were then reviewed and refined by the team and re-coded. New categories emerged over time; however, interrater congruence was continually checked until the members reached the pre-determined level of 80%. Specific cases where codes disagreed between members were discussed until consensus was reached by all team members. Finally, the category proportions and proportion of participants who reported at least one item in each of the categories was calculated. Chi-square analyses were conducted for each content area to determine whether the proportions of role descriptions and positive/negative experience were equal.

Chapter IV

Results

Descriptive Analyses

Descriptive statistics (see Table 3) were calculated for the four outcome variables in the study analyses and showed that the variables were normally distributed, with skewness and kurtosis values that fell within the recommended ranges (-2 to +2; Schumacker & Lomax, 2010); thus, no transformations were made to the variables prior to running the statistical analyses. Descriptive statistics (see Tables 4 and 5) were also calculated for the four outcome variables between clinical, counseling, and school psychology programs. Prior to the multiple regression analyses, regression diagnostics were examined for the current data set. First, residual statistics and Cook's D were examined. Cook's D fell within the recommended value of less than 1, and the standardized residual fell within the recommended value of 3 (Cook & Weisberg, 1983; Minimum Cook's D = .000; Maximum Cook's D = .108). These results indicated that no outliers or extreme cases influencing the predictions were identified in the present data set. Histograms and normal probability plots of regression standardized residuals demonstrated that the assumption of normally distributed residuals for the present dataset was met. Additionally, scatterplots showed a random pattern of the regression standardized residuals, indicating that the assumption of homoscedasticity was met. Finally, variance inflation factor (VIF) values fell below 10 (Myers, 1990) with tolerances greater than .2 (Menard, 1995) for each dependent variable, indicating that the assumption of absence of collinearity among variables was met.

Preliminary Analyses

Differences between participants from the three different program types (clinical, counseling, and school) were preliminarily examined with one-way ANOVAs for continuous demographic variables (i.e., participant age, year in one's graduate program, and years of

interprofessional practicum experience) and with chi-square tests for each categorical predictor. No significant differences were present between clinical, counseling, and school psychology doctoral students in age (F (2, 210) = .21, p = .81) or year in one's program (F (2, 210) = 2.35, p = .10); however, a significant difference between program types was found in the mean amount of time spent practicing on an interprofessional team (F (2, 210) = 4.47, p = .013). Tukey HSD post hoc tests indicated that clinical psychology students (M = 2.0 years) reported spending significantly more time as a member of an interprofessional care team than school psychology students (M = 1.0 years; p = .009); differences between clinical and counseling programs or between counseling and school psychology programs in reported amount of time spent on an interprofessional care team were not significant.

Chi-square tests examined significant differences between program types in categorical predictors, which included gender (Male/Female) and presence of coursework pertaining to interprofessional practice (Y/N). Although not used as a predictor in the regression analyses, the presence or absence of interprofessional practica experiences (i.e., "Have you worked on an interprofessional health care team as part of your clinical practicum rotations in psychology? [Y/N]) was also examined between program types. No significant differences in the proportions for gender (χ^2(2) = 1.41, p = .49) or coursework in interprofessional care (χ^2(2) = 2.74, p = .25) were present between clinical, counseling, and school psychology doctoral students. The proportion of individuals who reported working on an interprofessional health care team as a part of their graduate psychology clinical practicum was significantly higher (χ^2(2) = 19.27, p < .001) among clinical psychology students (n = 62; 69.66%) than counseling doctoral students (n = 28; 44.44%) and school psychology doctoral students (n = 21; 34.43%).

Research Question 1: Mean Differences in Attitudes toward Health Care Teams and Readiness for Interprofessional Learning by Graduate Program Type

To examine group differences in attitudes toward interprofessional teams and readiness for interprofessional education, a one-way MANOVA was conducted in which program type (i.e., clinical, counseling, and school psychology) was the independent variable and scores on the two ATHCT subscales, ISVS, and RIPLS were the four dependent variables. One-way MANOVA results showed no significant multivariate differences between training program type (Wilks' $\lambda = .958$, $F(6, 418) = 1.513$, $p = .272$). Therefore, program type was not incorporated as a predictor in the subsequent multiple regression analyses.

Research Questions 2 and 3: Predictors of Attitudes toward Interprofessional Teams and Readiness for Interprofessional Education

Four univariate hierarchical linear regressions were conducted to examine demographic variables (gender, age, and year in program) in addition to interprofessional experiences (i.e., interprofessional coursework [Y/N] and years of interprofessional practice) as predictors of attitudes toward interprofessional care teams in addition to their readiness for interprofessional education.

  Hierarchical Univariate Multiple Regression for ATHCT Quality of Care. As shown in Table 6, a hierarchical multiple regression was conducted to determine whether gender, age, year in program, coursework in interprofessional/integrated care and years of interprofessional experience were predictive of attitudes toward interprofessional health care teams as measured by the ATHCT Quality of Care (QOC) subscale, which assesses the extent to which participants value the quality of care that can be provided by interprofessional team members and the quality of cooperation necessary to provide this optimal care (Heinemann et al., 1999; Wellmon et al.,

2012). Demographic variables of participants' age, gender, and year in one's current graduate program were entered in step 1. Model 1 did not explain a significant amount of variance in QOC (R^2 =.027, $F(2, 210)$ = 1.91, p = .13), which indicated that the aforementioned demographic variables alone were not significant predictors of attitudes toward health care teams as measured by the ATHCT QOC subscale.

Interprofessional course experience and interprofessional practice experience were added to the model in step 2. This model explained a significant amount of the variance in participants' QOC scores (R^2 =.063, $F(5, 208)$ = 2.81, p = .02), which was also a significant increase of 3.6% over the amount explained by the demographic variables of gender, age, and year in program (ΔR^2 =.036, $\Delta F(2, 208)$ = 0.90, p = .02). The significant regression coefficient for time spent in interprofessional practice (B = .41, p = .04) indicated that, for each additional year of time spent on an interprofessional team, a .41-point increase was predicted in the ATHCT QOC subscale score, holding all other predictors constant. Unexpectedly, more advanced student status (i.e., year in one's current doctoral program) predicted lower scores on the QOC subscale such that for each additional year in one's graduate program, a .75-point decrease in QOC was predicted (B = -.75, p = .003).

Hierarchical Univariate Multiple Regression for ATHCT Time Constraints. As shown in Table 7, a hierarchical multiple regression tested whether gender, age, year in program, coursework in interprofessional/integrated care and years of interprofessional experience were predictive of attitudes toward interprofessional health care teams as measured by the ATHCT Time Constraint (TC) reverse-coded subscale that assessed the extent to which participants felt the time invested in interprofessional care is worthwhile. Higher scores were indicative of more positive attitudes toward time allocation made for interprofessional care. Age, gender, and year

in one's current program were entered in step 1, followed by interprofessional coursework and interprofessional practice experience in step 2. Model 1 did not explain a significant amount of variance in TC (R^2 =.001, $F(3, 210) = 0.087$, $p = .967$), which indicated that the aforementioned demographic variables alone were not significant predictors of attitudes toward health care teams as measured by the ATHCT TC subscale.

Interprofessional course experience and interprofessional practice experience were added to the model in step 2. Model 2 also did not explain a significant amount of variance (R^2 =.019, $F(5, 208) = .804$, $p = .155$), and interprofessional course and practice experiences were not significant predictors of positive attitudes toward the value of time allocation spent on interprofessional practice. The increase of 1.8% over the amount explained by the demographic variables of gender, age, and year in program was not statistically significant (ΔR^2 =.018, $\Delta F(5, 208) = 1.880$, $p = .155$).

Hierarchical Univariate Multiple Regression for ISVS. As shown in Table 8, a hierarchical multiple regression tested whether gender, age, year in program, coursework in interprofessional/integrated care and years of interprofessional experience were predictive of attitudes toward interprofessional health care teams as measured by the Interprofessional Socialization and Valuing Scale (ISVS), which measured participants' beliefs, behaviors, and attitudes regarding interprofessional socialization and collaborative clinical practices within health care settings. The ISVS specifically measured participants' self-perceived ability to work with others, perceived value in working with other disciplines on a team, and their comfort with working with other team members (King et al., 2010). Demographic variables including participants' age, gender, and year in one's current program were entered in step 1. Model 1 did not explain a significant amount of variance in the ISVS ($R^2 = .02$, $F(3, 210) = 1.15$, $p = .33$),

which indicated that the aforementioned demographic variables alone were not significant predictors of attitudes toward health care teams as measured by the ISVS.

Interprofessional course experience and interprofessional practice experience were added to the model in step 2. This model explained a significant amount of the variance in participants' ISVS scores ($R^2 = .12$, $F(5, 208) = 5.86$, $p < .001$), which was also a significant increase of 11% over the amount explained by the demographic variables of gender, age, and year in program ($\Delta R^2 = .11$, $\Delta F(2, 208) = 12.72$, $p < .001$). The significant regression coefficient for time spent interprofessional practice indicated that, for each additional year spent on an interprofessional team, a 3.85-point increase in ISVS score was predicted ($B = 3.845$, $p < .001$), holding constant all other predictor variables in the model.

Hierarchical Univariate Multiple Regression for RIPLS. As shown in Table 9, the fourth and final hierarchical multiple regression tested whether gender, age, year in program, coursework in interprofessional/integrated care and years of interprofessional experience were predictive of readiness for interprofessional learning as measured by the Readiness for Interprofessional Learning Scale (RIPLS) that assessed participants' readiness for educational activities that increase exposure to collaboration between disciplines; higher scores represented more readiness and positive attitudes toward interprofessional learning (Li et al., 2013; Parsell & Bligh, 1999). Age, gender, and year in one's current program were entered in step 1, followed by interprofessional coursework and interprofessional practice experience in step 2. Model 1 did not explain a significant amount of variance in RIPLS scores ($R^2 = .02$, $F(3, 210) = 1.36$, $p = .26$), which indicated that demographic variables alone were not significant predictors of readiness for interprofessional learning as measured by the RIPLS.

Interprofessional course experience and interprofessional practice experience were added

to the model in step 2. Model 2 did not explain a significant amount of variance ($R^2 = .04$, $F(5,$

$208) = 1.67$, $p = .14$), indicating that demographic variables and interprofessional course and

practice experiences were not significant predictors of readiness for interprofessional learning in

this sample of doctoral students. With the addition of interprofessional course and practice

experiences, the increase of 2.0 % over the amount explained by the demographic variables of

gender, age, and year in program was not significant ($\Delta R^2 = .020$, $\Delta F(2, 208) = 2.120$, $p = .123$).

Qualitative Findings

The discovery-oriented method (Hill, 1990; Mahrer, 1988) was utilized to develop

mutually exclusive categories for the content of responses on the Experience Working with

Interprofessional Teams and Education questionnaire to four open-ended questions asked of

participants with clinical interprofessional team experience (i.e., "Experienced students") and

two open-ended questions asked of participants who did not have clinical interprofessional team

experience (i.e., "Inexperienced students"). A goodness-of-fit chi-square analysis was

subsequently conducted for each of the six open-ended qualitative questions to determine

whether the proportions of statements in each of the coded categories were equal. An alpha level

of .01 was used for each of the tests to control for Type I error. The degrees of freedom for each

analysis vary, as the number of coded categories varied for each question. For questions with a

significant overall goodness-of-fit chi-square, cell chi-square analyses, which use one degree of

freedom, were subsequently conducted to clarify which categories were reported more than

expected by chance alone. IBM SPSS® statistical software was first used to calculate the

expected values and residuals for each coded category. The cell chi-square values were

calculated by squaring the residual value and dividing by the expected value (*N*) for every

individual coded category of each qualitative question. Cutoff scores suggested by Heiberger

and Holland (2004) were used as guidelines for reporting the significant categories; thus,

categories with chi-square values above 6.63 (99th percentile) were reported, in addition to values

between 3.84 (95th percentile) and 6.63, which were also statistically significant.

Experienced students. As shown in Table 10, students ($n = 103$) who indicated that they

had experience on interprofessional teams responded to four questions about the roles of

psychology students and psychologists on an interprofessional team as well as their positive

experiences and negative experiences (i.e., challenges) as a member of an interprofessional team.

Perceived role of psychology students on interprofessional teams. Table 11 displays the

five coded categories of interprofessional roles reported by experienced participants: mental

health provider, mental health consultant, assessment (assessor), observer/learner, and patient

advocate.

Mental Health Provider. The category of mental health provider was reported by 60.19%

of experienced students and represented 36.90% of the total responses to the question of the

perceived role of psychology students on interprofessional teams. Participant responses

described activities including the provision of individual and group counseling, helping patients

follow through with treatment planning/adherence, developing treatment plans and

conceptualizations, psychological diagnosing, behavioral health management—including triage

and coordination of care. When describing their role as a mental health provider on an

interprofessional team, participants stated that, as members of a health care team, they

specifically "provide individual short-term psychotherapy and skills-building, meet with patients

and families to discuss treatment planning, and develop and co-facilitate psychology groups".

Additionally, participants described "collaborating with other team members to ensure client has

needs met regarding health issues, social work issues, and psychiatric medication issues" as well as "providing evidence-based treatment and facilitating medication compliance". The utilization of diagnostic skills was an additional component to acting as a mental health provider on a team, with one participant stating, "I work as a diagnostician and therapist, and provide information regarding a patient's behaviors and functioning".

Mental Health Consultant. More than half of experienced students (51.56%) gave a response that was coded in the category of mental health consultant, a role that included a variety of different tasks. First, they described sharing their mental health expertise in research and/or practice with the interprofessional team as well as providing a mental health vantage point to team members. For example, a participant wrote that "communicating information from our psychological/behavioral consultation and liaison team during interprofessional rounds at the hospital provided a mental health perspective". Second, participants described teaching staff and/or peers how to do psychological interventions related to health behavior change, with one participant stating that she acted as a "mentor to undergraduate and graduate psychology students learning about primary care psychology, and was a peer supervisor of clinical psychology practicum students". More specifically, several participants mentioned that they "took a consultation role in providing information to parents and team members as a liaison between medical and educational systems". Altogether, the most salient characteristic of the mental health consultant description involved the student's responsibility of communicating general or patient-specific psychological information to the other health care team members.

Assessment. In the third category encompassing the area of assessment, 23.30% of participants described taking the role of an assessor on interprofessional health care teams. They described conducting and interpreting specific and non-specific assessments as a key feature of

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this category, with occasional consulting on assessment cases. Some participants specifically "conducted neuropsychological assessments", and others conducted more vaguely-described assessments, such as "assessment of mood, coping, and cognition of patients on a medical unit".

Observer/learner. In the fourth category, 21.36% of participants described themselves as not having an active role on the team, but were present. Often, responses in this category were associated with student status. Some described that their role was to "learn from others", "observe how the team functions", and to "shadow" other professionals. This role was described positively by some (e.g., "my role was limited to majorly listening and gaining experience with the care team; however, my input was valued when we discussed clients with whom I had been working") and more neutrally described by others (e.g., "I had only a minor role, in that I simply followed directions and did not contribute personally").

Patient/Client Advocate. In the fifth and final category, a small minority of participants (6.80%) described having the role of advocate, by "advocating for the client and seeing that the client gets proper psychological treatment/care" and "advocating for clients across interdisciplinary teams".

Chi-square Analysis. The chi-square test was significant for experienced doctoral students' self-reported interprofessional roles ($\chi^2(4, n_s = 168) = 63.01, p < .001$), indicating that that the proportion of statements in each of the five interprofessional roles were not equal. Cell chi-square values showed that two of the categories for perceived interprofessional role of the student were reported more often than expected by chance. Specifically, doctoral students with experience on interprofessional care teams reported having a role as a *mental health provider* whose primary responsibilities included the provision of individual and group counseling, treatment plan development, conceptualization and diagnosis, conceptualization, risk assessment,

and behavioral health management ($\chi^2(1, n_s = 168) = 24.00$). Additionally, they described

having the role of a *mental health consultant* who shares mental health expertise in

research/practice, provides a psychological perspective to the team, in addition to teaching and/or

mentoring other staff and peers on how to carry out interventions applicable for health behavior

change ($\chi^2(1, n_s = 168) = 11.20$).

    Perceived role of psychologists. As shown in Table 12, analysis of the qualitative data

revealed five major categories of licensed psychologists' roles on interprofessional teams:

Leadership/clinical expert, supervisor, administrator, primary mental health provider, and

assessment.

    Leadership/Clinical Expert. In contrast to the roles of the psychology students on an

interprofessional team, 59.68% of experienced students described licensed psychologists as

having more power and influence and an overall greater presence on the team. In this category,

participants also described the licensed (or post-doctoral) psychologists as providing larger scale

interventions (e.g., milieu, systems, and acute crisis management) and engaging more heavily in

program development and staff educator. Leadership and expertise were characteristics of

responses coded into the first category, with participants describing psychologists as "expert

consultants", the "leader(s) of behavioral health team administrative activities", and "conducting

program evaluation/development".

    Supervisor. The second category, reported by 27.42% of experienced participants,

described licensed psychologists as supervising clinical psychology practicum students and pre-

doctoral interns in addition to engaging in supervision of supervision. Additionally, participants

described the supervision role occurring in the context of other administrative and research

activities. For example, one participant described that the psychologist on her team would "oversee cases to ensure provision of well-rounded services".

Administrator. The third category involved psychologists in an administrative role. Often this role included being knowledgeable of insurance and billing procedures, as well as being in charge of coordination of care. A participant described the team psychologist as having to "keep abreast of billing codes and procedures" and engaging in "management of patients by means of coordinating their care and treatment". Approximately 14.52% of participants reported this role.

Primary Mental Health Provider. The fourth category, also endorsed by 14.52% of participants, described psychologists acting as the primary mental health provider of the interprofessional team, often being more present in the day to day service provision than students. Participants indicated that psychologists were more apt to "make treatment recommendations", "write positive behavior support plans", "diagnose patients", and "provide direct therapy". These roles were described as activities that the participants did not complete.

Assessment. Similar to the described role of students on interprofessional care teams, assessment was also described by a small number of participants (12.90%) as a role that licensed psychologists completed, but not the students themselves. Participants described the licensed psychologist as someone who "aided in the assessment of the client and engaged in report writing for the interprofessional clinic", in addition to conducting "comprehensive psychological assessments".

Chi-square Analysis. The chi-square test was significant for experienced doctoral students' perceptions of psychologists' or post-graduate interprofessional roles ($\chi^2(4, n_s = 80) = 37.75, p < .001$), indicating that that the proportion of participant-described psychologist/post graduate interprofessional roles (categories) were not equal. Cell chi-square values showed that

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only one of the categories for perceived role of the psychologist was reported more often than expected by chance. Specifically, experienced students indicated that the role of post-doctoral fellows or licensed psychologists working on the team was to act as the *clinical expert*, providing increased expertise, leadership, and presence on the team ($\chi^2(1, n_s = 80) = 27.56$).

    Challenges faced on interprofessional teams. As shown in Table 13, analysis of the qualitative data for this question revealed eight total categories, seven of which represented student challenges encountered on interprofessional teams: Limited team cohesion/challenging team dynamics, power dynamics/navigating hierarchical structures, uncertainty about team members' roles and the medical environment, practical issues, others' uncertainty about what psychologists do, feeling intimidated as a student, and experiencing ethical complexities. A small number of participants gave a response coded into an eighth category representing having experienced no challenges as a member of an interprofessional team.

    Limited team cohesion/challenging team dynamics. Described by 35.05% of participants, the first category encompassed participants' observations of limited team cohesion and challenging team dynamics as characterized by communication difficulties, difficulties in clinical opinions and practices, interpersonal conflict, and lack of integration of services. Examples included "differences in approach to patient interactions and treatment", "difficulty collaborating on establishment of treatment goals", "tension surrounding differences of clinical opinions and assessment practices", "lack of communication between disciplines" and "personality conflicts". Specifically, it was explained by one participant that "finding common language that others from professions outside of psychology can understand can also be difficult…making sure that everyone has a common treatment goal can also be hard". Participants also described the ways in which interpersonal interactions influenced the system in which the team was embedded. For

example, one participant observed the following: "I have also noticed the impact of competing visions for how a facility should function. Those in mental health may value some components of treatment most highly, while those in medical fields prioritize other forms of intervention".

Power dynamics/navigating hierarchical structures. The second category, endorsed by 32.98% of participants, described participants' struggles to navigate hierarchical structures and power dynamics within the team. Specifically, they noted a lack of respect for the psychologist or psychology trainee (themselves) or negative attitudes about psychology as a profession. Examples provided by participants included observed "power struggles between psychology and psychiatry". Participants noted that it "seemed as if our role and knowledge were discounted...perhaps due to (our) student status" and that "sometimes, either because of being a student or not having a medical degree, it seemed as if our role and knowledge was discounted".

Student's uncertainty about team members' roles and the medical environment. Fewer participants (22.68%) endorsed uncertainty about team member roles and the medical environment, which encompassed situations where students were unclear about their own role and when/what they could contribute to the team discussion. Additionally, students expressed uncertainty about others' roles on the team, and lacking knowledge about specific medical areas. For example, participants stated that a struggle was "knowing what I could uniquely contribute to the team", and "not knowing my place, or how to advocate effectively". Lack of knowledge regarding issues pertaining to medicine was another common challenge in this category, and was exemplified by responses such as "not knowing about specific medical terms and interventions made it challenging to contribute meaningfully in team discussions", and more generally, "a lack of knowledge surrounding medical conditions".

Practical issues. The "practical issues" category included responses describing practical issues within the medical environment and team, including difficulties with scheduling appointments and/or care coordination, limited office space, and limited communication among team members because of scheduling. The 18.55% of participants endorsing this category provided examples that detailed the problematic nature of their part-time involvement on the interprofessional team due to their schedules. For example, one participant stated:

Often the greatest challenge was not being at the site full time, particularly at the inpatient facility, because patients' functioning changes so drastically over the course of a short period of time. This made it important to work efficiently, but also complete enough testing or intervention to inform the treatment plan.

Another participant explained that "it was rarely possible to get everyone in the room at the same time. Clinical staff was sometimes updated on unit goings-on a week after it happened", whereas another stated that "the majority of the challenges I encountered have been in regard to wasted time…in many instances, the information being shared may only be relevant to a small subset of those meeting".

Others' uncertainty about what psychologists do. This category encompassed other team members' uncertainty of psychologists' roles on interprofessional teams and was characterized by being asked to work outside one's scope of practice (e.g., being asked to give medication recommendations, getting inappropriate referrals), others' uncertainty of the student's role, and having to educate other team members about psychology's role on the team. The 12.37% of participants endorsing this category described situations such as "having to teach people in other fields what my role on the team was" and having to "explain what my role was and what I could

do in training…many times primary care doctors wanted me to 'get the truth' or find out if a patient was lying".

Intimidation. Approximately 5.15% of participants endorsed a feeling of intimidation, which included students' feelings of intimidation as a team member, often as a result of age differences (i.e., being perceived as young). One participant shared:

> As a student, it's hard to be taken seriously. I do look quite young, so parents and other personnel are often confused when they see me. It's easy to be intimidated when sitting around a table with people who have been working since before you were even born.

Other participants described struggling with confidence on the team, sharing that "as a student, it is hard to assert oneself and feel confident in doing so" … "it was hard to stand up to more senior members of the team".

Ethical complexities. The ethical complexities category encompassed ethical challenges and complex ethical situations faced by approximately 5.15% of students with experiences on interprofessional teams. Specifically, the communication of sensitive information between disciplines and public negative remarks about patients by staff member. Participants described "not knowing who I could disclose information to on the treatment team…ethical complexities of confidentiality were more apparent" and provided examples such as racism and noticing ethical violations of other team members (e.g., "one of the treatment team members was not following protocol correctly").

No challenges. A small number of students (5.15%) reported that they encountered no challenges. One such participant stated "I experienced no challenges—every time I worked as a part of a team it has gone smoothly and has been useful".

Chi-square Analysis. The chi-square test was significant for experienced doctoral students' personal challenges encountered as a member of an interprofessional team ($\chi^2(7, n = 132) = 58.54, p < .001$), indicating that that the proportion of participant-described personal challenges (categories) were not equal. Cell chi-square values showed that two types of challenges were reported more often than expected by chance. Experienced students more frequently reported challenges pertaining to *limited team cohesion and challenging team dynamics* ($\chi^2(1, n = 132) = 18.56$). Additionally, they often described challenges surrounding *power dynamics and navigating hierarchical structures* within health care settings ($\chi^2(1, n = 132) = 12.74$).

Positive experiences on interprofessional teams. As shown in Table 14, analysis of the qualitative data revealed four major categories of positive experiences that students had on interprofessional teams: positive contributions, gained competency in professional practice, improvement in patient care, and increased knowledge of medical practice.

Positive contributions. Nearly half of participants (48.28%) responded with positive experiences that represented students' successful implementation of a service/task, positive interactions with members of other disciplines, and feeling valued by the team. Participants wrote about varied contributions that they made to the team, including the following:

> The work I put into integrating behavioral health in a primary care setting really paid off when my schedule got so busy they had to bring in two practicum students the following year to replace me. Also, increase in referrals from providers for various mental health, cognitive, and physical health/behavioral medicine concerns (e.g., diabetes management, weight loss) told me I was doing something "right".

Other participants described positive interactions with team members that increased their self-confidence in their skill sets. Specifically, one participant shared the following experience:

> One of the physical therapists told me that I "do good work" in terms of my cognitive and neuropsychological assessments, which was flattering because that is my ultimate career goal. In general, I earned a good reputation for cognitive assessments and the feedback I gave based on this work.

Finally, several participants reported a sense of satisfaction and value from helping family members of patients and other medical professionals (e.g., "Physicians really relied on us and valued our contributions. I learned a lot, and our interventions were really effective… The gratitude from families was the most striking accomplishment).

Increased competency in professional practice. This category, endorsed by 40.23% of participants, portrayed students' increased ability to collaborate and learn with/from members of other disciplines and learn more about other professionals' roles and one's own role. Additionally, participants described gaining additional perspectives of their patient from working with the team. For instance, participants described that they "learned to formulate integrative treatment plans", "gained insight from other professionals" and were "able to view problems from alternative perspectives".

Improvement in patient care. Responses categorized as improvement in patient care were comprised of participants' observation of an improved connection between the medical and school system and increased collaboration between professionals to produce better patient outcomes. One participant shared that "the individual is best served when many professionals are involved. Each professional sees things through a different lens and really helps serve the whole individual". Another shared that "providing highest quality care to each patient by

investigating all areas of their life (medical, physical, spiritual, psychological) through various

specialization is amazing when it occurs". Approximately 29.88% of experienced participants

reported a perceived improvement in patient care.

Increased knowledge of medical practice. A small number of experienced participants

(10.34%) reported increased knowledge. This category specifically involved participants'

increased knowledge of medical practice and understanding of medical settings. Participants

provided examples of learning more about medical terminology, as well as gaining more

exposure to medical conditions and medical treatments (e.g., "I learned a lot about the

medical/physiological health conditions that my patients face and how their physical health

impacts psychological wellbeing"; "I increased my understanding of medical terminology and

the ways that medical conditions influence psychological health and wellbeing").

Chi-square Analysis. The chi-square test was significant for experienced doctoral

students' personal positive accomplishments and experiences on an interprofessional team ($\chi^2(3,$

$n_s = 112) = 21.773$, $p < .001$), indicating that that the proportion of participant-described personal

positive interprofessional experiences (categories) were not equal. Cell chi-square tests showed

that one of the positive experience categories was reported more often than expected by chance.

Doctoral students described making a *positive contribution to the team* that elicited feelings of

value, positive interactions with members of other professionals, and successfully implementing

or providing a relevant service most frequently ($\chi^2(1, n_s = 112) = 12.89$).

Inexperienced students. As shown in Table 15, students ($n = 94$) indicated that they had

not had experience working as a member of an interprofessional team. This group responded to

two questions regarding their anticipated roles of a psychologist on an interprofessional team and

the anticipated benefits of being on an interprofessional team (see Appendix E).

Anticipated roles of psychologists on interprofessional teams. As shown in Table 16,

analysis of the qualitative data for this item were coded into five major categories. Four of these

categories represented inexperienced students' anticipated roles of psychologists on

interprofessional teams: Integrating psychological perspective into the team approach, providing

mental health care, assessment, and leadership. Additionally, a fifth category represented

responses given by a small number of participants who were uncertain of what roles

psychologists have on interprofessional health care teams.

Integrating psychological perspective into the team approach. The majority (73.75%) of

inexperienced students anticipated that psychologists working as members of an

interprofessional team would integrate the psychological perspective into the team approach by

advocating for psychological perspective during work and communication with other

professionals, acting as a consultant to the team, and educating others about psychological issues.

Participants anticipated psychologists would "provide information about possible mental health

diagnoses and engage in discussion about mental and emotional needs of clients" as well as

"consulting on areas related to mental health and well-being" and "informing other healthcare

professionals of how a client's psychological health may impact another aspect of their health".

Providing mental health care. Nearly half (47.50%) of inexperienced participants

anticipated that psychologists would provide various psychological interventions, such as

"evidence based psycho-social treatment", "facilitation of groups and individual psychotherapy",

"diagnosis and treatment of psychological disorders", "behavior support", and "assistance with

intervention design". A small number of participants connected mental health provision with

physical health conditions, such as the following:

A psychologist may help a person: comply with medical regimens, find relief from

mental illnesses, reduce the psychological symptoms associated with medical disorders,

reduce the pain that he or she experiences, and make behavioral changes to improve his

or her health, etc.

Assessment. In the assessment category, reported by 38.75% of inexperienced

participants, psychologists were anticipated to conduct evaluations, psychological testing, and

program evaluation. Several participants felt that "the psychologist should be able to interpret

assessment results and incorporate those results with their observational data" as well as

"provide cognitive testing; crisis evaluation, and cognitive/personality assessments".

Leadership. Fourth, a minority of inexperienced participants (5.00%) anticipated that the

psychologist's role on the interprofessional team would be to provide leadership and guidance to

the interprofessional team, describing the psychologist as "a leader who helps integrate

information from team members" and "provides leadership in group dynamics".

Uncertain. A small number of inexperienced doctoral students (3.75%) reported that they

were "not sure" of the roles psychologists have on interprofessional health care teams.

Chi-square Analysis. The chi-square analysis was significant for inexperienced doctoral

students' expected roles and responsibilities of psychologists on interprofessional care teams

$(\chi^2(4, n_s = 135) = 83.93, p < .001)$. Cell chi-square analyses indicated that two categories were

reported more than expected. Inexperienced participants anticipated that the role of a

psychologist on an interprofessional care team would primarily be to *integrate and advocate for*

a psychological perspective into the team approach $(\chi^2(1, n_s = 135) = 37.93)$. Additionally, they

anticipated that a primary role of a psychologist would be to *provide mental health care* by

means of psychotherapy and behavioral interventions $(\chi^2(1, n_s = 135) = 4.48)$.

Anticipated benefits and positive experiences. As shown in Table 17, analysis of inexperienced students' qualitative responses to this item revealed three categories of anticipated benefits of psychologists working on interprofessional teams: greater quality of care for the patient, integration of psychological perspective into team approach, and increased learning opportunities.

Greater quality of care for the patient. The majority (51.28%) of inexperienced participants anticipated that positive outcomes of interprofessional teams would encompass patients having increased access to services and providers and providers, in turn, having increased information about their patient. Additionally, they asserted that the incorporation of multiple perspectives and the use of a "holistic approach" to treatment would lead to a better overall understanding of the patient. Participants felt that "more collaboration would lead to a number of different perspectives that I might not have considered for my client". Others highlighted benefits to the psychologist that resulted in better patient care, including "having someone there to double check your work on treatment implementation" and "having an opportunity to get more work done effectively and efficiently".

Integration of psychological perspective into team approach. In this category—endorsed by 34.62% of inexperienced participants—psychologists' presence on teams was expected to be an opportunity for advocacy provision by providing consultation within the team and gaining the ability to provide leadership and education to a healthcare team. Specifically, students anticipated that psychologists would provide information about possible mental health diagnoses, engage in discussion about mental and emotional needs of clients, provide consulting on areas related to mental health and well-being, and inform other healthcare professionals of how a client's psychological health may impact another aspect of their health. Several participants

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provided an in-depth description of how psychologists would go about integrating their perspective (e.g., "I see psychologists as providing another perspective using different assessment tools and behavior support strategies to supplement the other disciplines of the team"). Others anticipated that "psychologists can help both clients and team members to understand the impact of mental health, human behavior, and human development" and "provide information about possible mental health diagnoses, as well as engage in discussion about mental and emotional needs of clients".

Increased learning opportunities. In the final category of anticipated benefits, 28.21% of inexperienced students described education benefits for psychologists working on interprofessional teams, which included the opportunity to learn from other disciplines, and learning to collaborate with other disciplines in a team environment. Specifically, participants felt that involvement on an interprofessional team would be beneficial to the psychologist:

> The psychologist will learn a great deal from other health professionals and will receive a different perspective on whatever the team is working on. The psychologist will also learn how to communicate with other health professionals who are not in their field.

Other participants noted that involvement on interprofessional teams would fill gaps in their current training (e.g., "It would be helpful to gain perspectives of other disciplines of others with more in-depth knowledge of the topics not covered in my graduate training").

Chi-square Analysis. The chi-square analysis was not significant for the frequency of responses in the three categories of benefits or positive experiences that inexperienced participants anticipated ($\chi^2(2, n_s = 89) = 5.82, p = .054$). Thus, these categories were considered to have been reported approximately equally.

Chapter V

Discussion

To the author's knowledge, the present study is the first known mixed-method examination of clinical, counseling, and school psychology doctoral students' attitudes toward interprofessional treatment teams and readiness for interprofessional education. Guided by the findings of two prior studies completed with students from other health professions (i.e., Ko et al., 2014; Wellmon et al., 2012) and the contact hypothesis (Allport, 1954), the present study utilized hierarchical multiple regression to examine relationships between graduate students' personal demographic characteristics—age, year in program, gender, and previous interprofessional experiences—and the endorsement of positive attitudes toward interprofessional health care teams and readiness for interprofessional learning in a sample of psychology clinical, counseling, and school psychology doctoral students. Furthermore, this study examined these doctoral students' individual qualitative experiences working as a member of interprofessional teams in health care settings and inexperienced students' anticipated experiences and perceptions of roles of psychologists on interprofessional health care teams.

Research Question 1: Differences in readiness for interprofessional education and attitudes toward interprofessional health care teams by psychology program type

No significant multivariate differences between training program types (i.e., clinical, counseling, and school psychology) were found on readiness for interprofessional education (RIPLS) and attitudes toward interprofessional health care teams (ATHCT Quality of Care, ATHCT Time Constraint, and ISVS). One possible explanation is that the effect size was much smaller than anticipated. The power analysis assumed a multivariate R^2 of .17 ($f^2 = .10$), for which a sample of 81 would have provided sufficient power; however, for the observed multivariate R^2 of .042 (i.e., $1 - Wilks' \lambda = 1 - .958 = .042$) corresponding to $f^2 = .02$ (Cohen,

1988), a sample size of 380 would have been needed to have sufficient power to detect a significant difference between program types. Future research should attempt to examine potential differences in readiness and attitudes using a larger sample of doctoral students from clinical and counseling psychology programs, as more clinical psychology students ($n = 90$) filled out this questionnaire than did counseling psychology ($n = 63$) or school psychology students ($n = 61$).

A second possible explanation for the lack of multivariate differences in readiness for interprofessional learning and attitudes toward health care teams between program types is that, overall, the current sample of graduate students was in the early stages of their doctoral training. Approximately 64% ($n = 137$) of the sample indicated that they were currently in the first three years of their training program. Due to the similarity in foundational coursework required for all program types and lack of unique experiences and "specialization" in one's area during the early years of graduate training, it is possible that participants have not gained enough unique experiences in their program to produce differences in readiness for interprofessional learning and attitudes toward health care teams. Alternatively, a core set of attitudes may be common to all psychology doctoral students that may not differentiate until later in their training. Furthermore, the elimination of school-based interprofessional teams in the description of "interprofessional teams" in the present study may have limited the school psychology student sample to those who had non-school based experiences.

Research Question 2: Demographic predictors of readiness for interprofessional education and attitudes toward interprofessional heath care teams

Chronological age. It was hypothesized that a significant positive relationship would be found between graduate students' chronological age and their attitudes toward interprofessional

health care teams and readiness for interprofessional education. Previous research examining the relationship between age and attitudes toward health care teams and readiness for interprofessional education is extremely limited and has produced inconsistent results. For example, Ko et al. (2014) found a significant positive relationship between chronological age and attitudes toward interprofessional health care teams in a sample of graduate students in the health sciences; however, Curran et al. (2007) failed to find any relationship in a sample of European faculty members within the health sciences. In contrast, significant negative relationships were found between chronological age and readiness for interprofessional education in health science in British undergraduate students (Anderson et al., 2008) and American graduate students from a variety of health science disciplines (Hertweck et al., 2012).

Results of the present study's analyses failed to support the hypothesis of a positive relationship between chronological age and attitudes toward interprofessional health care teams and readiness for interprofessional learning. In this sample, chronological age did not explain a significant amount of variance in psychology doctoral students' attitudes toward interprofessional health care teams or their readiness for interprofessional education. Given the dearth of previous literature on the relationship between age and attitudes toward interprofessional health care teams and readiness for interprofessional education, in addition to the varying relationships found between age and these outcome variables in the previous literature, this study's findings add to the evidence that chronological age may not be a significant predictor of attitudes toward interprofessional health care teams or readiness for interprofessional learning.

Although Ko et al. (2014) found a significant positive relationship between age and attitudes toward interprofessional health care teams, their sample had a greater age range and

included social work, medicine, nursing, pharmacy, and public health graduate students ($M = 30$, $SD = 10$). The present sample of psychology doctoral students displayed a younger mean age ($M = 27.7$) and less variation in age ($SD = 4.8$). The lack of age variation in the present sample of psychology doctoral students is relatively unsurprising, given that only 10.9% of psychology graduate students begin a doctoral program at age 35 or older (Michalski, Kohout, Wicherski, & Hart, 2011). Alternatively, the relationship between age and attitudes toward interprofessional health care teams may be discipline-specific with a positive relationship between chronological age and attitudes existing for graduate students from disciplines outside of psychology or alternative degree types (e.g., master's students, undergraduate students).

Gender. Consistent with the results of Ko et al. (2014), Wilhelmsson et al. (2011), and Curran et al. (2008), it was hypothesized that gender differences would be found in attitudes toward interprofessional health care teams and readiness for interprofessional learning. Specifically, individuals identifying with the female gender were anticipated to report more positive attitudes toward health care teams and greater readiness for interprofessional learning. Female American and British graduate students from medicine, nursing, pharmacy, and social work programs have been shown to report significantly more positive attitudes toward interprofessional team work than their male student counterparts (Curran et al., 2008; Hertweck et al., 2012; Kim & Ko, 2013; Ko et al., 2014; Lie et al., 2013). Further, Swedish female student nurses have also been shown to demonstrate greater readiness for interprofessional education than Swedish male student nurses (Wilhelmsson et al., 2011).

Results of the present study were inconsistent with the study hypothesis and the aforementioned literature. Contrary to previous studies that examined graduate students from other professions, gender identification did not explain a significant amount of variance in

participants' attitudes toward interprofessional health care teams or their readiness for interprofessional education in this sample of psychology doctoral students. These findings may indicate that binary gender categories (male/female) may not accurately predict psychology doctoral students' attitudes toward interprofessional health care teams or their readiness for interprofessional learning, perhaps due to the personality characteristics of individuals who choose to pursue a career as a psychologist.

The uneven distribution of gender (i.e., male/female) among doctoral students in this sample is not likely to affect the generalizability and results of the study. The present study's sample was comprised of 181 female (84.6%) and 33 male (15.4%) psychology doctoral students. However, this ratio is fairly representative of the current uneven gender ratio that currently exists today in American doctoral psychology students. In 2015, 77% of doctoral students from clinical, counseling and school psychology were women, with men representing approximately 22% of graduate students from these programs (APA Commission on Accreditation, 2015).

Year in graduate training. In agreement with previous research (e.g., Curran et al., 2007, 2008), it was hypothesized that time spent in training—as measured by year in one's graduate training program—would display a significant positive relationship with attitudes toward interprofessional teams and readiness for interprofessional education such that more advanced student status would be predictive of more positive attitudes toward interprofessional teams and greater readiness for interprofessional education. Research findings from studies examining the relationship between year in one's program and attitudes toward interprofessional teams and readiness for interprofessional education are highly diverse, with some findings indicating that more advanced student status (i.e., year in program) is predictive of more positive

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attitudes toward interprofessional teams (Curran et al., 2007, 2008) and others suggesting that *less* advanced student status have a greater readiness for interprofessional learning (Lie et al., 2013). For example, Lie et al. (2013) discerned that third year physician's assistant students had significantly lower RIPLS scores compared with first year students in the same program, suggesting that more advanced students displayed less readiness for interprofessional learning. Finally, other research failed to find a significant relationship between year in one's program and attitudes toward interprofessional teams (Ko et al., 2014).

Contrary to the study hypothesis, but in partial agreement with the findings of Ko et al. (2014), the present study's results indicated that year in one's program was not a significant predictor of attitudes toward health care teams as it related to perceptions of time constraints and interprofessional socialization/valuing as measured by the ISVS, nor was it a significant predictor of readiness for interprofessional education. However, similar to the findings of Lie et al. (2013), more advanced student status (i.e., year in one's current doctoral program) predicted less positive attitudes toward interprofessional health care teams as measured by the Quality of Care subscale of the Attitudes Toward Health Care Teams Scale (ATHCT). The quality of care subscale, which is comprised of 11 of the 14 items on the ATHCT, assessed the extent to which participants value the quality of care that can be provided by interprofessional team members and the quality of cooperation necessary to provide this optimal care (Heinemann et al., 1999; Wellmon et al., 2012). The items consisted of positive statements regarding interprofessional health care teams (e.g., "The give and take among team members helps them make better patient care decisions"; "Health professionals working on teams are more responsive than others to the emotional and financial needs of patients"; "Having to report observations to the team helps team

members better understand the work of other health professionals"; "The interprofessional approach improves the quality of care to patients").

This finding provides significant implications to the training of graduate students, and suggests that advanced student status as a construct is not synonymous to a student's exposure to interprofessional practice. It is possible that a crystallization of an identity as a professional who does or does not collaborate with interprofessional teams may explain the decrease in positive attitudes with advanced standing in one's graduate program. Given that the American Psychological Association did not become an official member of the Interprofessional Education Collaborative (IPEC) until 2016, the present findings may represent a cohort effect whereby more advanced students have not been socialized to view themselves as providers on interprofessional health care teams in medical settings. Further, it sheds light on the importance of quality of exposure as an important adjunct to include in future studies to be able to clarify the mechanisms that may be contributing to more advanced students' beliefs about the quality of care provided by interprofessional teams.

Research Question 3: Interprofessional experience and coursework as predictors of attitudes toward interprofessional health care teams and readiness for interprofessional education

In the present study, more experience working on interprofessional health care teams and completion of coursework in interprofessional care were hypothesized to predict more positive attitudes toward interprofessional health care teams and greater readiness for interprofessional education. In support of this hypothesis, more interprofessional practice experience was a significant predictor of positive attitudes toward interprofessional teams as measured by Interprofessional Socialization and Valuing Scale (ISVS) and the Quality of Care subscale of the

ATHCT; however, contrary to this hypothesis, coursework on interprofessional teams/integrated care was not a significant predictor of positive attitudes toward health care teams, nor was it a significant predictor or readiness for interprofessional education. Furthermore, amount of interprofessional practice experience was not a significant predictor of readiness for interprofessional education.

Using the theoretical underpinning of intergroup contact theory (Browne & Hewstone, 2005; Pettigrew, 1998), numerous studies have examined the relationship between quantity of interprofessional team experience and attitudes toward integrated care provided by means of interprofessional health care teams and readiness for interprofessional education. In agreement with previous research that examined such relationships in graduate students from diverse disciplines (e.g., Curran et al., 2008; Ko et al., 2014; Ogbeide et al., 2013), the results of the present study suggest that exposure to interprofessional team experience is an integral part of the development of psychology doctoral students' positive attitudes towards health care teams and valuing of other disciplines. Thus, the present study provides partial support of intergroup contact theory as it relates to attitudes toward interprofessional care and socialization, but not in the context of attitudes toward time constraints of interprofessional care and interprofessional education. These results are also consistent with Ko et al. (2014) who identified greater amounts of interprofessional team experience as a predictor of attitudes toward interprofessional health care teams as measured by the ATHCT Quality of Care subscale but not the Time Constraints subscale. However, the present study's results conflict with the findings of Lie et al. (2013), who found that pharmacy, physician assistant, and medical students with more exposure to interprofessional teams in their clinical training demonstrated greater readiness for interprofessional education. Thus, the present study adds to the existing body of literature on

interprofessional attitudes in psychology graduate students; specifically, it clarifies these relationships in a sample of geographically diverse psychology doctoral students from different program types.

Relatedly, it is worth mentioning that graduate coursework was the second largest means by which student participants in this study learned about interprofessional teams; however, only 58 % of participants indicated that interprofessional health care teams/integrated care had been a topic covered in their graduate-level psychology courses. Further, only 17.3% indicated that their current graduate program consistently offered courses dedicated specifically to interprofessional health care teams/integrated care. Although not a significant predictor of attitudes or readiness for interprofessional education, coursework related to integrated care and interprofessional teams is still an important avenue by which graduate students learn about interprofessional teams. Thus, inclusion of interprofessional coursework is warranted in doctoral-level psychology programs.

Qualitative Findings

An increasing amount of literature is beginning to address the importance of identifying psychologists' unique roles and activities on interprofessional health care teams in medical settings (e.g., Beacham et al., 2017; Farber, Ali, Van Sickle & Kaslow, 2017; Kazak, Nash, Hiroto, & Kaslow, 2017). However, research has yet to detail the roles and activities that psychology graduate students have on interprofessional health care teams and the extent to which they may differ from the roles of licensed psychologists. The present study was the first known qualitative examination of both experienced and inexperienced clinical, counseling, and school psychology doctoral students' perceived and actual experiences on interprofessional teams in health care settings. Discovery-oriented qualitative analyses identified common roles of

experienced participants' involvement on interprofessional health care teams, in addition to detailing inexperienced participants' anticipated activities that they would have on interprofessional health care teams. Most commonly, students experienced students reported that their roles on interprofessional health care teams included that of a mental health therapeutic service provider (e.g., individual/group therapist) and consultant to the interprofessional team (e.g., teaching other staff members about behavioral interventions, sharing mental health expertise and perspective). Challenging team dynamics and navigating hierarchical structures were the most frequently described challenges encountered by students working as members of interprofessional health care teams. At the same time, students also frequently reported positive feelings about their contributions as members of interprofessional health care teams. Students without interprofessional team experience most commonly anticipated that psychologists would have the role of integrating a psychological perspective into the team approach.

Comparing the perceived roles of psychology students and psychologists on interprofessional care teams among experienced and inexperienced participants. The majority (60%) of students with interprofessional training experiences reported having the role of a mental health care provider, which primarily included provision of services such as individual and group counseling, treatment planning and conceptualization, behavioral health management (including triage and coordination of care), risk assessment, and helping the patient follow through with treatment planning/adherence. Additionally, 48% of students without interprofessional experience similarly anticipated that one of the psychologist's roles on the team would be to provide mental health care—such as psychotherapy and other psychological interventions—to medical patients, though integrating and advocating for psychology was reported more often. The role of mental health provider is consistent with the description of

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Kazak et al. (2017), who described a role of psychologists on primary care interprofessional teams as that of a "clinician" who provides "whole-person assessment of patients, diagnosis, referral-specific conceptualization, and evidence-based interventions" (Kazak et al., 2017, p. 6). It is important to note that experienced students' perceptions of the psychologist's role (as opposed to their own student role) on the team may have listed mental health provider at a lower percentage than other roles (e.g., leadership/clinical expert) due to the wording of this question, which prompted them to describe roles of the psychologist that were "different from your own role(s)."

Approximately 51% of the students with interprofessional experience described having the role of a mental health consultant on interprofessional teams, which allowed them to share their mental health expertise in research and practice and by means of mentoring and teaching staff/peers. Similarly, inexperienced students also described one of psychologists' roles as integrating the psychological perspective into the team approach, which included "consultant" in its description. In recent literature, Kazak et al. (2017) described psychologists as holding the role of a consultant on interprofessional teams in primary care and, as such, being responsible for providing prompt practical recommendations to requests for help with difficult patient care issues. Doctoral students also described roles included the responsibility of conducting and interpreting assessments in addition to advocating for the patient, which were not described explicitly as such in the literature, but may be encompassed in the role of clinician or consultant. In the present study, the role of learner/observer was identified as a unique role of the psychology student and was a key difference between the described roles of students and licensed psychologists on interprofessional teams by experienced students.

Overall, several notable differences were observed in role descriptions of psychologists on interprofessional teams between students with and without interprofessional experience. First, students with team experience described leadership as a key role of licensed psychologists on interprofessional care teams more frequently than students without experience on teams (60% versus 7%). Second, students with experience described supervision as a common role of licensed psychologists on teams, but inexperienced participants did not mention this role. The descriptions of leader and supervisor are also consistent with roles described by Kazak et al. (2017) who suggested that psychologists possess the roles of supervisor and team leadership/administrator that encompass the responsibility of providing supervision to trainees in addition to facilitating management of behavioral health services and enhancement of team functioning.

Finally, a small subset of students (3.5%) without team experience were unsure of what psychologists' roles were on an interprofessional health care team. It is worth noting that eight of the 111 experienced participants who completed the survey did not choose to answer the qualitative question pertaining to roles; therefore, it is possible that they chose not to answer because they were unsure of their role on the team. Differences in reported roles of licensed psychologists in the present study may also be due in part to the different wording of the qualitative questions for inexperienced versus experienced participants. Experienced participants were asked to report roles of licensed psychologists that were different from their own whereas inexperienced participants were asked to describe their anticipated roles of licensed psychologists.

As previously mentioned, the present study and Kazak et al. (2017) described several roles of psychologists on interprofessional health care teams, which included the role of

clinician, consultant, teacher/supervisor, and administrator/team lead. One discrepancy between the psychologist role descriptions in the present study and those in Kazak et al. was the absence of the researcher role in the present study. Kazak et al. described psychologists' role as the "researcher" in interprofessional teams to include the following responsibilities: application of research methods to quality improvement practice in support of integrated care goals, developing program evaluation tools to determine the efficacy of integrated care models, and determining the cultural sensitivity of approaches used in research and practice. The role of "researcher" did not emerge from the discovery-oriented qualitative methodology used in this article. Roles described in Kazak et al. appeared to be observational in nature by the authors. The absence of "researcher" as a coded category in the present study may indicate the need for graduate training programs and practicum training sites to place a greater emphasis on the ways in which psychologists can utilize their unique research skills in applied medical environments.

Finally, the qualitative findings of the present study provided support for the functional competencies of the Cube Model for Competency Development (Rodolfa et al., 2005). Similar to Kazak et al. (2017), the Cube Model identifies six functional roles of professional psychologists in health care settings, including assessment, intervention, consultation, research/program evaluation, supervision/training of other professionals, and management/administrative activities. Students from all program types (i.e., clinical, counseling, and school psychology) share the same functional competency domains. Similar to the present study, the Cube Model describes assessment as a defined role (or competency) that is separate from the role of intervention. Participants' qualitative descriptions of student and psychologist roles were also very similar to those described in the Cube Model, with the exception of the inclusion of the role as researcher/program evaluator.

Personal negative experiences and personal difficulties in interprofessional care.

Experienced participants reported a wide variety of challenges encountered as an interprofessional team member, the most common of which was limited team cohesion/challenging team dynamics (35%). Students described communication difficulties, differences in clinical opinions and practices and personality conflict/interpersonal issues as the most commonly faced challenges, followed closely by power dynamics/navigating hierarchical structures (33%). Here, students described experiencing lack of respect for their psychology background or student status, as well as perceiving that others on the team held negative attitudes about psychologists. Twenty-three percent of students described role uncertainty in which they were unclear of their own and others' roles on the team and their lack of knowledge regarding specific areas in the medical environment.

Wamsley et al. (2012) also qualitatively examined health science graduate students' challenges during an applied clinical interprofessional education experience and found that students reported similar difficulties to those in the present study. For example, students in their sample described difficulty in negotiating roles between disciplines, challenges with personality issues/team disagreements, and a lack of clinical experience described by the students in the sample. The challenges identified in the present study are also similar to the observational challenges described in previous literature. Suls and Rothman (2004) described a lack of role clarification on the part of students and psychologists that may result in "turf battles" and hierarchical relationships in health care settings. Furthermore, dealing with resistant members of the interprofessional team who may not fully understand or appreciate the role of the psychology professional was also identified as a challenge within an interprofessional team model of health care delivery (e.g., Carney et al., 2015; DiTomasso et al., 2010; Suls & Rothman, 2004). The

present study provides empirical evidence for the aforementioned challenges faced not only by licensed professionals, but also students practicing on interprofessional health care teams.

Personal positive experiences and accomplishments in interprofessional care.
Experienced and inexperienced participants were asked, respectively, to describe positive experiences/accomplishments or the anticipated positive experiences on interprofessional care teams. The responses of inexperienced participants seemed to indicate that subgroups may have interpreted this prompt in two different ways: the ways in which interprofessional team involvement benefited the psychologist versus the ways in which the interprofessional team benefitted from the psychologist's involvement. The majority of participants (51%) described a greater quality of care for the patient as a primary positive experience resulting from having a psychologist as part of an interprofessional team. Specifically, they anticipated that the patient would have increased access to psychological services and that the psychologist would have more access to information about the patient resulting in a better overall understanding of the patient. Integration of a psychological perspective into the team approach was also described as an anticipated benefit to the team by inexperienced participants who believed that psychologists' involvement was an opportunity for advocacy provision, psychological consultation, and leadership provision in interprofessional teams. Finally, they anticipated that membership on an interprofessional team would benefit psychologists by enabling them to learn from other disciplines and learn how to collaborate with members from disciplines outside of their own.

Experienced members' positive outcomes were most often described as a contribution they made that benefited the interprofessional team and that made them feel like a valued member of the team. Most often, these contributions occurred in the form of having successfully implemented a relevant service and having positive interactions with members of other

disciplines. Another common positive experience, though not reported significantly more frequently than the other less reported categories for this question, was the increase in competency that they gained as a result of their involvement on the interprofessional team. For example, many students described that they learned how to collaborate with different disciplines and gained a greater understanding of their own and others' professional roles. Improvement in patient care was cited as an additional positive experience associated with psychology student involvement on teams. Finally, a smaller subset of experienced students described an anticipated benefit of participating on an interprofessional team as learning more about medical terminology, medical conditions, and medical settings.

Findings of the present study were similar to those of Wamsley et al. (2012), who found that graduate students from dental, medical, nurse practitioner, pharmacy, and physical therapy programs gained an increased understanding of their own and others' professional roles in addition to increased confidence and comfort in interacting with professionals and students from other disciplines after completing an applied interprofessional learning exercise. Similarly, the present study's results were in agreement with the qualitative findings of Jakobsen et al. (2011) who surveyed a sample of Danish graduate students in occupational therapy, physiotherapy, and nursing and found that positive outcomes of interprofessional training include the learning of clinical skills, ethics, and communication skills between disciplines. However, over time, participants described positive learning outcomes from interprofessional clinical training as including the achievement of greater independence, increased responsibility, improved self-efficacy, and increased insight regarding complicated clinical situations.

Limitations

The current study has several limitations that may be addressed in future research. First is the use of internet data collection methodology. For the present study, the survey response rate was low—only 47 program directors out of a total of 335 possible programs confirmed that they received and forwarded the survey on to doctoral students in their respective training programs—which greatly limited the ability to estimate a valid response rate. Further, program directors did not provide the number of trainees who were members of the listservs that were provided with the e-mail advertisement. Also, the choice to allow participants to answer items selectively—rather than to force response for all items—increased the amount of incomplete data within the survey responses and limited our ability to gather complete information from participants (e.g., 214 students filled out the quantitative portion of the survey, but only 197 filled out information used for the qualitative portion).

Second, the use of self-report measures—such as the RIPLS, ISVS, and ATHCT—to measure attitudes toward interprofessional teams, socialization with other disciplines, and readiness for interprofessional education may have limited validity due to social desirability. The present study did not include a control for social desirability. Future research on this topic should include a social desirability scale in an attempt to understand the ways in which self-favoring tendencies may influence participant responses, in addition to consideration of behavioral observations in addition to participant self-report.

Finally, as previously described, the wording of the second qualitative question (What benefits or positive experiences do you foresee psychologists having on interprofessional care teams?) that was asked of inexperienced participants appeared to have been interpreted in two ways. Some participants described ways in which the interprofessional team benefited the

psychologist while others discussed the ways that psychologists' presence benefitted the interprofessional teams. Thus, future studies that examine positive experiences will need to include questions with wording that better articulates this concept. Additionally, the wording of the second question for experienced participants (*If different from your own role*, what roles do you believe that *licensed or post-graduate psychologists* had on the interprofessional care team you took part in?) decreased the amount of responses to this question and produced more uniform responses regarding common activities that students cannot do (e.g., supervision, providing expertise to team).

Future Directions

Overall, a very limited amount of research has examined American psychology graduate students' attitudes toward interprofessional health care teams and their readiness for interprofessional education experiences. Existent research in this area is limited to quantitative measures of these experiences and largely fails to address the unique individual experiences that graduate students have on interprofessional health care teams. Further, no known research has studied these relationships utilizing a sample of doctoral students specifically drawn from clinical, counseling, and school psychology programs. Although the present study examined quantitative differences in attitudes toward interprofessional health care teams and readiness for interprofessional education, it did not address the potential differences in qualitative experiences between program types. Future studies could investigate whether such differences exist and identify the most commonly endorsed roles, challenges, and positive experiences for clinical, counseling, and school psychology students separately.

In contrast with previous research on various health-science graduate students, this study did not find gender to be a significant predictor of positive attitudes toward interprofessional

health care teams, nor was it a significant predictor of readiness of interprofessional education. Presently, a limited amount of research has examined gender as a predictor of readiness for interprofessional education in graduate students. Thus, future research should attempt to replicate the present study's findings primarily to determine whether gender as a binary construct continues to be a non-significant predictor of attitudes and readiness. However, future research could also incorporate personality measures—such as the Big 5 factor traits of extraversion, agreeableness, openness, consciousness and neuroticism—that may better explain group differences in attitudes and readiness.

Additionally, a surprising outcome of the present study was the negative relationship between training year and positive attitudes toward interprofessional health care teams. More research is needed to understand this finding. Employing longitudinal methodology in future research could examine change in attitudes over time to better explain the relationship between the number of years a student has been engaged in doctoral training and their positive attitudes toward interprofessional health care teams and attempt to identify developmental training experiences (or lack thereof) that may explain a change in attitudes. The inclusion of the quality ratings that students have on different interprofessional team experiences over the course of their graduate straining may also clarify the impact of exposure on the development of interprofessional attitudes and readiness for interprofessional learning experiences. Finally, it is possible that the definition provided for an interprofessional team did not match the actual team for experienced participants or the way that an interprofessional team was envisioned by those who were inexperienced. Given the variation in integration among health care teams, future research could ask experienced participants to describe their experiences in detail, including the nature of the integration and communication between services and team members and the way

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that these processes impact attitudes toward health care teams. Relatedly, inexperienced participants could be asked to describe envisioned characteristics of interprofessional health care teams in medical settings.

Implications and Conclusion

Medical errors are currently the third leading cause of death in the United States (Makary & Daniel, 2016). Current research indicates that ineffective communication between health care professionals is one of the leading causes of medical errors and patient harm; additionally, research demonstrates that health care team members' attitudes toward other healthcare professionals and attitudes toward interprofessional team care impact effective collaboration and communication within teams (Hind et al., 2003; Institute of Medicine, 2000; Jacobsen & Lindqvist, 2009; Lingard et al., 2004; Woolf, Kuzel, Dovey, & Phillips, 2004). Specifically, negative attitudes of students toward interprofessional teamwork and education may limit their involvement in opportunities to develop competencies in interprofessional team treatment (Hoffman & Redman-Bentley, 2012).

Although prior literature had identified relationships between demographic variables— such as students' year in program, chronological age, gender, and professional experiences—and attitudes toward interprofessional teams and readiness for interprofessional education, none of these studies examined this relationship in psychology doctoral students. The present study established developmental variables—such as being earlier in one's doctoral program and having more interprofessional team experience—as predictors of more positive attitudes toward interprofessional health care teams in a sample of clinical, counseling, and school psychology doctoral students. In contrast to previous research on students from other graduate disciplines, gender and chronological age were not significant predictors of these attitudes in psychology

doctoral students, nor were any demographic variables significant predictors of readiness for interprofessional education.

Findings of the present study indicated that exposure to interprofessional teams may be an integral part of the development of positive attitudes towards the quality of interprofessional team work and valuing of other disciplines, but not to the development of readiness for interprofessional education (RIPLS) or perceptions of inconvenience and time constraints of interprofessional care (ATHCT TC). The present study did not identify greater experience with interprofessional teams as a predictor of attitudes toward time constraints of interprofessional health care teams. One reason for this lack of relationship may be the small number of items (i.e., three) included in the "Time Constraints" subscale of the ATHCT. Also, the lack of relationship between greater amount of interprofessional experience and attitudes toward time constraints may be because students, regardless of their levels of experience, perceived the time constraints of interprofessional practice to be low, as evidenced by relatively high scores on the time constraints subscale of the ATHCT. The quality of care subscale assesses students' attitudes toward interprofessional team care in terms of whether or not the collaboration between professions will improve the overall quality of patient care; on the other hand, items in the time constraints subscale of the ATHCT assess the participants' appraisal of time efficiency as it relates to interprofessional collaboration. In agreement with Ko et al. (2014), results of the present study suggest that graduate students with more interprofessional team experience consider interprofessional collaboration between disciplines to be instrumental in improving the quality of patient care, but do not view it as more time efficient.

In the context of the contact hypothesis, failure to establish interprofessional team experience as a predictor of readiness for interprofessional education may be due to both

experienced and inexperienced participants' lack of exposure to formal interprofessional learning opportunities through their training sites and graduate programs. In the present sample, approximately 28.82% of experienced participants and 16.67% of inexperienced participants reported taking courses pertaining to interprofessional health care teams or integrated care. Whereas the ISVS and ATHCT measurement instruments use questions in the context of clinical/applied settings pertaining largely to students' perceptions of interprofessional care as it relates to patient outcomes, valuing of other disciplines, professional role establishment, and their own collaborative behaviors (e.g., "I feel comfortable clarifying misconceptions with other members of the team about the role of someone in my profession; "The interprofessional approach makes the delivery of care more efficient"), the RIPLS instrument asks participants questions in the context of an educational environment and learning opportunities (e.g., "Shared learning with other healthcare students will increase my ability to understand clinical problems"; "I would welcome the opportunity to work on small group projects with other healthcare students"). In accordance with intergroup contact theory, a better predictor of readiness for interprofessional learning may actually be exposure to interprofessional learning experiences in which participants have been able to learn alongside students from other disciplines, and not solely completing coursework on integrated care. Because true interprofessional learning may not be common practice in many psychology graduate programs, future studies might assess participants' experiences in this area by asking them to consider educational experiences both inside and outside of their current graduate program.

Graduate training programs can provide accessible training opportunities for students to work as members of interprofessional teams in health care settings to directly influence the development of positive attitudes toward interprofessional teams. Unexpectedly, results of the

present study indicated that more advanced student status—as measured by year in one's doctoral program—was predictive of *less* positive attitudes toward interprofessional team care as measured by the ATHCTS Quality of Care (QOC) subscale, which assessed the extent to which participants value the quality of team cooperation and care that is provided by interprofessional teams (Heinemann et al., 1999; Wellmon et al., 2012). Coupled together, these findings point to the importance of exposure to *positive* interprofessional team experiences to build and maintain positive attitudes toward interprofessional health care teams throughout graduate training. Further, results suggest that graduate coursework and clinical training didactics should strive to incorporate research that demonstrates the efficacy of interprofessional team work on patient outcomes. When compared to practicing psychologists, students likely face a wider variety of challenges on interprofessional teams, such as navigating hierarchical structures, role uncertainty, and feeling intimidated as a student member of the team. In addition to identifying the relationship of doctoral students' clinical interprofessional exposure to the endorsement of positive attitudes towards the quality of team work and valuing of other disciplines, the qualitative results of the present study also highlighted that it may be important to grant students an opportunity to discuss difficult interprofessional experiences in co-occurring graduate coursework, with an onsite clinical supervisor, or during supervision provided through their graduate programs.

The Patient Protection and Affordable Care Act (ACA) initiated a shift in health care service delivery to favor the provision of behavioral and mental health care, therefore increasing the presence of interprofessional treatment teams across a variety of settings (Rozensky, 2014; Wahass, 2005). As a result, training competencies of psychology doctoral students have needed to expand to include knowledge of health care policy and practice by means of interprofessional

education experiences and interprofessional collaboration (Cubic et al., 2012). Although coursework in integrated care was not a significant predictor of attitudes toward interprofessional teams or readiness for interprofessional education, graduate coursework was endorsed as the second most common way that students learned about interprofessional teams; however, 42% of participants indicated that interprofessional health care teams or integrated health care had never been a topic covered in any of their graduate-level psychology courses. Additionally, only 17.3% of participants were enrolled in a graduate program that consistently offers courses dedicated specifically to interprofessional health care teams or integrated care. Further, approximately 49% of students who took part in the present study reported no interprofessional clinical experience as a psychology graduate student. Results of the present study indicate a need for training programs to regularly offer courses on integrated care and interprofessional health care teams, in addition to offering consistent clinical training opportunities for students to provide care on an interprofessional health care team. In alignment with the Health Service Psychology Education Collaborative (2013) Blueprint—which provided recommendations for training programs to better prepare their students for work in the health service industry—results of the present study suggest that the American Psychological Association may better prepare psychology doctoral students by adding a required course in integrated care and increased interprofessional education opportunities in accredited clinical, counseling, and school psychology doctoral programs.

Current ongoing changes in health care delivery offer many opportunities for psychologists, specifically in the areas of leadership and program development (Kazak et al., 2017). Psychologists' specialized training in research and program development, often leading to systems level evaluation and interventions within healthcare settings, may naturally equip them

for leadership positions within integrated care and interprofessional teams. The qualitative results from the present study established that psychology students may take on many of the same roles of practicing licensed psychologists (e.g., mental health provider, consultant, assessor) with the exception of clinical supervision and leadership roles. In contrast to the current literature on psychologist roles on interprofessional care teams (e.g., Farber et al., 2017; Kazak et al., 2017), both experienced and inexperienced participants in the present study failed to identify research and program evaluation as actual or potential roles of psychologists on interprofessional teams.

Qualitative findings of this study may suggest that psychologists are not currently employing this specific skillset as part of their interprofessional team experience or possibly that students were unaware that the psychologists on interprofessional teams were engaging in research and program development in the settings in which they work. Therefore, graduate instructors and clinical psychology supervisors are encouraged to provide mentorship to students in the areas of clinical research, program development, and leadership in integrated care settings in an attempt to help them develop a unique niche within integrated care settings. Clinical supervisors and graduate instructors possess the unique opportunity to facilitate psychology doctoral students' self-awareness and professional identity, ultimately leading them to become productive and innovative leaders of interprofessional health care teams in the years to come.

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Table 1. *Summary of Participants' Clinical Training Experiences.*

Training Setting	Total Sample (*n* = 214)		Clinical Psychology (*n* = 90)		Counseling Psychology (*n* = 63)		School Psychology (*n* = 61)	
	n	%	*n*	%	*n*	%	*n*	%
College counseling	100	46.7	37	41.1	41	65.1	22	36.1
Community mental health	83	38.8	42	46.7	26	41.3	16	26.2
School (primary, secondary)	89	41.6	10	11.1	18	28.6	61	100.0
Veterans Hospital (VA)	15	7.0	7	7.8	8	12.7	0	0
Primary Care settings	27	12.6	5	5.5	15	23.8	7	11.5
Inpatient Psychiatric Hospital	36	16.8	25	27.8	8	12.7	3	4.9
Major Medical Center	37	17.3	21	23.3	6	9.5	9	14.7
Rehabilitation Hospital	6	2.8	2	2.2	3	4.8	1	1.6
Outpatient partial hospital	19	8.9	8	8.9	5	7.9	6	9.8
Outpatient mental health	84	39.3	50	55.5	12	19.0	21	34.4
Forensic/Jail	30	14.0	22	24.4	7	11.1	1	1.6
Private Practice	43	20.1	20	22.2	15	23.8	8	13.1
Nursing Home	8	3.7	6	6.7	2	3.2	0	0
Other*	21	9.8	11	12.2	7	11.1	3	4.9

Environmental Setting	*n* = 212	%	*n* = 88	%	*n* = 63	%	*n* = 61	%
Urban	97	45.7	43	48.9	30	47.6	24	39.3
Rural	37	17.4	11	12.5	11	17.5	15	24.6
Mixed	78	36.8	34	38.6	22	36.1	22	36.1

Included experiences such as specialized addiction/residential treatment facilities, disability support services, children's hospitals and group homes

Table 2. *Summary of Participants' Interprofessional Practice and Education Experiences.*

Means of Learning about Interprofessional/Integrated Care	*n*	%
Undergraduate Course Work	26	12.1
Graduate Coursework	112	52.3
Clinical Experience in Psychology	148	69.2
Volunteer Experience in Psychology	41	19.2
Non-psychology Volunteering	22	10.3
Non-psychology Work experiences	44	20.6
Conferences/Continuing education	68	31.8
Community Training	25	11.7
Guest Speakers	56	26.2
Research Involvement	64	29.9
*Other:	16	7.5
*Included experiences such as independent reading, self-study, and practicum interviews		

Length of Interprofessional Team Experience *(participants with experience)*	*n*	%
Less than one year	52	46.8
Between 1 – 2 years	29	26.1
Between 2 – 3 years	17	15.3
Between 3 – 4 years	5	4.5
Between 4- 5 years	2	.9
Greater than 5 years	6	2.8

Disciplines Present on Interprofessional Teams *(participants with experience)*	*n*	%
Nursing	84	39.3
Social Work	88	41.1
Physicians (medical doctors)	101	47.2
Occupational Therapy	34	15.9
Physical Therapy	26	12.1
Nursing Assistants	33	15.4
Dietary Staff	45	21.0
Recreational Therapists	38	17.8
*Other	35	16.4

* Included disciplines such as chaplains, pharmacists, and speech therapists, and physician's assistants

Table 3. *Means (Standard Deviations) for Study Outcome Measures (N = 214).*

Variable	*M*	*SD*	*Skewness*	*Kurtosis*	*Range*
ATHCT QOC	46.42	5.25	-0.30	-0.48	33-55
ATHCT TC	11.20	2.38	-0.61	-0.50	3 – 15
ISVS	126.20	21.47	-0.46	-0.07	59 – 167
RIPLS	76.68	8.02	-0.64	-0.33	55 – 89

Note. ATHCT QOC = Attitudes toward Health Care Teams Scale Quality of Care; ATHCT TC = Attitudes toward Health Care Teams Scale Time Constraints; ISVS = Interprofessional Socialization and Valuing Scale; RIPLS = Readiness for Interprofessional Learning Scale.

Table 4. *Correlations for Study Outcome Measures (N = 214).*

Variable	1	2	3	4
1. ATHCT QOC	1.00			
2. ATHCT TC	.365**	1.00		
3. ISVS	.391**	.493**	1.00	
4. RIPLS	.610**	.419**	.379**	1.00

* $p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed)

Table 5. *Means (Standard Deviations) of Study Outcome Measures by Program Type.*

Variable	Clinical Psychology ($n = 90$)		Counseling Psychology ($n = 63$)		School Psychology ($n = 61$)	
	M	*SD*	*M*	*SD*	*M*	*SD*
ATHCT QOC	45.47	5.22	47.98	5.19	46.15	5.10
ATHCT TC	11.21	2.30	11.22	2.71	11.11	2.15
ISVS	125.43	22.43	127.95	21.73	124.95	19.65
RIPLS	75.80	7.68	78.25	7.63	76.69	8.03

Note. ATHCT QOC = Attitudes toward Health Care Teams Scale Quality of Care; ATHCT TC = Attitudes toward Health Care Teams Scale Time Constraints; ISVS = Interprofessional Socialization and Valuing Scale; RIPLS = Readiness for Interprofessional Learning Scale.

Table 6. *Hierarchical Multiple Regression Results for ATHCT Quality of Care (N = 214).*

Predictor	Model 1		Model 2	
	b	β	b	β
Gender	1.107	0.076	0.959	0.066
Age	0.097	0.087	0.084	0.076
Program year	-0.516*	-0.238*	-0.752**	-0.238**
Interprofessional course			1.352	0.108
Interprofessional practice			0.414*	0.156*
(years)				
R^2	0.027		0.063*	
ΔR^2	---		0.036*	

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

Table 7. *Hierarchical Multiple Regression for ATHCT Time Constraints (N = 214).*

Predictor	Model 1		Model 2	
	b	β	b	β
Gender	0.209	0.032	0.152	0.023
Age	0.010	0.020	0.002	0.003
Program year	-0.005	-0.003	-0.084	-0.059
Interprofessional course			0.144	0.026
Interprofessional practice (years)			0.169	0.140
R^2	0.001		0.019	
ΔR^2	---		0.018	

Table 8. *Hierarchical Multiple Regression Results for ISVS (N = 214).*

Predictor	Model 1		Model 2	
	b	β	b	β
Gender	4.555	0.077	3.266	0.055
Age	0.189	0.042	-0.009	-0.002
Program year	1.022	0.977	-0.729	-0.056
Interprofessional course			2.020	0.040
Interprofessional practice (years)			3.846***	0.354***
R^2	0.016		0.123	
ΔR^2	---		0.107***	

***$p < .001$.

Table 9. *Hierarchical Multiple Regression for RIPLS (N = 214).*

Predictor	Model 1		Model 2	
	b	β	b	β
Gender	2.230	0.101	2.057	0.093
Age	0.061	0.036	0.045	0.026
Program year	-0.524	0.365	-0.793*	-0.164*
Interprofessional course			1.354	0.071
Interprofessional practice (years)			0.490	0.121
R^2	0.019		0.039	
ΔR^2	---		0.020	

* $p < .05$

Table 10. *Proportions of coded categories for qualitative questions given to participants with experience on interprofessional teams (n = 103).*

Question	Coded Categories of Responses	N	$\%_{statements}$	$\%_{participants}$
What roles do you believe you personally have/had as a psychology student on the interprofessional care team you took part in?				
	Mental Health Provider	**62**	**36.90**	**60.19**
	Mental Health Consultant	**53**	**31.55**	**51.46**
	Assessment	24	14.29	23.30
	Observer/Learner	22	13.10	21.36
	Patient/Client Advocate	7	4.17	6.80
If different from your own role(s), what role(s) do you believe that licensed or post-graduate psychologists had on the interprofessional team you took part in?				
	Leadership/Clinical Expert	**37**	**46.25**	**59.68**
	Supervision	17	21.25	27.42
	Primary Mental Health Provider	9	11.25	14.52
	Administrator	9	11.25	14.52
	Assessment	8	10.01	12.90
What challenges did you encounter as a member or observer of an interprofessional team?				
	Limited team cohesion/challenging team dynamics	**34**	**25.75**	**35.05**
	Navigating hierarchical structures	**31**	**23.49**	**32.98**
	Uncertainty about team members' roles and medical environment	22	16.66	22.68
	Practical Issues (i.e., scheduling)	18	13.64	18.55

Table 10, continued

Question	Coded Categories of Responses	N	%Statements	%Participants
Challenges encountered (continued)	Others' uncertainty about what psychologists do	12	9.09	12.37
	Ethical complexities	5	3.79	5.15
	Feeling intimidated as a student	5	3.79	5.15
	None	5	3.79	5.15
Please describe any positive experiences or personal accomplishments you have experienced as a psychology student on an interprofessional team.				
	Made positive contribution	**42**	**37.50**	**48.28**
	Gained competency in interprofessional practice	35	31.25	40.23
	Improvement in patient/client care	26	23.21	29.88
	Learned about medical practice	9	8.04	10.34

* Categories listed in bold were reported significantly more often than expected by chance.

Table 11. *Categories for Experienced Question 1: Definitions and Examples of Students' Roles on Interprofessional Teams (What role(s) did you have on the interprofessional care team that you took part in?).*

Coded Category	Definition	Participant Examples
Mental Health Provider	Providing services such as individual and group counseling, developing treatment plans, diagnosing mental illness, and behavioral health management	Individual short-term psychotherapy and skills-building; meeting with patients and families to discuss treatment planning, developing and co-facilitating psychology groups; helping clients follow-through with recommendations from other providers
Mental Health Consultant	Shares mental health expertise and perspective in research and practice; teaches staff and/or peers how to do interventions applicable for health behavior change	Communicating information from our psychological consultation and liaison team during interprofessional rounds at the hospital; provides information to parents and team members as a liaison between medical and educational systems
Assessment	Conducts and interprets assessments	Conduct neuropsychological assessments; Provide evaluation services for clients, which were then used by doctors in determining medication options
Observer/Learner	Someone not taking an active role on the team, but is present; student	Learning from others; observe how the team functions; listen and learn from members from team members; shadow professionals
Patient/Client Advocate	Give client a voice	Advocating for clients across interdisciplinary teams; see that the client gets proper care

Table 12. *Categories for Experienced Question 2: Definitions and Examples of Licensed Psychologists' Roles on Interprofessional Teams (If different from your own role(s), what role(s) do you believe that licensed or post-graduate psychologists had on the interprofessional care team that you took part in?).*

Coded Category	Definition	Participant Examples
Leadership/Clinical Expert	Has more power and greater presence on the team; intervention provision (systems); program development; educator	Expert consultant; leader of behavioral health team administrative activities; staff educator; led team meetings; program development
Supervision	Clinical Supervision; supervision of supervision; supervision of research activities	Supervisor of clinical psychology practicum students and interns; oversee cases to ensure provision of well-rounded services
Administrator	Insurance and billing procedures; coordinates care	Keep abreast of billing codes and procedures; management of patients; coordinates care and treatment; administrator
Primary Mental Health Provider	Interventions and other clinical tasks; emphasis on the provision of services	Make treatment recommendations; write positive behavior support plans; diagnosis; providing direct therapy
Assessment	Conducting and interpreting assessments; consulting on assessment cases	Aid in assessment of client and report writing for interprofessional clinic; conduct psychological assessments

Table 13. *Categories for Experienced Question 3: Definitions and Examples of Challenges Encountered on Interprofessional Teams (What challenges did you encounter as a member or observer of an interprofessional care team?).*

Coded Category	Definition	Participant Examples
Limited team cohesion/Challenging team dynamics	Communication difficulties; differences in clinical opinions and practices; interpersonal issues; lack of service integration	Differences in approach to client interactions/treatment; difficulty collaborating on establishment of treatment goals; tension surrounding differences of clinical opinions and assessment practices; lack of communication between disciplines; personality conflicts
Power dynamics/Navigating hierarchical structures	Negative attitudes about psychology; lack of respect toward psychology service or student status	Power struggles between psychiatry and psychology; seemed as if our role and knowledge were discounted (perhaps due to student status); physicians may not value the role of psychology
Uncertainty about team members' roles and medical environment	Student was unclear about own role and/or when to contribute as well as unclear about others' roles; student lacks knowledge	Knowing what I could uniquely contribute to the team; not knowing my place or how to advocate effectively; not knowing about specific medical and intervention terms made it challenging to contribute meaningfully in team discussions; lack of knowledge surrounding medical conditions
Practical Issues	Difficulties with scheduling and care coordination; limited communication among team members because of scheduling	Not being able to get everyone in the same room at the same time; rushed conversation; not using time effectively; many clinicians in a small space; not enough time to discuss cases in depth

Table 13 (continued)

Coded Category	Definition	Participant Examples
Other's uncertainty about what psychologists do	Being asked to work outside scope of practice; others were unclear about students' role; having to education others about psychologist's role	Medical fellows were unsure of what my role was as a graduate student; Referring to short-term therapy when patient needed long-term therapy; having to teach people in other fields what my role was on the team
Feeling intimidated as a student	Student feels intimidated	As a student, it's hard to be taken seriously since I look quite young; I felt it was difficult to stand up to more senior members of the team; Hard to assert oneself as a student and feel confident
Ethical complexities	Communication of sensitive information between disciplines; public negative remarks about patients	Not knowing who I could disclose information to on the treatment team, ethical complexities of confidentiality were more apparent; Racism; One of the treatment team members not following protocol correctly
None	Student reported few to no challenges	Very few; it was more so helpful and collaborative; None—every time I have worked as a part of a team it has gone smoothly and has been useful

Table 14. *Categories for Experienced Students' Responses to Question 4: Definitions and Examples of Positive Experiences on Interprofessional Teams (Please describe any positive experiences/perceptions, or personal accomplishments that you have experienced as a psychology student on an interprofessional care team).*

Coded Category	Definition	Participant Examples
Made positive contribution	Felt valued; successfully provided a relevant service; positive interactions with members of other disciplines	Teams tended to easily appreciate the work we do as psychology and the perspectives we brought, particularly after we had successes with common goals with patients; I felt like my skills and expertise are valued and trusted.
Gained competency in professional practice	Learned how to collaborate with and from different disciplines; learned about other professionals' roles and one's own role; gained perspectives	Able to learn more about other professions' roles in treatment; Learned to formulate integrative treatment plans; I gained insight from other professions and was able to view problems from alternative perspectives
Improvement in patient/client care	Improved connection between medical and school systems; increased collaboration between professionals to produce better patient outcomes	Enhance client outcomes due to the team approach to client care; The individual is best served when many professionals are involved. Each professional sees things through a different lens and it really helps serve the whole individual
Learned about medical practice	Learned more about medical terminology; gain exposure to medical conditions and their treatments	I learned a lot about the medical/physiological health conditions that my patients face and how their physical health impacts psychological wellbeing; increased my understanding of medical terminology and the ways that medical conditions influence psychological health and well-being.

Table 15. *Proportions of coded categories for qualitative questions given to participants without interprofessional team experience (n = 94).*

Question	Content Categories of Responses	N	%$_{Statements}$	%$_{Participants}$
What roles would you expect to have as a psychologist on an interprofessional care team?				
	Integrate psychological perspective into team approach	**59**	**43.70**	**73.75**
	Provide mental health care (i.e., psychotherapy)	38	28.15	47.50
	Assessment	31	22.96	38.75
	Leadership	4	2.96	5.00
	Unsure	3	2.22	3.75
What benefits or positive experiences do you foresee psychologists having on an interprofessional team?				
	Greater quality of care for the patient/client	40	44.94	51.28
	Integrates a psychological perspective into the team approach	27	30.34	34.62
	More learning opportunities about health care/medical model	22	23.72	28.21

Table 16. *Categories for Inexperienced Students' Responses to Question 1: Definitions and Examples of Psychologist's Roles on Interprofessional Teams (What kinds of roles/activities would you expect to have as a psychologist on an interprofessional care team?)*

Coded Category Content	Definition	Participant Examples
Integrate psychological perspective into team approach	Advocate for psychological perspective when working with other professionals; consult; educate team about psychological issues	Provide information about possible mental health diagnoses, engage in discussion about mental and emotional needs of clients; consulting on areas related to mental health and well-being; Informing other healthcare professionals of how a client's psychological health may impact another aspect of their health, and vice versa
Provide mental health care	Conduct psychotherapy and psychological interventions	Provide evidence-based psychosocial treatment; Examine a person's psychological functioning and behavioral health—helping a person to increase their compliance to treatment by assessing psychosocial barriers
Assessment	Testing/conduct evaluations; program evaluation	The psychologist should be able to interpret assessment results and incorporate those results with their observational data; Provision of cognitive testing; Crisis evaluation, cognitive/personality assessment
Leadership	Provide leadership and guidance to team	A leader who helps integrate information from team members; Providers leadership in group dynamics
Uncertain	Unsure of what psychologists can provide to teams	Unsure—it depends on the capacity in which they are operating

Table 17. *Categories of Inexperienced Question 2: Definitions and examples of anticipated benefits of interprofessional teams (What benefits or positive experiences do you foresee psychologists having on interprofessional care teams?)*

Coded Category Content	Definition	Participant Examples
Greater quality of care for the patient	Patient has increased access to services; access to more information about the patient; use of multiple perspectives/holistic approach; better understanding of the patient	More collaboration would lead to a number of different perspectives that I might not have considered for my client; Having someone there to double check your work on treatment implementation; Have an opportunity to get more work done effectively and efficiently
Integrates a psychological perspective into the team approach	Opportunity for advocacy provision; provide consultation/collaboration within team; ability to provide leadership to healthcare team	I see psychologists as providing another perspective using dif assessment tools and behavior support strategies to supplemer other disciplines of the team; Helping to integrate mental heal an aspect of overall health; Psychologists can help both client team members to understand the impact of mental health, hur behavior, and human development
More learning opportunities about health care/medical model (benefits the psychologist)	Opportunity to learn from other disciplines; learning to collaborate with other disciplines or on a team	It provides psychologists with the opportunity to learn from others and their perspectives; The psychologist will learn a great deal from other health professionals and will receive a different perspective on whatever the team is working on. It would be helpful to gain perspectives of other disciplines of others with more in-depth knowledge of the topics not covered in my graduate training

Appendix A

Primary Recruitment E-mail

Dear Training Director,

My name is Shannon Patterson, and I am a Counseling Psychology doctoral student at Lehigh University. I am currently conducting a study for my dissertation that examines psychology doctoral students' attitudes toward and experiences working as a part of interprofessional care teams in health care settings. Your doctoral program has been selected for participation from a list of all APA-accredited psychology programs. Will you please forward this email to current doctoral trainees in your program?

The Institutional Review Board at Lehigh University approved this study (IRB# 846955-1). If you have any questions about this study, please feel free to contact me at slp711@lehigh.edu or my academic advisor, Dr. Grace Caskie at caskie@lehigh.edu.

Sincerely,

Shannon Patterson, M.Ed.
Grace Caskie, Ph.D.

Secondary Recruitment E-mail

Dear Training Director:

We are conducting a study that examines psychology doctoral students' attitudes toward and experiences with interprofessional teams in health care settings. You may have received a previous request for participation; however, we currently have few participants in your program type represented in our data-set, and are aiming to increase the representativeness of our sample by contacting you again with this request.

Will you please kindly forward this email to current doctoral trainees in your program? If possible, we would also appreciate receiving an email confirmation that the request was sent to participants.

The Institutional Review Board at Lehigh University approved this study (Protocol 846955-1). If you have any questions or concerns, you may contact Dr. Grace Caskie (caskie@lehigh.edu).

Sincerely,

Shannon Patterson, M.Ed.
Grace Caskie, Ph.D.

Study Advertisement

Dear Psychology Doctoral Student,

My name is Shannon Patterson, and I am graduate student in the College of Education at Lehigh University. I am currently conducting a study for my dissertation that examines psychology doctoral students' attitudes toward and experiences working as a part of interprofessional health care teams.

In order to participate, you must (a) be over the age of 18; (b) identify as a doctoral student in counseling, clinical, or school psychology; and (c) be currently enrolled in a graduate program as a full or part-time student. ***Students who are on their pre-doctoral internship are also encouraged to take our survey***! If you would like to participate in our study, please click on the link below and you will be directed to the online survey: https://lehigh.co1.qualtrics.com/SE/?SID=SV_esUsp5kkPoqCgAZ

Thank you very much for your time! If you have any question about this study, please feel free to contact me at slp711@lehigh.edu. This research has been approved by the Lehigh University Institutional Review Board (IRB# 846955-1).

Sincerely,
Shannon Patterson, M.Ed.

Appendix B
Informed Consent

Title: Experiences with and Attitudes toward Interprofessional Teams among Clinical, Counseling, and School Psychology Doctoral Students

Study Purpose:
We are currently conducting a study that examines psychology doctoral students' attitudes toward and experiences working as a part of interprofessional teams in health care settings in addition to examining their perceptions of topics related to integrated care.

Eligibility:
(1) Must be 18 years or older
(2) Current doctoral student in an APA-accredited clinical, counseling, or school psychology program of any training level (i.e., first year doctoral student, pre-doctoral internship)

Risks and Benefits of Participation:
There is minimal risk involved for this study; however, several survey items may be of a sensitive nature as they pertain to difficult training experiences.
In participating in this study, you will have the option to be eligible for a $25 Barnes and Noble gift card or have the researcher donate $1 to one of two charities (Susan G. Komen for the Cure ® or Michael J. Fox Parkinson's Foundation ®). Further, your participation will aid in the understanding of the ways in which training programs may better educate students to work in integrated care settings.

Procedures:
If you choose to participate in this study, you will be asked basic demographic questions, questions regarding your attitudes toward interprofessional teams, opinions regarding issues surrounding integrated care, and, if applicable, your own personal experiences working on an interprofessional health care team.

Duration:
A survey that is estimated to take approximately 15 to 25 minutes of your time

Compensation:
At the end of the study, you will be given two options to thank you for your participation. You can either have the researcher donate $1 to one of two charities (Susan G. Komen for the Cure ® or Michael J. Fox Foundation for Parkinson's Research®) or you can provide an e-mail address to be added to a list, from which the 50th person on the list will receive a $25 gift card to Barnes and Noble.

Confidentiality and Voluntary Nature of the Study:
This study is anonymous and in any reports or publications, individual data values will not be reported. Additionally, research records will be secured and password protected. Lastly, your decision to participate in this study is completely voluntary, and you may withdraw from the study at any time.

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Contacts and Questions:
If you have any questions about this research and what is expected of you in this study, you may contact the researchers, Shannon Patterson (slp711@lehigh.edu), or Dr. Grace Caskie (caskie@lehigh.edu).

If you would like to contact someone other than the researchers, you may also contact Lehigh University's Office of Research and Sponsored Programs at (610) 758-3021 (email: inors@lehigh.edu)

By clicking "I agree", you are providing your consent. Participation is strictly voluntary, and you may withdraw from the survey at any time**.**

Appendix C

Demographic Questionnaire

1. What sex were you assigned at birth, meaning on your original birth certificate?
   - Male
   - Female

2. What is your current gender identity?
   - Male
   - Female
   - Transgender or transsexual
   - Gender variant or gender non-confirming
   - Other

3. What is your age (in years)? _____

4. What is your race/ethnicity? If you are of a multi-racial/multi-ethnic/multi-cultural identity, mark all that apply
   - American Indian or Alaska Native
   - Black or African American
   - Caribbean
   - Hispanic or Latino
   - East Asian
   - South Asian (e.g., Indian)
   - Native Hawaiian or Pacific Islander
   - Middle Eastern
   - White/Caucasian
   - Other

5. What is your best estimate of your family's yearly income (if you are a dependent student) or your personal yearly income (if you are financially independent)?
   - < $24,999
   - $25,000-$49,000
   - $50,000-$74,999
   - $75,000-$124,999
   - $125,000-$199,999
   - ≥$200,000

6. Which degree are you currently seeking?
   - Ph.D.
   - Psy.D.
   - Other (if selected, participants will be routed to exit the survey)

7. Is your program APA accredited? (Y/N; if no is selected, participants will be routed to exit the survey)

8. What type of program are you currently enrolled in?
   - Counseling Psychology
   - Clinical Psychology
   - School Psychology
   - Combined program (please describe)

9. What year are you in your training program?
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - 8
   - 9
   - 10

10. I am currently completing my pre-doctoral internship
    - Yes
    - No

11. In what state is your current graduate program located? (Drop down menu of states)

12. Is your training program a member of the Council of Clinical Health Psychology Training programs? (Y/N; provide list of programs)

13. Is your training program a member of the Council of Professional Geropsychology Training Programs? (Y/N; provide list of programs)

14. Please select the type of settings where you have received clinical training (check all that apply):
  - College counseling/student mental health center
  - Community mental health
  - School (primary, secondary)
  - Veterans Hospital (VA)
  - Primary care settings (inpatient rehabilitation, health psychology rotation, etc.)
  - Inpatient Psychiatric Hospital
  - Outpatient partial hospital
  - Outpatient mental health
  - Nursing Home
  - Other (please list)

15. In what setting has the *majority* of your clinical training taken place (If no clinical training yet, what setting do you anticipate that the majority of your training will take place?)
  - College counseling/student mental health/higher education
  - Community mental health
  - School (primary, secondary education)
  - Veterans Hospital (VA)
  - Primary care settings (inpatient rehabilitation, health psychology rotation, etc.)
  - Inpatient Psychiatric Hospital
  - Outpatient partial hospital
  - Outpatient mental health
  - Nursing Home
  - Other (please list)

16. Please select the option that best describes the environmental setting of your clinical practicum training experience(s):
   - Urban
   - Rural
   - Mixed (urban and rural)

17. Please select the category that includes your current age:
   - 18-21 years
   - 22-25 years
   - 26-30 years
   - 31-35 years
   - 36-40 years
   - 41-45 years
   - 46-50 years
   - 51-60 years
   - 61-70 years
   - Over 70 years

Appendix D
Description of Interprofessional Team

"*Interprofessional team*" is defined as a "relatively small work group in health care who has a collective identity and shared responsibility for a patient or group of patients" (Interprofessional Education Collaborative, 2011, p. 2). For the purposes of this study, experience on interprofessional teams is limited to health care and psychological treatment settings and does not include interprofessional teams in a school district.

The following are examples of interprofessional treatment teams:

Example 1: The Eating Disorder treatment team (EDTT) is an interprofessional collaboration between Counseling Services, Health Services, and Wellness Education Services, a health education office, which houses the registered dietitian. Affected students seek assistance after an initial evaluation or a treating provider could elect to refer the student for the more comprehensive approach afforded by the EDTT. The team is led by one of the college counselors from counseling services who facilitates bi-weekly EDTT meetings.

Example 2: A psychologist leads an interprofessional care team within a VA nursing home to address the behavioral health of the residents. The members consist of a dietician, nurse manager, certified nursing assistant, social worker, and activities coordinator. They discuss ways to implement the best care possible that is specialized for each resident, and address mental health concerns—such as depression and memory loss—that might occur in older adults.

Description of Interprofessional Education

For the purposes of the present study*, Interprofessional Education* is defined as instances when "students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes" (World Health Organization, 2010, p. 7). Interprofessional Education may take place within one's educational institution or at practicum/internship sites by means of didactics, supervision, or other educational opportunities.

Appendix E

Experience Working with Interprofessional Teams and Education

The following questions were asked of all students:

1. Have you taken courses pertaining to interprofessional teams or integrated care at the *graduate* level (Y/N)

2. Has the topic of interprofessional teams or integrated care been covered in any of your graduate coursework in your current program? (Y/N)

   a. If yes: How many courses?

3. Does your current graduate program consistently offer courses dedicated specifically to interprofessional teams or integrated care? (Y/N)

4. By what means have you learned about interprofessional teams or integrated care? Check all that apply.

   - Undergraduate coursework
   - Graduate coursework
   - Clinical (practicum) experience in psychology
   - Volunteer experience in psychology
   - Work experiences outside of psychology
   - Volunteer experiences outside of psychology
   - Conferences or continuing education seminars
   - Community trainings
   - Guest speaker(s) in your training program
   - Research involvement
   - Other (please describe)

5. Have you worked on an interprofessional health care team as part of your clinical practicum rotations in psychology? (Y/N)

   a. If yes: Which of the following disciplines were present on the team?

      - Nursing
      - Social Work
      - Physicians (Medical Doctors)
      - Occupational Therapy
      - Physical Therapy
      - Nursing Assistants

- Dietary staff
- Recreational Therapists (activities/community life staff)
- Other (please describe)

b. If yes: In which of the following setting(s) did you work on an interprofessional team?
- Community Mental Health
- Veterans Affairs Medical Center
- Outpatient Medical or Mental Health Clinic
- Home Health (In-home community mental health)
- Primary Care Clinic
- Psychiatric hospital
- Long-term care (nursing home)
- Academic Medical Center
- College Counseling Center
- Other (please describe)

c. If yes: What is the total amount of time you have been involved with or been a part of interprofessional teams in healthcare settings (including both in your current role of psychology student or a previous role)?
Reminder: For the purposes of this study, experience on interprofessional teams is limited to health care and psychological treatment settings and does not include interprofessional teams in a school district.

6. What term do you prefer to use to describe individuals under your care?

a. Patient
b. Client
c. I use both
d. I use neither term
e. Other (please list)

Optional: What is your reasoning for the term you use?

Participants who indicated in Question 5 that they did not have clinical exposure/experience to interprofessional care teams were asked the following questions:

1. What kinds of roles and activities would you expect to have as a psychologist on an interprofessional care team?

2. What benefits or positive experiences do you foresee psychologists having on interprofessional care teams?

Appendix E, continued

Participants who indicated in Question 5 that they <u>had</u> clinical exposure/experience to interprofessional care teams were asked the following questions:

1. What role(s) do you believe you personally have/had as *a psychology student* on the interprofessional care team(s) you took part in?

2. If different from your own role(s), what role(s) do you believe that *licensed or post-graduate psychologists* had on the interprofessional care team that you took part in?

3. What challenges did you encounter as a member or observer of an interprofessional care team?

4. Please describe any positive experiences/perceptions, or personal accomplishments that you have experienced as a *psychology student* on an interprofessional care team.

5. Please rate your overall experience as a member of an interprofessional care teams (1= poor; 10= excellent)

Appendix F

Attitudes toward Healthcare Teams Scale-Adapted Version
(ATHTS; Heinemann, Schmitt, Farrell, & Brallier, 1999; Kim & Ko, 2014)

We would like to know about your attitudes toward interprofessional health care teams and the team approach to care. Please indicate the extent to which you agree or disagree with the following items on a scale from (1) Strongly Disagree to (5) Strongly Agree.

1. The interprofessional approach makes the delivery of care more efficient.
2. The team approach permits health professionals to meet the needs of family caregivers as well as patients/clients.
3. Having to report observations to the team helps team members better understand the work of other health professionals.
4. The interprofessional approach improves the quality of care to patients/clients.
5. Hospital patients who receive team care are better prepared for discharge than other patients/clients.
6. Team meetings foster communication among team members from different disciplines.
7. The give and take among team members helps them make better patient/client care decisions.
8. Patients/clients receiving team care are more likely than other patients to be treated as whole persons.
9. Health professionals working on teams are more responsive than others to the emotional and financial needs of patients
10. Working in an interprofessional environment keeps most health professionals enthusiastic and interested in their jobs.
11. Developing a patient/client care plan with other team members avoids errors in delivering care.
12. Working in teams unnecessarily complicates things most of the time.
13. In most instances, the time required for team meetings could be better spent in other ways.
14. Developing an interprofessional patient care plan is excessively time consuming.

Appendix G

Interprofessional Socialization and Valuing Scale
(ISVS; King, Shaw, Orchard, & Miller, 2010; used with permission)

Please indicate the extent to which you agree or disagree with the following items on a scale from (1) Strongly Disagree to (6) Strongly Agree. You may fill out these items regardless of whether or not you have had experience serving on interprofessional care teams. If you have not had experience, please answer the questions *as if* you were a part of an interprofessional team currently.

1. I feel comfortable in accepting responsibility delegated to me within a team.
2. I feel able to act as a fully collaborative member of the team.
3. I have gained a better understanding of my own approach to care within an interprofessional team.
4. I feel comfortable in being accountable for responsibilities I have taken on.
5. I am comfortable engaging in shared decision making with clients.
6. I am able to listen to other members of the team.
7. I have gained a better understanding of the client's involvement in decision making around their care.
8. I feel comfortable clarifying misconceptions with other members of the team about the role of someone in my profession.
9. I more highly value open and honest communication with team members.
10. I have gained more realistic expectations of other professionals on a team.
11. I have gained an enhanced awareness of the roles of other professionals on a team.
12. I see myself as preferring to work on an interprofessional team.
13. I have gained an appreciation for the benefits in interprofessional team work.
14. I have gained greater appreciation of the importance of a team approach.
15. I feel comfortable initiating discussions about sharing responsibility for client care.
16. I have gained an appreciation for the importance of having the client and family as members of a team.
17. I believe that interprofessional practice will give me the desire to remain in my profession
18. I believe that interprofessional practice is not a waste of time.
19. I feel comfortable debating issues in a team.
20. I am comfortable being the leader in a team situation.
21. I feel confident in taking on different roles in a team (i.e., leader, participant).
22. I am able to share and exchange ideas in a team.
23. I feel comfortable speaking out within the team when others are not keeping the best interest of the client in mind.
24. I believe that interprofessional practice is difficult to implement.

Appendix H
Readiness for Interprofessional Learning Scale
(RIPLS; Parsell & Bligh, 1999)

Please indicate the extent to which you agree or disagree with the following items on a scale from (1) Strongly Disagree to (5) Strongly Agree.

1. Learning with students from other disciplines will help me become a more effective member of a healthcare team.
2. Patients would ultimately benefit if healthcare students worked together to solve patient problems.
3. Shared learning with other healthcare students will increase my ability to understand clinical problems.
4. Learning with healthcare students from other disciplines before licensure would improve relationships with members of other disciplines after licensure.
5. Communication skills should be learned with other healthcare students.
6. Shared learning will help me to think positively about other professionals.
7. For small-group learning to work, students need to trust and respect each other.
8. Team-working skills are essential for all healthcare students to learn.
9. Shared learning will help me to understand my own limitations.
10. I don't want to waste my time learning with other healthcare students.
11. It is not necessary for undergraduate healthcare students to learn together.
12. Clinical problem-solving skills can only be learned with students from my own department.
13. Shared learning with other healthcare students will help me to communicate better with patients and other professionals.
14. I would welcome the opportunity to work on small-group projects with other healthcare students.
15. Shared learning will help to clarify the nature of patient problems.
16. Shared learning before licensure will help me become a better team worker.
17. The function of nurses and therapists is mainly to provide support for doctors.
18. I am not sure what my professional role will be.
19. I have to acquire much more knowledge and skills than other healthcare students.

Shannon L. Patterson

Slpatterson7@gmail.com

Education

Clinical Psychology Internship – Health Psychology track (APA-accredited)   8/16 – 8/17
Psychology Service, Phoenix VA Health Care System

Doctoral Candidate in Counseling Psychology   8/11 – 8/17
Lehigh University, Bethlehem, PA (APA-accredited)
Ph.D.: August 2017
Dissertation: "Experiences with and Attitudes toward Interprofessional Health Care Teams
among Clinical, Counseling, and School Psychology Doctoral Students"

Master of Education in Counseling and Human Services   1/15
Lehigh University

Bachelor of Arts   5/10
University of Wisconsin-Madison
Majors: Psychology and Sociology
Certificates: Gender & Women's Studies, Specialist in Gerontology

Academic Awards

National Psychologist Trainee Register Credentialing Scholarship   2016
Awarded to pre-doctoral interns and post-doctoral fellows aspiring to achieve
credentialing through the National Register of Health Service Psychologists
and ABPP certification.

Division 17 Older Adult Special Interest Group (OASIG) Social Justice Award   2016
Awarded to an individual student who displays commitment to helping the older adult
population through social justice advocacy

Pennsylvania Psychological Association Educational Award   2015
Awarded to six Pennsylvania psychology graduate students for academic merit and
service to the field of psychology

Lehigh University College of Education Travel Grant   2013-2015
Awarded to graduate students who are first authors of an accepted conference submission.

Lehigh University Graduate Student Senate Travel Grant   2013-2015
Awarded to graduate students who are authors of an accepted conference submission.

National Forum Student Research Grant   2013
Awarded to graduate students to fund data collection efforts for individual research projects

Clinical Experience

Health Psychology Rotation   8/16-08/17
    Phoenix VA Healthcare System Internship in Clinical Psychology
    Supervisors: Jennifer Averyt, Ph.D., Lisa Burgess, Ph.D.
<u>Health Psychology Outpatient Consultation Service:</u> Conduct bariatric shared medical appointments and pre-surgical psychological evaluations for veterans undergoing bariatric surgery; co-lead CBT-I and Healthy Eating Behaviors Coping Skills groups; conduct individual evidence-based treatments including CBT for depression and anxiety, CBT-I, and CBT for weight loss. Conduct psychological evaluations for veterans preparing for organ transplantation (i.e., heart, stem cell, bone marrow, liver, and kidney), cochlear implants, and insulin pumps; conduct in-person and telehealth Tobacco Cessation groups.

Primary Care Mental Health Integration (PCMHI) Rotation   8/16-8/17
    Phoenix VA Healthcare System Internship in Clinical Psychology
    Supervisors: Jennifer Averyt, Ph.D., Andrea Saathoff, PhD.
<u>Carl T. Hayden VA Medical Center Primary Care clinics</u>: Provide individual psychotherapy within a time-limited, evidence-based, biopsychosocial treatment modality; co-lead Mindfulness Based Stress Reduction (MBSR) group. Perform intake assessments, warm hand-offs and triage services for veterans presenting with health-related psychological and cognitive difficulties; facilitate the Interprofessional Trainee Program (ITP) that conducts weekly shared medical appointments with pharmacy and social work students.

General Mental Health Rotation   8/16-2/17
    Phoenix VA Healthcare System Internship in Clinical Psychology
    Supervisor: Carl Isenhart, Psy.D., ABPP
<u>Jade Opal Clinic</u>: Conduct mental health history and assessment intakes with supplemental personality assessment (MMPI2-RF, MCMI) reports as needed; provide individual psychotherapy to veterans with co-morbid SMI and personality disorders; co-lead DBT group and attend weekly consultation for DBT patients.

Pain Management Supplemental Experience   2/17-8/17
    Phoenix VA Healthcare System Internship in Clinical Psychology
    Supervisor: Heather Okvat, Ph.D.
<u>Phoenix VA Chronic Pain Management and Wellness Center</u>: Co-lead pain management group for veterans utilizing the "ACT for Chronic Pain" treatment protocol.

Health Psychology Extern at the Center for Weight and Eating Disorders   7/15-7/16
    Penn Medicine: University of Pennsylvania Health System   Philadelphia, PA
    Supervisor: Kelly Allison, Ph.D.
Performed psychological evaluations and write reports for interprofessional bariatric surgery service at the Perelman Center for Advanced Medicine. Provided telephone and in-person behavioral weight loss interventions for women enrolled in the randomized control trials "Improving Psychological Health and Cardiovascular disease risk in women with Polycystic Ovarian Syndrome" (MANI-PCOS) and Transdisciplinary Research for Energetics and Cancer

Center's "Lifestyle beyond Cancer" (TREC) program for endometrial cancer survivors. Conducted evidence-based CBT for pre-and post-bariatric surgery adult clients presenting with Binge Eating Disorder and Night Eating Syndrome. Co-lead adult and adolescent interprofessional adolescent bariatric support groups with physicians, dietitians, and psychologists.

Neuropsychological Assessment Practicum Extern 05/13-06/16
  Good Shepherd Rehabilitation Hospital Psychology Department Allentown, PA
  Supervisors: Richard Schall, Ph.D., Marin Diorio, Ph.D., and Luke Ciaccio, Ph.D.
Administered, scored, and developed reports for a full battery of neuropsychological tests including: WAIS-IV, WMS-IV, WASI, WIAT-IV, WRAT-IV, D-KEFS, MCMI-III/CBMD, MMSE, DRS-2, BDI, BAI, TOMM, NSC, and BNT.

Geropsychology Practicum Extern 08/13-05/15
  Phoebe Health Care Center Allentown, PA
  Supervisors: Kelly Carney, Ph.D., ABPP, and Karen Rosenberger, Psy.D.
Conducted diagnostic interviews, pro-bono individual CBT, and group therapy to caregivers and clients with dementia, depression, and anxiety to address issues related to chronic health conditions, loss of sensory abilities, self-care, stress management, and pain management. Worked as member of an inpatient interdisciplinary care team to create person-centered behavior plans and integrative reports for residents with severe mental illness; observed and led "community care teams" to address psychological and behavioral health of residents. Completed comprehensive needs assessment and treatment plan for the short-term rehabilitation unit that included medical chart reviewing; resident and staff interviews; weekly care conference observations; analysis of patient-staff interactions, inter-staff relationships and communication patterns.

Counseling Psychology Practicum Student 08/12-05/13
  Kutztown University Counseling Center Kutztown, PA
  Supervisor: Lisa Coulter, Ph.D.
Drawing from an integrative treatment model, conducted and documented individual psychotherapy, intake assessments, and career assessments with undergraduate students. Maintained contact and treatment planning with collaterals including primary care physicians and previous therapists for clients with eating disorders, depression/anxiety disorders, and neurological disorders.

Community Health Psychology Practicum Student 01/12-06/12
  Compassionate Care Hospice Lehigh County, PA
  Supervisor: Leigh Ann Ryan, LPC
Provided in-home integrative counseling services to terminally ill patients and their caregivers. Worked with children and adults ages 5 through 95 with a variety of presenting issues ranging from panic attacks and behavioral problems, to grief and existential topics. Utilized an integrative treatment modality that employed therapeutic interventions from narrative, cognitive-behavioral, family-systems, and feminist theories.

Research Experience

Clinical Research Assistant 12/13-12/15
  Phoebe Center for Excellence in Dementia Care Allentown, PA
  Supervisors: Kelly Carney, Ph.D., Jennifer Howanitz, MPT
Assisted Drs. Kelly Carney and Margaret Norris in writing, editing, and gathering empirical research for an APA book manuscript entitled "Transforming Long-Term Care: Expanded Roles for Mental Health Professionals". Conducted interviews with long-term care staff for interdisciplinary team (IDT) process evaluation; assisted in the creation of behavioral observation checklist for IDT meetings; completed observations of IDTs at three Phoebe campuses. Created and maintained Qualtrics survey data for the Neurocognitive Engagement Therapy (NET) Research Study to gain empirical evidence for its efficacy; Administered pre-and post Montreal Cognitive Assessments to research participants.

Research Assistant 12/09-09/10
  UW Hospital and Clinics/UW Madison Department of Sociology Madison, WI
  Supervisor: Cameron Macdonald, Ph.D.
Working in collaboration with a health psychologist at the Paul W. Carbone Cancer Center at UW Hospital and Clinics, wrote psychosocial information sections for the patient education material "Health Facts for You" given to bone marrow transplant patients before being admitted to the hospital and upon discharge. Co-wrote sections on staying healthy after a Bone Marrow Transplant in addition to compiling a community-resources guide for patients and caregivers. Edited sections including information about Bone Marrow Transplant procedures, hospital unit information, and safety when returning home after discharge.

Research Assistant 1/09-12/10
  University of Wisconsin-Madison Adolescent Development Lab Madison, WI
  Supervisor: Janet Shibley Hyde, Ph.D.
Using data from the Wisconsin Study of Families and Work, coded the quality of mother-child relationships while completing math tasks for the Moms and Math project. Acquired skills such as data entry/verification, data clean-up, scale construction, syntax, reliability analysis, recoding variables, emotional coding, relationship coding, high school transcript coding, and consensus meetings.

Research Assistant 5/08-12/08
  Wisconsin Twin Project Madison, WI
  Supervisor: Hill Goldsmith, Ph.D.
Conducted and scheduled phone interviews with teenage twins and their parents concerning symptoms of psychopathology present in everyday behavior and cognitions in addition to entering data, utilizing programs such as Excel, SPSS and JForms.

Research Assistant 9/07-12/07
  University of Wisconsin-Madison School of Nursing Madison, WI
  Supervisor: Barbara Bowers, Ph.D.
Gathered empirical evidence for a book on person-centered care in individuals diagnosed with dementia and Alzheimer's disease and edited first-draft manuscript.

Clinically Related Work Experience

Health and Academic Behavior Coach   8/12-5/16
Lehigh University Academic Support Services for Students with Disabilities Bethlehem, PA
    Supervisors: Cheryl Ashcroft, M.Ed. & Amanda Eckhardt, Ph.D.
Employed motivational interviewing, solution-focused, and cognitive-behavioral approaches in individual coaching sessions with students to assess and improve their academic and health behaviors, focusing specifically on sleep hygiene, time management, goal setting, and anxiety/stress management. Attended weekly supervision meetings for the case management of students with cognitive, psychological, and physical disabilities.

Home Health Certified Nursing Assistant   3/10-07/12
University of Wisconsin Hospital Home Health Agency   Dane County, WI
    Supervisor: Sandra Miskelly, RN, MS
Traveled to patient homes to assist them in daily living activities such as bathing, wound care, and health appointment reminders. Charted patient vital signs, clinical observations, and psychosocial and behavioral concerns via Delta Health programming in addition to alerting medical professionals to any changes in patient conditions, including mental health emergencies. Collaborated with multidisciplinary staff members. Observed and trained new employees in the areas of patient care and charting documentation.

Certified Nursing Assistant   1/05-8/11
Maplewood Village Assisted Living   Sauk City, WI
    Supervisor: Karen Volker, R.N.
Ensured that tenants receive their prescription drugs correctly. Filed incident reports and documented observed behavioral changes. Other duties included: updating tenant census and daily routine information, assistance with Activities of Daily Living, coordinating activities and exercise, and providing palliative care to terminal individuals.

Community Volunteer and Outreach Experience

Screener   12/13
Alzheimer's Foundation of America National Memory Screening Day   Bethlehem, PA
Screened members of the Lehigh Valley community for cognitive impairment using the Saint Louis University Memory Screening (SLUMS) tool. Educated older adults about normative memory decline and encouraged concerned individuals to follow up with a primary care physician.

Outreach Volunteer   12/11-5/12
Lehigh University Counseling Center   Bethlehem, PA
Working in collaboration with the Campus Women's Center, orchestrated a campus-wide healthy body image day. Provided students with psychoeducational materials about body image at Lehigh University's public athletic facility. Organized an awareness event where students explored their own body image and had the opportunity to destroy a metaphorical piñata scale.

Life Discussion Group Facilitator 9/11-11/11
Episcopal Apartments of the Slate belt Bangor, PA
    Supervisor: Arpana Inman, Ph.D.
Conducted "Reminisce and Write Your Story", a six-week life discussion group intended to spur meaningful discussion about significant events from the tenants' lives. Worked in group and one-on-one formats with older adults (70+) for three hours every week, helping them to brainstorm ideas and review previous life events for their personal memoirs.

Teaching Experience, Guest Lectures and Presentations

Teaching Assistant, Lehigh Counseling Psychology Program
- Professional Seminar: Ethics   Summer 2014

Guest Lecturer, Lehigh Counseling Psychology Program
- *Self-Care for Counselors and Psychologists in Training*   Summer 2014
  Lecture given to masters and doctoral level students enrolled
  in Professional Seminar

- *Introduction to Supervision: Current Ethical Issues in Practice*   Fall 2013
  Presentation given to 2nd year master's students enrolled in
  Clinical Internship

Guest Lecturer, Lehigh University Undergraduate 1st Year Seminar
- *Preparing for Your First Day*   Fall 2013-2015
- *Just for the Health of It: Maintaining Optimal Wellness in College*   Fall 2014
- *Mindset: Resiliency and Academic Success*   Fall 2014

Research Posters, Symposia, and Paper Presentations

Patterson, S., & Caskie, G. (2017). *Experiences with and Attitudes toward Interprofessional Teams among Clinical, Counseling, and School Psychology Doctoral Students*. Presentation at the annual meeting of the American Psychological Association, Washington, DC.

Luu, L., Inman, A., Codos, S., **Patterson, S.**, & Pendse, A. (2017). *Understanding supervisor countertransference from the critical events-based model*. Presentation at the annual meeting of the American Psychological Association, Washington, DC.

Patterson, S. & Caskie, G. (2015). *Client Health Status as a Moderator of Relations between Trainee Personal Characteristics, Ageism, and Clinical Bias*. Paper presented at the 2015 Gerontological Society of America's Annual Scientific Meeting, Orlando, FL.

Carney, K., Barry, T., & **Patterson, S**. (2015). *Community Care Teams: Optimizing Interprofessional Team Effectiveness in Support of Person Centered Care in Long-Term Care Settings*. Symposium presented at the 2015 Gerontological Society of America's Annual Scientific Meeting, Orlando, FL.

Patterson, S. & Caskie. G. (November, 2014). *Effect of Client Health Status on Mental Health Trainees' Clinical Judgments and Ageist Behaviors*. Poster presented at the 2014 Gerontological Society of America's Annual Scientific Meeting, Washington, D.C.

Patterson, S. & Caskie, G. (August, 2014). *Factor Invariance of the CES-D by Ethnic Self-Identity Group in Mexican-Origin Older Adults*. Poster presented at the 2014 American Psychological Association convention, Washington, D.C.

Ramos, K., **Patterson, S.**, & Robbins, M. (March, 2014). *Current Issues in the Practice of Older Adults and why it Matters to Counseling Psychology: Underrepresentation of Mental Health Needs, Ageism, and Training Needs*. Roundtable presented at the Society of Counseling Psychology Conference, Atlanta, GA.

Bertsch, K. **& Patterson, S**. (March, 2013). *Confronting Microaggressions in Academia.* Symposium presented at Association for Women in Psychology, Salt Lake City, UT.

Caskie, G., & **Patterson, S**. (March, 2013). *Caballerismo and Familismo Attitudes in Mexican American Older Men.* Poster presented at the annual meeting of the Eastern Psychological Association, New York, NY

Patterson, S. & Macdonald, C. (September, 2010). Emotional Preparation for a Bone Marrow Transplant, Emotional Health after Transplant. In *Health Facts for You*: UW Hospital and Clinics.

Professional Development Activities and Specialized Training

Department of Veterans Affairs: Medications in PTSD Treatment   3/17
- Single seminar on the overview of evidence based medication regimens for PTSD

Department of Veterans Affairs: Motivational Interviewing   02/17
- 3-day training with year-long weekly case consultation participation.

Department of Veterans Affairs: Dialectical Behavior Therapy   10/16
- 3-day interdisciplinary training with weekly case consultation participation

Department of Veterans Affairs: Interpersonal Psychotherapy   10/16
- Single seminar on the utilization of interpersonal therapy treatment of depression and eating disorders

Department of Veterans Affairs: "Breathe, It Will be OK" for Chronic Pain   8/16
- 1-day protocol training including chronic pain education; implementation of treatment protocol with women veterans

Penn Medicine: CBT for Binge Eating Disorder   9/15
- 3-part didactic training and year-long weekly supervision of individual CBT for BED

Penn Medicine Women's Clinical Research Center: Mood and Nutrition Intervention in PCOS   7/15
  • 3-part training and year-long weekly supervision of MANI PCOS psychotherapy for women with Polycystic Ovarian Syndrome

Primary Care Behavioral Health: The New Frontier for Health Care   9/14
Armando Hernandez, Ph.D.; Allentown, PA
  • 1-day instructional workshop on process and case management in primary care

What Psychologists Need to Know About Working with Older Adults   8/14
American Psychological Association Convention, Washington, D.C.
  • 1-day instructional workshop on Geropsychology competencies

Mindfulness Meditation Training: Yale Stress Center Workshop   4/14
  • 1-day training on Mindfulness techniques and experiential practice

Therapist Training on CBT for Anxiety Disorders participant   1/14-6/14
Sponsored by the National Institute of Mental Health
  • Completed 12-module web training with 4 live CBT feedback sessions and role plays

Behavioral Activation Online Training Study participant   1/14-6/14
Sponsored by UW Milwaukee Depression Treatment Specialty Clinic
  • Completed 6-module live web training and 4 critiqued BA skill utilization role plays

Psychological Treatments for Addictive Disorders: A One-Day Conference   11/2013
New York State Psychological Association Division on Addictions; Bronx, NY

New Directions in Alzheimer's Care Conference   11/2013
Moravian College Continuing Education; Bethlehem, PA

Use It or Lose It: Rationale and Resources for Brain Fitness Seminar   10/2013
Phoebe Institute on Aging; Allentown, PA

Emerging Trends & Approaches in the Management of Dementia and Depression   10/2013
LeadingAge PA Northern Chapter; Bethlehem, PA

Mastering the language of Therapy: Using ACT and RFT in your clinical practice 9/2013
Philadelphia Behavior Therapy Association; Philadelphia, PA

Leadership Service

Division 17 Older Adult Interest Group – Student Representative   2016 - Present
  • https://div17oasig.wordpress.com/2016/04/12/the-intersection-of-ageism-and-health-status/
  • https://div17oasig.wordpress.com/2016/09/23/opportunity-to-work-with-older-adults-in-counseling
Psychologists in Long-Term Care - Student Representative   2015 - 2017
PennPsyPAC (Political Action Committee) - Student Representative   2014 - 2016

Graduate Student Senate - Counseling Psychology Student Representative   2011 - 2012

Current Professional Student Memberships

Gerontological Society of America   2013 - Present
Philadelphia Behavior Therapy Association   2013 - Present
Psychologists in Long-Term Care   2012 - Present
Eastern Psychological Association   2012 - Present
American Psychological Association   2011 - Present
    Division 17: Counseling Psychology
    Division 20: Adult Development and Aging
    Division 38: Health Psychology