Interprofessional Education (IPE) Opportunities and Attitudes Among Counselling Psychology Students in Canada

by

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A thesis submitted in partial fulfillment of the requirements for the degree of

Master of Education

in

COUNSELLING PSYCHOLOGY

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ABSTRACT

Interprofessional education (IPE) is an international initiative set out to teach healthcare students how to effectively work together after graduation. The success of IPE largely depends on students' attitudes towards interprofessional learning and perceptions of healthcare professions, which are assessed before entering IPE. Little is known about the attitudes and perceptions of students in mental and social health sciences. This study aimed to examine the attitudes and perceptions of counselling psychology students and contribute to the growing body of literature on mental health students' attitudes towards IPE. Graduate level counselling psychology students (N = 77) from three Canadian universities completed an online questionnaire that included the *Readiness for Interprofessional Learning Scale* (RIPLS; McFadyen et al., 2005; Parsell & Bligh, 1999) and the *Student Stereotype Rating Questionnaire* (SSRQ; Barnes et al., 2000; Hean et al., 2006a). Counselling psychology students' overall RIPLS scores (M = 82.97, SD = 7.57) indicates a high readiness to learn. Counselling psychology students' overall SSRQ scores assigned to their own profession (M = 37.85, SD = 4.20) and other professionals, including medical doctors (M = 35.31, SD = 4.04), nurses (M = 36.60, SD = 4.36), social workers (M = 33.68, SD = 5.35), and occupational therapists (M = 35.70, SD = 4.56), suggest that students hold positive stereotypes across these different professions. Counselling psychology students' RIPLS and SSRQ scores were comparable to, if not greater than, the RIPLS and SSRQ scores reported in previous studies involving other healthcare students. Findings from this study advocate for the inclusion of counselling psychology students in IPE programs in Canadian universities. Future implications and recommendations for healthcare education among counselling psychology students are presented.

Keywords: Interprofessional education, counselling psychology, readiness, stereotypes

PREFACE

This thesis is an original work by Ellen Klaver, under the supervision of Dr. William Whelton, at the University of Alberta. Research was conducted in collaboration with Dr. Elaine Greidanus at the University of Lethbridge, and Nicole Kelly, under the supervision of Dr. Greg Harris, at Memorial University of Newfoundland. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, project name “Interprofessional Education (IPE) Opportunities and Attitudes Among Counselling Psychology Students in Canada”, No. 54946, March 09, 2015.

ACKNOWLEDGEMENTS

This work represents the combination of my view of health problems through a biopsychosocial lens and my passion to understand and effectively treat individuals suffering from complex mental and chronic health issues. Consequently, I would like to personally acknowledge and sincerely thank the research team and other supporting individuals who helped make this project possible. With much gratitude, I would like to thank my supervisor, Dr. William Whelton, for supporting me in my journey as a researcher and clinician in training. I would like to thank Dr. Elaine Greidanus, Dr. Greg Harris, and his graduate student, Nicole Kelly, for allowing me to collaborate with them on this project. I would like to acknowledge the ongoing support of Dr. Donald Sharpe at the University of Regina and for his feedback and encouragement in the analysis of the data. I would like to thank my thesis examiners and committee members, Dr. George Buck and Dr. William Hanson for their time and engagement in the completion of this project. I extend my appreciation to the Health Sciences Students' Association (HSSA) at the University of Alberta, who provided funded opportunities to represent the University of Alberta at two National Healthcare Team Challenges. These experiences truly inspired me to become an even stronger advocate for interprofessional education.

Finally, I would like to express my deep appreciation for the support of my parents and the encouragement of my family and friends.

Thank you.

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CHAPTER I: INTRODUCTION

The World Health Organization (WHO) defines health as "physical, mental, and social well-being and not merely the absence of disease or infirmity" (2001, p. 1). This definition reflects the global initiative to understand and treat health issues from a number of different perspectives and that require diversity in healthcare. Teamwork among healthcare professionals can enhance the quality of patient care, lower costs, decrease patients' length of stay, and reduce medical errors (Institute of Medicine Committee on the Health Professions Education Summit, 2000). Interdisciplinary education and practice has been adopted, adapted, and advanced through the collective efforts of the healthcare community and has become a mandatory feature of many healthcare education programs worldwide (Buring et al., 2009).

Interprofessional Education (IPE)

Interprofessional education (IPE) is defined as having two or more healthcare providers or students from different healthcare disciplines learn *from*, *with* and *about* each other with the aim of improving collaboration and the quality of care (Center for the Advancement of Interprofessional Education [CAIPE], 2002; Freeth, Hammick, Reeves, Koppel, & Barr, 2005; WHO, 2010). IPE involves educational methods and practical approaches that provide opportunities to develop the attributes and skills required to carry out the aim of IPE and work as a team after graduation (Reeves, 2009). Therefore, IPE is successful when the aim of being able to learn *from*, *with* and *about* each other is achieved and carried into professional practice.

The Interprofessional Education Collaborative (IPEC; 2011) strongly advises educational programs to assess students on a variety of factors that have been shown to impact students' success in IPE. These factors include students' learner characteristics, readiness to learn and to participate in IPE, and their stereotypes of their own profession (autostereotypes)

and other professions (heterostereotypes). Assessing the students' learner characteristics, and attitudes and perceptions *before* entering into IPE provides educational programs with the baseline information needed to accommodate the curriculum to meet students' needs, increase their success *during* IPE, and improve their ability to work as a team *after* IPE.

Learner Characteristics

Learner characteristics include demographic variables like gender and age, and student attributes such as level of training and past experience working in an interprofessional setting. Research consistently shows that female students hold more positive attitudes towards teamwork and IPE than their male counterparts. Less is known about gender effects on positive stereotypes of other professions. The extent to which age, level of training, and past experience working in an interprofessional setting impact students' attitudes and stereotypes remains mixed. Subsequent research on the effects of these variables in IPE is warranted.

Readiness to Learn

Students' readiness to learn about interprofessional practice in healthcare is determined by assessing the combination of their opinions on teamwork, understanding of their roles in a team, and their professional identity. Students who value the learning experiences and communication skills that are inherent in teamwork express a greater degree of readiness than students who do not value these aspects of teamwork. Likewise, students who show a positive and clear understanding of their roles and responsibilities on a team of diverse healthcare professionals also demonstrate a higher degree of readiness to learn (Parsell & Bligh, 1999). Students who are ready for interprofessional education acknowledge the value of different groups of professionals having different skills, and recognize how, through working together, groups can complement one another. Alternatively, students who are not ready for

interprofessional education assume little importance in working with or learning from others, especially those from different disciplines. These students are more likely to experience role insecurity, have uncertainty in decision-making, and be inflexible towards sharing overlapping responsibilities – all of which ultimately defeat the purpose of IPE (Funnell, 1995). The readiness to learn is a critical component of successful implementation of IPE in healthcare education programs (Hind et al., 2003; Lie, Fung, Trial, & Lohenry, 2013; Parsell & Bligh, 1999; Thistlethwaite, 2012).

Stereotypes

In themselves, stereotypes are neither positive nor negative but rather they are unavoidable cognitive processes used to organize information efficiently (Kamps et al., 1996; Streed & Stoecker, 1991). Stereotypes can become negative when they involve generalizations that lead to prejudiced behaviours and generate false expectations of others, which often become reality through the self-fulfilling prophecy (Hilton & von Hippel, 1996). On the other hand, stereotypes can become positive when they lead to reasonably accurate and helpful views of others. Because stereotyping is a natural human process that begins early in life, it is expected that students' entering IPE already have a set of stereotypes about their own profession (autostereotypes) and other healthcare professions (heterostereotypes). Positive autostereotypes and heterostereotypes have been shown to be associated with students' readiness to learn (Hind et al., 2003) and successful implementation of IPE (Cook & Stoecker, 2014).

Present Study

Rationale

Much of the research on interprofessional education focuses on introducing IPE to students in physical health science programs like medicine, nursing, pharmacy, occupational

therapy, social work, and physical therapy (WHO, 2010). A small but growing body of research reflects emerging efforts to introduce students from mental health science programs (McAllister et al., 2014). To live up to the global initiative of incorporating "physical, mental, and social well-being" into today's understanding and treatment of health conditions, mental healthcare students must be equally involved in IPE programming. Before that can happen, additional evidence supporting the inclusion of mental health students' in IPE is needed. The current study aimed to examine counselling psychology students' attitudes and provide evidence to support the greater inclusion of mental health students into IPE programs.

Overview

The present study was designed to increase our understanding of counselling psychology students' attitudes towards interprofessional education. To contextualize this study, Chapter II provides background details and a review of the literature surrounding teamwork in healthcare, and highlights the gap that the current study set out to help fill. As is suggested in the literature on introducing a new discipline to IPE, this study takes the first step in this process by examining the learner characteristics of counselling psychology students, their readiness for interprofessional learning, and stereotypes of their own profession (autostereotypes) and other healthcare professions (heterostereotypes). Chapter III describes the methods used to address these objectives and outlines the criteria for participants and ethical considerations of the project. Chapter IV presents the analyses of the results that will offer information on counselling psychology students' attitudes toward IPE and aide in identifying and remedying barriers that would otherwise impede their successful introduction to IPE with other healthcare students. Chapter V includes the discussion of the findings, the limitations of the study, and future implications and recommendations for involving counselling psychology programs in IPE.

CHAPTER II: LITERATURE REVIEW

Chapter II is presented in five sections that frame the purpose of this study. The first section introduces teamwork among healthcare professionals, known as interprofessional learning (IPL), and the obstacles that keep IPL from being successful. The second section considers three main theories used to develop the theoretical framework used to understand teamwork in healthcare. The third section introduces teamwork among healthcare students, known as interprofessional education (IPE), and describes factors that have been shown to impede or enhance the success of IPE. The fourth section reviews the literature on the effectiveness of IPE in learning how to work together after graduation. The fifth section identifies the gap in the IPE literature, providing the rationale for the present study. The objectives and hypotheses of the current study are outlined. The research procedure is described in depth in Chapter III.

Section 1: Teamwork Among Healthcare Professionals

Our current and most widely recognized understanding of health is on that combines behavioural, psychological, and social factors. This is the result of different cultural and intellectual climates. In the 1600s, individuals like Galileo and Newton introduced the scientific method that called for experimentation, observation, and physical measurement. Descartes applied this scientific approach to human health that separated the body and mind. He approached the treatment of human illness by placing all importance on the body while putting little emphasis on its connection with the mind (Russell, 2014).

Much has changed since Descartes' time. We have come to understand "the human being as a complex mix of internal physical, psychological, social, and cultural variables living within an equally dynamic environmental mixture of social, cultural, interpersonal, economic, and

political variables" (Kielhofner, 1985 as cited in Peloquin, 1997, p. 167). It has become common practice to approach the treatment of human illness in this same light – as a complex system. In the 1970's, the World Health Organization expressed the need for healthcare professionals to respond to the demand that complex human health issues pose. One result of modernizing health in a way that better addresses today's complex issues has been the introduction of teamwork amongst healthcare providers (Miller, Freeman, & Ross, 2001). The introduction of teamwork across healthcare disciplines was intended to facilitate creative solutions to challenging problems, and in doing so, offer patients more effective and efficient care (Drinka, Miller, & Goodman, 1996).

Interprofessional Learning (IPL)

Interprofessional learning (IPL) is where two or more healthcare professionals work side-by-side. At first, this form of teamwork was implemented into the practice of medical doctors and nurses (Loxley, 1980) with the assumption that "learning arising from interaction between members of two or more professions [would] happen spontaneously in the workplace…" (Thistlethwaite, 2012, p. 60), however, this was not the case in practice. When teamwork across disciplines was observed and measured systematically, cooperative and collaborative care did not happen spontaneously and instead would require additional training and support.

An example of this considerable gap between theoretical discourse and practical realities was at the Bristol Royal Infirmary in the United Kingdom, where patients with complex health conditions were sent to receive care. A landmark study carried out at that hospital demonstrated how poor patient care and even death were the direct consequences of failed teamwork between 1984 and 1995 (Alaszewski, 2002). Healthcare professionals at Bristol Royal Infirmary failed to work collaboratively with each other, demonstrating "a lack of leadership, and of teamwork ... a

'club culture' [and] an imbalance of power, with too much control in the hands of a few individuals" (Learning from Bristol, 2001, synopsis of paragraphs 3 and 8). It became increasingly clear that healthcare professionals, although dedicated and caring, were unable to effectively communicate with one another to meet the needs of highly vulnerable and dependent patients (Brill, 1976; Challis, Darton, Johnson, Stone, & Traske, 1991). This event was but one of the catalysts that prompted the re-evaluation of teamwork in healthcare and the drive to search for environments that fostered learning, cooperation, and communication (Stull & Blue, 2016). Consequently, there was an explosion of research towards understanding teamwork among healthcare providers, which in turn revealed a host of interpersonal and communication issues.

Obstacles to Teamwork Among Healthcare Professionals

Attitudes and perceptions were the crux of the adjunctive interpersonal and communication issues that led to the failure in teamwork (Carpenter & Hewstone, 1996; Dingwall, 1979). Thus, there was an increased interest and dedication in research to investigate health professionals' attitudes towards teamwork and stereotypes of their own and other professions.

Attitudes towards teamwork. Professionals must value the experience of working together, recognize its benefits to client care, acknowledge the similarities and differences between professional roles, and respect each others roles and responsibilities, for effective teamwork and communication to take place (Horsburgh, Lamdin, & Williamson, 2001; Parsell & Bligh, 1999). A professional's attitudes towards teamwork are important because they dictate the extent to which the professional engages in the skills needed for collaborative care.

Professional identity is the degree to which a person adopts the role of their profession and understands the roles of other professions, within a team of other healthcare providers

(Horsburgh et al., 2001; Parsell & Bligh, 1999). A positive professional identity is one where the professional understands and practices their role when working alone as well as on a team that calls for their coordination with other specialties. A positive professional identity is exampled by appreciating the similarities, differences, and overlap of roles of other professions. In contrast, a negative professional identity is one where the professional either does not understand or fully adopt the role of their profession in an independent and/or team setting. A professional's identity can influence the way they interact with others (Cameron et al., 2009; Rose et al., 2009; Tunstall-Pedoe, Rink, & Hilton, 2003) and therefore can impact how they learn from, with, and about different members in the context of a team (Hean & Dickinson, 2005).

Stereotypes. Stereotyping is a natural human process used to make sense of a large amount of information in a short period of time by grouping certain traits together. In a social setting, stereotypes are "social categorical judgment(s) […] of people in terms of their group membership" (Turner, 1999, p. 26). Positive stereotypes highlight a group's beneficial traits and downplay their faults. Negative stereotypes generate false or exaggerated assumptions about a group that can lead to prejudiced behaviours towards that group.

Between-group stereotypes often impact interactions between the individuals of different groups and can evoke behaviours that satisfy those stereotypes. This phenomenon is known as the self-fulfilling prophecy (Hilton & von Hippel, 1996). For example, if healthcare professionals view doctors as poor team members lacking in interpersonal skills (i.e., negative stereotypes) then these healthcare professionals are more likely to exhibit bias when interpreting doctors' behaviours that satisfy that stereotype, thus reinforcing it. Carpenter (1995a) is one of the pioneers in studying stereotypes between healthcare and social workers. He assessed stereotypes among nurses and doctors, and found solidified perceptions that "doctors cure, nurses

care" (p. 151). Nurses were viewed as 'caring', 'dedicated', 'good communicators', and neither 'arrogant' nor 'detached'; doctors were viewed as 'confident', 'decisive' and 'dedicated' but also 'arrogant'. Stereotypical roles or characteristics of different professions can impose on interprofessional interactions, which in turn can impair the quality of patient care.

Section II: Theoretical Framework

The literature is enriched with sociological, psychological, and educational theories that model the development, change, and maintenance of attitudes and stereotypes of healthcare professionals (see Colyer, Helme, & Jones, 2006 for review). Of these, the Contact Hypothesis, the Social Identity Theory, and the Adult Learning Theory dominate the literature because of their congruence with the overarching aim of interprofessional education (IPE), and their relevance to the complex intergroup dynamics across healthcare professions (Carpenter, Barnes, Dickinson, & Wooff, 2006; Hean, 2009; Hean & Dickinson, 2005).

Contact Hypothesis

The Contact Hypothesis (Allport, 1979) suggests a practical solution to overcoming negative perceptions held between two groups. This theory posits that, when individuals from two different groups interact with one another and learn from each other, the prejudices between groups are naturally overcome, and positive perceptions develop. Contact alone, however, is not enough. Several conditions need to be present to foster a positive attitude change. These conditions include institutional support, positive expectations, a cooperative atmosphere, successful joint work, a concern for and understanding of differences as well as similarities, the experience of working together as equals, and the perception that members of the other group are 'typical' and not just exceptions to the stereotype (Allport, 1979; Hewstone & Brown, 1986).

The contact hypothesis has been used to counteract several forms of prejudice between groups (i.e., ethnicity, religion, culture, gender, age, disability, and sexuality), including those held by healthcare providers towards different patient groups (see Hean & Dickinson, 2005 for review). With the same intention to overcome prejudice, the contact hypothesis has been applied to teamwork among healthcare providers with the hope of counteracting prejudice and providing better patient care (Carpenter, 1995a, b; Carpenter & Hewstone, 1996; Hewstone, Carpenter, Franklyn-Stokes, & Routh, 1994). By working together and integrating different perspectives, healthcare providers can adopt a panoramic view of illness, which enables them to assume joint action and responsibility in treatment (Counsell, Kennedy, Szwabo, Wadsworth, & Wohlgemuth, 1999). This collaborative stance ensures that all aspects of an illness are addressed. However, achieving this stance is difficult when the duties of different healthcare professions overlap because of the potential for rivalries (Hewstone & Brown, 1986). For this reason, it is imperative that the differences as well as similarities of professions are recognized and understood. We turn to the Social Identity Theory to better understand *how* accurate and positive differentiation occurs to promote teamwork.

Social Identity Theory

The Social Identity Theory (SIT; Tajfel, Billig, Bundy, & Flamant, 1971) proposes that contact with other groups provides the opportunity to make accurate and informed comparisons between groups and establish a positive distinctiveness among them. Therefore, contact with other groups can change the stereotypes that we hold of our own group (autostereotype) and other groups (heterostereotypes) by comparing and contrasting both groups. According to SIT, self-identification depends on group identification; that is, an individual's self-identify is based on the social group that they are a part of. Individuals tend to think more highly of their own

group because they know more about their own group. For the same reason, individuals also see their own group as more complex than other groups (Bartunek, 2011). Interactive experiences with other groups can be informative and offer new perspectives, and in turn, change the stereotype of that group.

Along these lines, healthcare workers often perceive their own discipline or profession as more complex compared to other healthcare professions simply because they know very little about other professions (Hind et al., 2003). Consequently, as healthcare workers experience more exposure to other groups they can learn to differentiate them via between-group comparisons. This process is known as intergroup differentiation (Taijfel et al., 1971; Taijfel & Turner, 1986). Being able to differentiate accurately between professional groups helps individuals recognize each other's strengths and weaknesses, and facilitates appreciation of similarities and differences (Barnes et al., 2000). A complete description of the psychological constructs underlying these theories is beyond the scope of this thesis. For the reader who wants more information on the learning theories used within the context of interprofessional education, "Learning theories and interprofessional education: A user's guide" by Hean, Craddock, and O'Hallaran (2009) is recommended.

Adult Learning Theory

Initially, a shared learning approach was the main method in teaching healthcare professionals how to work together. This approach involved sitting side by side in a lecture where interactive learning was minimal and learners were merely passive recipients of the information. This approach was often adopted for economic reasons rather than educational principles (Horsburgh et al., 2001). The limited interactive experiences inherent to a shared teaching approach led to learners' preservation of traditional role concepts and territoriality

concerns (Mu & Royeen, 2004). A shared teaching approach contributed to the exact pitfalls gleaned from events like the farrago at Bristol Royal Infirmary.

The Adult Learning Theory (Knowles, 1984; 1990) proposes that adult learning is best achieved through hands-on, learning experiences where recipients can work cooperatively on problems by reflecting on past experiences that enhance new learning objectives, in a controlled environment. An educational and interactive environment provides recipients with exposure to one other, time to reflect on their differences, and ability to recognize their unique contributions to a group effort. A shared learning approach (as opposed to a shared teaching approach) coincides with the adult learning theory. A shared learning approach uses structured learning opportunities and hands-on experiences that offer students with the opportunity to work with other disciplines, and invited them to question, challenge, and learn from the differences between their own profession and other professions. This approach supports the acquisition of knowledge and experiences needed to learn how to work with others (Horsburgh et al., 2001). In accordance with the adult learning theory, a shared *learning* approach was applied to healthcare students instead the shared *teaching* approach previously applied to healthcare professionals. A shared learning approach to teamwork has been adopted into healthcare education programs and shown to improve student attitudes towards interprofessional collaboration (Jacobsen & Lindqvist, 2009; Mu & Royeen, 2004; Ko, Bailey-Kloch, & Kim, 2014).

Section III: Teamwork Among Healthcare Students

The combination of the contact hypothesis, social identity theory, and adult learning theory provided a framework used to understand teamwork among healthcare providers. This framework continues to act as a useful tool in developing successful teamwork in healthcare, directing future research, and improving education.

Interprofessional Education (IPE)

Interprofessional education (IPE) equips students with core competencies that underpin teamwork: communication, cooperation, coordination, and collaboration (Institute of Medicine, 2003; IPEC, 2011). IPE draws on theories like the contact hypothesis and social identity theory for its rationale and delivery. Unlike IPL, which emphasized professionals working side-by-side, interprofessional education (IPE) was designed to have two or more healthcare providers or students from different areas, learn *from*, *with* and *about* each other to improve collaboration and the quality of care (CAIPE, 1997, 2002; Freeth et al., 2005; WHO, 2010). IPE involves a combination of classroom and practical components that help students learn how to share information successfully, determine professional roles and responsibilities, respect the boundaries of different team members, effectively communicate with one another, and ultimately reach the collaborative goal of optimized patient care (see Buring et al., 2009 for review). IPE provides opportunities for students from different professional groups to interact under controlled conditions that are conducive to positive changes in their intergroup stereotypes (e.g. Barnes et al., 2000; Carpenter, Barnes, & Dickinson, 2003). The World Health Organization (2010) enforces the key message that "interprofessional education is a necessary step in preparing a collaborative ready health workforce" (p. 10).

Working together rather than alongside creates a synergistic effect that helps develop new ways of tackling old problems (Davies, 2000). This type of teamwork has the potential to improve professional relationships, increase efficiency and coordination, and ultimately enhance patient health outcomes (Cullen, Fraser, & Symonds, 2003; Mu et al., 2004; Reeves & Freeth, 2002; Wee et al., 2001). The need to produce healthcare providers who possess the knowledge and interpersonal skills that allow them to be flexible, adaptive, and collaborative team members

became the impetus and justification for the introduction of more shared learning opportunities (Parsell & Bligh 1998).

Several difficulties surfaced when training institutions began planning the implementation of IPE into various healthcare education programs. Horsburgh and colleagues (2001) were confronted with an array of structural and organizational challenges such as timetabling, contrasting learning and assessment methods, different curricular lengths, lack of commitment, and planning and resource difficulties, such as lack of small-group space. In addition, changing a uni-disciplinary curriculum to a multidisciplinary one was costly and time-consuming (Barnsteiner, Disch, Hall, Mayer, & Moore, 2007; Margalit et al., 2009). While these structural and organizational difficulties posed significant challenges to implementing IPE, negative student attitudes towards IPE posed the greatest barrier of all (Carpenter, 1995a; Honan, Fahs, Talwalkar, & Kayingo, 2015; Parsell & Bligh, 1999). Numerous systematic reviews have outlined appropriate steps for programs to take to successfully adopt and implement teamwork into healthcare education programs (Gordon, Lasater, Brunett, & Dieckmann, 2015; Hammick, Freeth, Koppel, Reeves, & Barr, 2007).

Biggs' (1993) 3P (presage- process- product) model provided a conceptual approach to describe how learning and teaching opportunities might be planned and implemented (see Freeth & Reeves, 2004 for review). 'Presage factors' describe the participant characteristics and attitudes that are assessed before the learning experience and influence the creation, conduct, and outcomes of learning experiences. The 'process factors' are the educational approaches used to accommodate for participant characteristics. Finally, the 'product factors' are measured in learning outcomes, which involve the re-assessment of student attitudes. The present study

focused on the ‘presage factors’ for IPE of counselling psychology students, which are further described in Chapter III of this paper.

Assessing the presage factors, such as the specific characteristics of participants, offers insight into the culture of the profession that is being considered for IPE. The results of the assessment can guide the development of an innovative educational program to improve interprofessional collaborative practice (Hall, 2005; Jacobson & Lindvinqst, 2009). Specific characteristics like gender, age, level of training, and past experience working or learning in an interprofessional setting have been found to have moderating effects on healthcare students’ attitudes towards IPE.

Learner Characteristics

Gender. Female healthcare students often report significantly more positive attitudes towards interprofessional teamwork and IPE than their male counterparts (e.g., Curran, Sharpe, Forristall, & Flynn, 2008; Hood et al., 2014; Ko et al., 2014).

Age. The significance of age in relation to students’ attitudes toward teamwork in healthcare remains unclear. Studies that do show a difference have found that mature students report more positive attitudes towards IPE than younger students (Ko et al., 2014; Pollard, Miers, Gilchrist, 2005). Hood et al. (2014) examined students’ age in relation to their readiness to learn and their willingness to participate in IPE. Student birth decades (1960s/1970s/1980s/1990s) were compared, revealing a significant difference between older and younger students. Older students, or those born in the 1970s, reported more positive attitudes towards teamwork than younger students who were born in the1980s. It cannot be determined whether these differences are due to age alone, or if it is a generational trend and further evidence is needed to conclusively support the impact of age on students’ attitudes.

Level of training. There is considerable debate regarding when students are most ready to engage in IPE opportunities. Some studies show that students who are beginning their training report more favorable attitudes towards IPE (Foster & Macleod Clark, 2014; Hojat et al., 1997; Leipzig et al., 2002; Pollard, Miers, & Gilchrist, 2005; Tanaka & Yokode, 2005). These findings align with theories suggesting that additional work experience improves attitudes between groups (Hojat et al., 1997; Tunstall-Pedeo et al., 2003; Rudlan & Mires, 2005). Introducing novice students to IPE capitalizes on their willingness to engage in new learning, which is significantly higher and unique to students at the beginning of their training (Coster et al., 2008; Hind et al., 2003). Students beginning their program also presumably have fewer prejudices towards other professional fields. For these reasons, Hylin et al. (2011) suggest that the skills needed to develop effective teamwork skills are ideally learned early on in students' educational programs. In fact, even students themselves have report that early integration into IPE is more beneficial than later integration (Parsell, Spalding, & Bligh, 1998; Rudland & Mires, 2005).

On the other hand, other studies show that students who are further along in their training report more favorable attitudes towards IPE compared to neophyte students (Curran et al., 2008; Ko et al., 2014). These findings are supported by the fact that students who are further along in their training have had more time to develop their professional identity (Horsburgh et al., 2001; Thistlethwaithte & Nisbet, 2007) – a key component in students' readiness to learn. Students need to acquire the necessary skills in their own discipline before they can feel secure and contribute effectively in interdisciplinary learning (Mazuer, Beeston, & Yerxa, 1979; Poldre, 1998). This point is augmented by Funnell's (1995) observation that greater role security among students' cultivated their willingness to engage in interprofessional learning and share information. Given both sets of findings, the notion of when to introduce students to IPE remains

unresolved and further research is needed to assess this learner characteristic (Rudland & Miers, 2005).

Past experience. Past experience at working or learning in an interprofessional setting may mediate students' attitudes towards teamwork in healthcare. Curran et al. (2008) conducted a survey among pre-licensure healthcare students in medicine, nursing, pharmacy, and social work programs and found that students with past experience at either working or learning in an interprofessional setting were significantly more positive towards teamwork than their less experienced peers. These findings are supported by Hood et al. (2014) who found that senior undergraduate healthcare students with past experience working or learning in an interprofessional setting had significantly stronger and more positive attitudes towards teamwork than their less experienced counterparts. Ko and colleagues (2014) found that attitudes toward teamwork, particularly in its ability to improve the quality of care for patients, were higher in graduate health- and social- care students who reported having more interprofessional work experience. Having completed an interprofessional course in the past did not reveal a significant difference in student attitudes towards teamwork in healthcare.

One explanation for the mixed results relates to the contact hypothesis. The impact of the IPE experience may depend on the degree and nature of the contact (e.g., employment, practicum placement, volunteer position, educational course-based) of the experience. Turner (1999) refers to these mediating variables as the 'social context'. If the conditions of the social context are not conducive to positive stereotype change, then the experience can result in a negative attitude towards teamwork in a healthcare setting and consequently, a negative attitude towards learning about teamwork in educational practice. In other words, when professionals "demonstrate stereotypical role posture underpinned by negative attitudes then the value of the interaction is at

best questionable and at worst counterproductive" (Funnell, 1995, p. 152). The moderating effect of past experience working in an interprofessional setting on students' attitudes towards teamwork is complex and would benefit from additional evidence.

Readiness to Learn

The combination of attitudes and perceptions towards teamwork and understanding the roles and responsibilities of different professions foreshadow the success of interprofessional learning experiences. For this reason, the combination of attitudes towards teamwork and its components are often referred to as "readiness to learn" in IPE literature. The value in teamwork and its necessary components (i.e., communication skills and respect for others) translates into a readiness to learn and together, act as a predictor of students' success in IPE. Several studies have found that nursing, medical, and pharmacy students who report favorable attitudes towards teamwork are also more open to shared learning experiences with others (e.g., Aziz, Chong Teck, & Yen Yen, 2011). Students with more favorable attitudes towards teamwork before entering IPE benefit most from it (Coster et al., 2008).

A students' professional identity also plays into their readiness to learn. Recall that professional identity is the degree to which a person adopts the role of their profession and understands the roles of other professions, within a team of other healthcare providers. A negative professional identity results in role insecurity and reluctance towards shared learning. Students who report having a positive professional identity acknowledge similarities, differences, and overlap of roles carried out by different professions. This involves a level of flexibility in taking on, and sharing, roles and responsibilities. To demonstrate the benefit and need for flexibility among team members, consider the case of caring for a patient with cardiovascular disease. Assuming that this patient requires different healthcare professionals who take

leadership in various stages of treatment. A cardiologist with a positive professional identity may take leadership in selecting appropriate medications for the patient but will cooperate with an occupational therapist who may take leadership in determining appropriate occupational and physical activity choices that are most suitable for the patient.

Stereotypes

Students inevitably enter their education program with preconceived positive and negative stereotypes of other professions (Carpenter, 1995a; Hean et al., 2006a; Kamps et al., 1996; Streed & Stoecker, 1991). Several factors contribute to the acquisition of preconceived stereotypes among healthcare students. Factors include personal experience, vicarious learning (Conroy et al., 2002; Hallam, 2000), the socialization processes of professional training (du Troit, 1995), and the media (Kelly, Fealy, & Watson, 2011). Historical influences that depict professions as being traditionally dominated by a single gender also impact the development of stereotypes (Hallam, 2000). In a study of 1426 students from different healthcare programs, students generally viewed doctors as arrogant, confident, and academically inclined compared to nurses, occupational therapists, physiotherapists, and midwives who were viewed as subservient but caring (Hean et al., 2006a). Foster and Macleod Clark (2014) supported these findings when examining stereotypes of students from 10 different healthcare programs (audiology, medicine, midwifery, nursing, occupational therapy, pharmacy, physiotherapy, podiatry, radiography, and social work). The most significant differences in the stereotypes were seen with social workers and nurses compared to doctors and pharmacists. Social workers and nurses were seen as having the most interpersonal skills but the least academic capability whereas doctors and pharmacists were seen as the opposite.

When students' autostereotypes are congruent with heterostereotypes assigned to their group, mutual intergroup differentiation is achieved (Hean, Clark, Adams, Humphris, & Lathlean, 2006b). There is less conflict and more cooperation among students when they see themselves as others see them (Hean et al., 2006b). Similarities and disparities between an individual's autostereotypes and heterostereotypes play an important part in developing role boundaries, and teamwork experiences and after graduation (Ateah et al., 2010; Katz, Moji, & Balogun, 2001).

Considering the impact that students' readiness to learn and their stereotypes have on their success in IPE, research on the relationship between these variables remains limited. Hind et al. (2003) found evidence to support the association between positive student stereotypes of other professions and their readiness to learn among students from five healthcare groups (medicine, nursing, dietetics, pharmacy, and physiotherapy). Surprisingly, there are few other studies that have explored this relationship with healthcare students. The current study aimed to add to this body of literature and is further described at the end of Chapter II of this paper.

Section IV: Effectiveness of Interprofessional Education (IPE)

Although the current study is based on the evidence supporting IPE, the debate on the quality of the research supporting the effectiveness of IPE must be noted. IPE research appears to be in an "epistemological struggle between assumptions underpinning biomedical and health science research and those underpinning education studies" (Olson & Bialocerkowski, 2014, p.236), leading to inconclusive results. Numerous systematic reviews (e.g., Lapkin, Levett-Jones, & Gilligan, 2011; Reeves et al., 2013; Reeves et al., 2010; Reeves et al., 2008; Zwarenstein et al., 1999; Zwarenstein et al., 2000) on the effectiveness of IPE have been published summarize and described the mixed data.

Changing Student Attitudes and Stereotypes

The impact of IPE on attitudes and stereotypes among healthcare students has been extensively examined. Some studies have demonstrated significant changes in students' attitudes and perceptions (Cameron et al., 2009; Hean et al., 2006; Hind et al., 2003; Medves, Paterson, Broers, & Hopman, 2013; Robben et al., 2012; Ruebling et al., 2014) before and after entering IPE. Other studies have found no significant change in attitude (McFadyen, Webster, Maclaren, & O'Neill, 2010; Pollard, Gilchrist, Miers, & Sayers, 2006), while others have actually reported a decline in attitudes towards teamwork before and after entering IPE (Stull & Blue, 2016). As such, the effectiveness of IPE in changing students' negative attitudes remains a crucial issue that continues to feed into much controversy and debate (Olson & Bialocerkowski, 2014).

Results supporting the improvement in students' stereotypes as a result of IPE also remain inconclusive (Hean, 2009). Some evaluations of the effectiveness of IPE on the stereotypes of healthcare students from medical, nursing and social work programs revealed an improvement in stereotypes before and after entering IPE (Hewstone et al., 1994; Carpenter & Hewstone, 1996). Ateah et al. (2011) found similar results when assessing stereotype change in students from seven different health education programs (medicine, nursing, dentistry, pharmacy, dental hygiene, and medical rehabilitation) after attending a brief IPE session and participating in an immersion experience. Foster & Macleod Clark (2014) found a moderate improvement in stereotypes among health and social work students who participated in IPE compared to those who did not. In contrast, other studies have shown no evidence of improved stereotypes (Barnes et al., 2000) while others have reported the development of negative stereotypes of others after participating in IPE (Tunstall-Pedoe et al., 2003; Mandy, Milton, & Mandy, 2004).

Several explanations for the mixed data on the effectiveness of IPE in changing students' attitudes and stereotypes have been documented. One reason may be due to the inherent complexity of implementing an IPE program across disciplines, where meeting all of the conditions outlined by the contact hypothesis is challenging (Barnes et al., 2000). A second well-supported reason for the subsequent debate is that attitudes and stereotypes are hard to change. Perceptions develop over an extensive period of time throughout students' lives and before they enter into their educational programs. Preconceived notions of teamwork and other professions are engraved in students' cognitive processes, making them difficult to change. Authors suggest that it may take more than a single term or a brief workshop to achieve positive changes (Tunstall-Pedoe et al., 2003). A third reason behind the inconclusive data on the effectiveness of IPE in changing students' attitudes and stereotypes relates to operationalization of the variables being examined. Despite the general understanding of teamwork, the definition of 'student readiness' is still being developed and there is a lack of consensus on how to measure the effectiveness of IPE. Without this clear operational definition of the variables being assessed, measurement tools may fail to adequately capture these concepts, such as student readiness, resulting in the substantially disputed and mixed data.

The heterogeneity of interventions and outcome measures makes it nearly impossible to draw generalizable conclusions about IPE and its effectiveness (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013). A Cochrane Review of IPE research put a spotlight on the need for growth and improvement in this area. In their review, Zwarenstein and colleagues (2000) examined the literature on the effectiveness of IPE in changing student's self-reported attitudes and stereotypes regarding interprofessional teamwork. Intervention studies were assessed if they met the methodological criteria of randomized controlled trials (RCTs), controlled before and

after (CBA) studies, or interrupted time series (ITS) studies. None of the studies met the methodological rigor needed to convincingly suggest a causal relationship between an IPE intervention and improved attitudes and perceptions. This absence of sufficiently good data regarding change in student perceptions as a result of IPE does not allow firm conclusions about its effectiveness to be drawn (Zwarenstein et al., 2000). Overall, scholars advise that the inconclusive data in IPE research is more reflective of a lack of scientific rigor than the actual effectiveness of IPE-based interventions (Reeves et al., 2010). While IPE research and its measurements continue to mature, there have been other innovative ways to measure the effectiveness of IPE (Turney et al., 2000).

Changing Patient Outcomes

Recall the initial impetus of interprofessional teamwork in healthcare: to improve patient-care and health-related outcomes. Patient and health related outcomes include measures of disease incidence, duration or cure rates, mortality, complication rates, re-admission rates, adherence rates, satisfaction, continuity of care, and use of resources (Reeves et al., 2008). With these criteria in mind, Reeves and colleagues (2013) conducted another Cochrane review of IPE research. Fifteen studies met the Cochrane criteria for systematic reviews (i.e., RCTs, CBA studies, or ITS). Most studies involved post-graduate IPE initiatives. Of the 15 studies, seven reported positive outcomes for healthcare processes or patient outcomes, or both; four reported mixed outcomes (positive and neutral); and, four reported no effects of IPE.

Many of the studies that did not meet the Cochrane criteria for systematic reviews, however, still reported evidence of how collaborative care improves the quality of patient care. Specifically, teamwork increased coordination of healthcare providers, prevented fragmentation of care, lowered healthcare costs (Baggs, Norton, Schmitt, & Seller, 2004; Lindeke & Block,

2001; Vazirani et al., 2005), and reduced medical errors (Buring et al., 2009). Patients were not the only ones to report benefits resulting from teamwork among healthcare providers. Providers themselves found that teamwork facilitated knowledge sharing between disciplines (Nugus, Greenfield, & Travaglia, 2010), reduced workloads, decreased burnout, and increased job satisfaction among healthcare professionals (Searle, 2008). These are all reasons to continue pursuing IPE programs that effectively change perceptions and educate students on how to work together and reduce risks to patients (Morrissey et al., 2010).

IPE has the potential to promote collaboration among healthcare professionals, improve the quality of care, and have a positive influence on interprofessional collaboration between healthcare students (Hammick et al., 2007; Thistlewaite, 2012). Accordingly, even though the debate associated with IPE research continues, it has not stopped healthcare education programs from persevering towards implementing IPE. Scaling up educational programs to produce healthcare providers with the core competencies to work effectively in interprofessional teams remains a primary goal for healthcare systems worldwide (WHO, 2016a).

Section V: Present and Future Development of IPE

Since its inception, the research and applications related to IPE have progressed by leaps and bounds. This expansion has led to greater diversity among the community of healthcare students involved in IPE, which also promotes greater richness and depth in student's views on health. Nonetheless, there is still a long way to go to realize the vision of integrated "physical, mental, and social" components of health and wellbeing in education and practice as defined by the World Health Organization (WHO, 2001, p.1). Recent evidence suggests that most healthcare students have never been provided the opportunity to learn together (Honan et al., 2015).

Hammick and colleagues (2007) conducted a literature review of the diversity in international IPE initiatives. They found that most participants were from medicine (89%) and nursing (82%) programs, followed by specialties from health science programs like occupational therapy, pharmacy, physiotherapy, podiatry, radiography, social work, and audiology (e.g., Adams, Hean, Sturgis, & Clark, 2006; Atwal & Caldwell, 2005; Foster & Macleod Clark, 2014; Mickan & Rodger, 2005; Odegard, 2005; Pollard, Miers & Gilchrist, 2005; Salvatori, Berry, & Kevin, 2007). Literature reviews by Davidson and colleagues (2008), and Olson and Bialocerkowski (2014) support the findings of a disproportionate representation across healthcare programs. There are gaps in the literature on IPE in allied health programs outside of medicine and nursing. This gap is problematic as our aging population and the shift from acute to chronic care requires a greater diversity of professions in service delivery (Reeves et al., 2009). The complexity of illness and the increased need for health services curtail enquiry into other, less explored, components of health concerns such as mental illness.

Gap in the Literature

"Mental health is an integral part of health; there is no health without mental health"

- WHO (2016b).

Today's most prevalent physical health concerns are diabetes, heart disease, cancer, and arthritis; and the most prevalent mental health concerns are depression, anxiety, and other mood disorders (World Federation of Mental Health, 2004). A bidirectional relationship between severe and persistent physical and mental illnesses have been reported. Co-occurring mental disorders (e.g., anxiety and depression) can weaken the immune system (Segerstrom & Miller, 2004) and worsen the course of chronic diseases, such as cardiovascular disease, diabetes, obesity, asthma, epilepsy, and cancer (Everson-Rose & Lewis, 2005; Jiang & Davidson, 2005;

Kullowatz, Kanniess, Dahme, Magnussen, & Ritz, 2007; Luppino et al., 2010; Prince et al., 2007). These physical and mental health problems can also have overlapping symptoms and impact the prognosis of one another. For instance, both physical and mental illness can alter hormonal balances, sleep cycles, decrease activity levels, increase appetite and food cravings, and in turn, contribute to excessive weight gain, sedentary behaviour, and unhealthy lifestyles (Canadian Mental Health Association of Ontario, 2008). As the signs, symptoms, and prognoses of physical and mental health issues intertwine, the nature of treatment for these illnesses are also likely to overlap, implying that treating one type of illness impacts the other type. Along these lines, in addition to medical interventions, psychological interventions are both effective (Chambless & Ollendick, 2001) and cost-effective (Hunsley, Elliot, & Therrin, 2014; Luborsky et al., 2004; Myr & Payne, 2006; Patrick, 2005). As with any form of treatment, psychological interventions are best delivered by those with proper training and are specialized practitioners.

As our knowledge of health deepens, so do our specialties. Each specialty involves a wealth of information that must be adequately learned. It is impossible to expect a single, or even a few, healthcare professionals to acquire all the knowledge necessary to adequately and comprehensively address today's complex health problems. Therefore, it is not surprising that generalists often report feeling insufficiently prepared and unsure in their clinical knowledge and ability when faced with patients who have mental health issues and concerns (Brunero, Jeon, & Foster, 2012; Sharrock & Happell, 2006). Although studies in IPE across disciplines may incorporate mental health as a component of training or refer to collaborative or integrative mental healthcare (e.g., Reeves, 2001; Williams, Brown, & Boyle, 2013; Winters, Magalhaes, & Kinsella), few studies (Hertweck et al., 2012; McAllister et al., 2014) include students from education programs specialized in mental health, as a key discipline (Roberts & Forman, 2015).

If mental health concerns are not given equal attention to physical health concerns, then health professionals would be inadvertently contributing to the 'silent crisis' faced by millions of Canadians (Cohen & Peachey, 2014), whereby mental health problems remain undiagnosed and continue to contribute to other illness or disease that lead to premature mortality and disability.

Psychology's role in healthcare settings is changing and so must its training programs. In their position paper, "The evolution of collaborative mental healthcare in Canada: A shared vision for the future", Kates and colleagues (2011) advocate for the integration of mental health within primary care settings. They argue that to do so, "academic centers and continuing education departments must prepare learners and practitioners to work in collaborative interprofessional partnerships" and "[i]f this can be accomplished, we stand to make substantial gains at the system level and contribute significantly to the overall well-being of Canadians" (p. 2). Despite the desire and rationale for increasing psychology students' involvement in shared learning experiences, interprofessional teamwork has not been a priority in the training and education of mental health professionals, nor have student attitudes towards it been adequately explored (McAllister, 2014). The Health Service Psychology Education Collaborative (HSPEC) has called for significant changes in education in graduate psychology programs to prepare future mental healthcare experts to work in an interprofessional environment (Cubic, Mace, Turgesen, & Lamanna, 2012; Davidson et al., 2008; Jefferies & Chan, 2004).

To begin the process of introducing any discipline into IPE and practice, experts urge academic programs first examine students' attitudes and perceptions associated with teamwork in the planning of any interprofessional initiative (Mann, 2011; Prideaux & Bligh, 2002). This information equips programs with the knowledge needed to select the most appropriate methods of learning and to design successful IPE implementation and training programs (Aase, Hansen,

Aase, 2014; Reeves, 2016; Reid, Bruce, Allstaff, & McLernon, 2006). This is where the gap in the literature on mental health students exists and urgently requires investigation. Of the different disciplines within mental health, the present study focused on counselling psychology.

Why Counselling Psychology Students?

Mental health services can be provided by an array of registered or unregistered healthcare workers including psychologists, social workers, nurses, and psychiatric aides. If there are several providers who all fall under the generic description of "mental health therapists", why should the current study focus on including students who are training to be counselling psychologists? By reviewing the literature and academic requirements across professions, Murdoch, Gregory, and Eggleton (2015) distinguished psychologists on several factors compared to other healthcare providers, even those with overlapping roles and responsibilities. Psychologists are the only mental health experts who are trained to administer, score, and interpret psychological tests. These tests can bear high-stakes results that impact a person's diagnosis of a psychological disorder, access to appropriate funding and care, and educational and occupational opportunities. Psychological tests are recognized as being as strong and compelling as medical tests (Meyer et al., 2002). It takes extensive training to synthesize and integrate test and non-test data to make decisions about treatment, diagnosis, and prognosis. Having the practice and skills to integrate the art and science of human behaviour effectively can be considered a "value added" component that psychologists can offer to healthcare teams and patients (Murdoch et al., 2015).

As part of their training, psychologists naturally acquire the greatest breadth and depth of psychological theory, literacy, and its scientific method (Murdoch et al., 2015). This enables psychologists to effectively conduct case conceptualization and treatment planning for patients

with mental illness, when compared to conceptualization and treatment planning offered by other healthcare disciplines without this background. A systematic review of course requirements for medicine, nursing, and social work in Canada showed that it is possible for students from these programs to graduate without ever taking a psychology course or having a placement involving mental health issues (Murdoch et al., 2015). In practice, physicians and nurses report having insufficient time to deal with mental health issues (Horwitz, et al., 2007; Takhar, Haslam, Hobbs, & McAuley, 2010). More notably, however, is that other professionals report a lack of confidence in their ability to handle mental health concerns (Gordon, 2012; Hodges, Inch, & Silver, 2001; Lindberg, Vergara, Wild-Wesley, & Gruman, 2006; Sharrock & Hapell, 2006; Wilkinson, Dreyfus, Cerreto, & Bokhour, 2012). This is problematic because psychosocial issues are common in primary care settings and encompass up to 70% of medical appointments made with primary care physicians (Gatchel & Oordt, 2003). This does not suggest that physicians are poorly trained – in fact, this is not the case at all. Medical healthcare students and providers already face an enormous amount of information about their expertise in caring for health problems. Integrating mental health specialists into IPE meets the call for collaborative care which is defined as "involving providers from different specialties, disciplines, or sectors working together to offer complementary services and mutual support, to ensure that individuals receive the most appropriate service from the most appropriate provider" (Craven & Bland, 2006, p.9s). Differences in practice, assessment, and literary background distinguish psychology students from other "mental health therapist" programs, making a strong case for the integration of graduate psychology students into IPE.

Purpose of the Study

The purpose of the current study was to assess counselling psychology students' attitudes towards IPE by examining their readiness to learn and their positive stereotypes of their own profession (autostereotypes) and other professions (heterostereotypes). If counselling psychology students express a readiness for IPE and display positive stereotypes of their own profession and other healthcare professions, then counselling psychology students' can be considered as good candidates for IPE. The next step would be to re-assess counselling psychology students' fundamental curriculum and to find ways to integrate IPE into it. Conversely, if counselling psychology students do not express a readiness for IPE nor display positive stereotypes of their own profession but discriminatory stereotypes of other healthcare professions, then counselling psychology students' are likely poor candidates for IPE. In this case, the next step would be to address and remedy barriers to participation in IPE.

Objectives

The aim of the questionnaire survey was to increase our understanding of counselling psychology students' attitudes towards IPE. To do so, we assessed key factors that have been empirically shown to impact the success of IPE among other healthcare students. These key factors include students' readiness for IPE, and students' positive stereotypes of their own profession and of other healthcare professions. As part of our analyses, we assessed learner characteristics (gender, age, level of training, and past experience working in an interprofessional setting) in relation to each study objective. The specific objectives were to:

1. Describe counselling psychology students' readiness for IPE.
2. Describe counselling psychology students' positive stereotypes of their own profession (autostereotypes) and other healthcare professions (heterostereotypes).

3. Develop a model of the relationship between counselling psychology students' readiness for IPE, stereotypes of their own profession (autostereotypes), and stereotypes of other healthcare professions (heterostereotypes).

Hypotheses

Literature on counselling psychology students in IPE remains limited and therefore the expected outcomes to the objectives of the present study were drawn from previous studies with other healthcare students. We hypothesized that:

1. Counselling psychology students would demonstrate a readiness for IPE.
2. Counselling psychology students would describe having positive stereotypes of their own profession (autostereotypes) and other healthcare professions (heterostereotypes), but overall, hold a more positive stereotype of their own profession (autostereotypes) compared to their stereotypes of other healthcare professions (heterostereotypes),
3. A tentative model of the hypothesized relationship between counselling psychology students' readiness for IPE, stereotypes of their own profession (autostereotypes), and other healthcare professions (heterostereotypes) are presented in Figure 1.

The format of this model resembles Hind and colleagues' (2003) proposed model regarding the relationship between other healthcare students' readiness to learn and stereotypes of their own profession and other professions. The arrows show the expected relationships between the variables and have been found in previous studies on other healthcare students. It was hypothesized that there would be a positive relationship between counselling psychology students' readiness to learn and their positive autostereotypes and heterostereotypes.

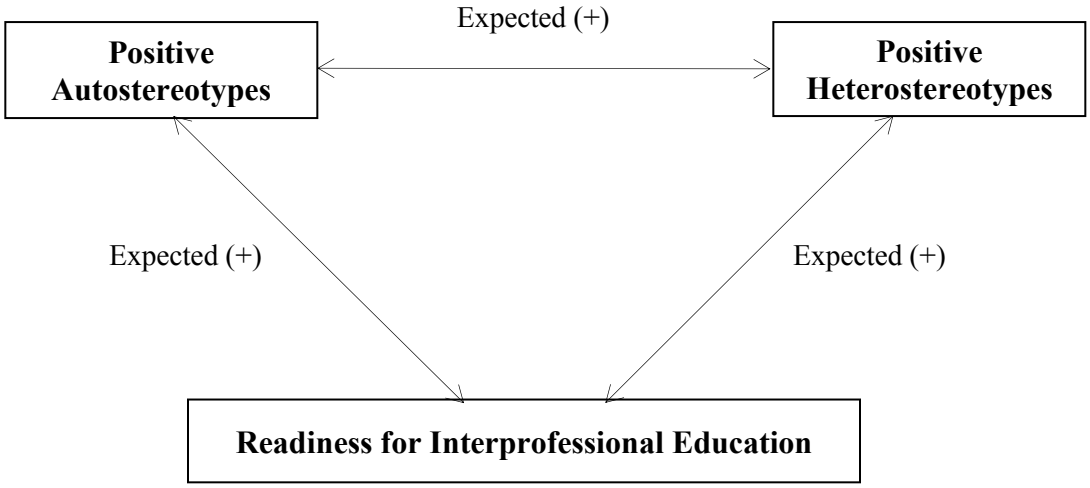

Figure 1. A Tentative Model of the Relationship between counselling psychology students' readiness for IPE, positive stereotypes of their own profession (autostereotypes), and positive stereotypes of other healthcare professions (heterostereotypes).

CHAPTER III: METHOD

This chapter describes the recruitment of participants and criteria for participation in this study. The study procedures, measures used, and ethical considerations are explained.

Participants

Participants ($N = 80$) in this study were graduate level students in counselling psychology programs at three Canadian universities, including the University of Lethbridge, Memorial University of Newfoundland, and University of Alberta. Students were enrolled in their graduate programs between 2013 and 2015. There were no specific exclusion criteria (e.g., age, level of graduate program) that restricted students from participating.

Measures

Participants completed an online survey that included measures of: 1) learner characteristics including gender, age, academic institution, level of education, and past experience working in an interprofessional healthcare setting; 2) readiness to learn; and, 3) stereotypes of their own profession (autostereotypes) and other professions (heterostereotypes).

Learner Characteristics

Participants were asked to provide their age, gender, and academic institution at which they attended (University of Lethbridge, Memorial University of Newfoundland, and University of Alberta). Participants were asked to provide their graduate level (Masters, Doctoral, or Post-Doctoral), year of study in their graduate level (1, 2, 3, Graduated - not currently working as a counsellor, or Graduated - currently working as a counsellor), previous interprofessional experience (yes or no), and, if the participant had past experience of working in an interprofessional healthcare setting (yes or no).

Readiness to Learn

The *Readiness for Interprofessional Learning Scale* (RIPLS) was developed by Parsell & Bligh (1999) and revised by McFadyen et al. (2005) as a useful tool for assessing the readiness of healthcare students about to undertake interprofessional learning (Aziz et al., 2011; Reid et al., 2006). The RIPLS was developed based on the ratings of various components and desired outcomes of shared learning that were provided by 120 undergraduates in eight healthcare professions. Test developers conducted a principal component analysis that revealed three factors contributing to the attitudes and perceptions about shared learning. These factors include attitudes towards teamwork and collaboration, professional identity, and roles and responsibilities of healthcare providers. These factors make up the three subscales in the 19-item RIPLS, where items are scored on a five-point Likert scale with endpoints labeled 1 (*strongly disagree*) and 5 (*strongly agree*). Subscale scores are summed to provide a total readiness for interprofessional education scores that range from 19 to 95, with higher scores indicating a greater readiness to learn.

The first subscale, ***Teamwork and Collaboration****,* assessed students' attitudes and beliefs about teamwork and shared learning. This 9-item subscale was scored using a five-point Likert scale with endpoints labeled 1 (*strongly disagree*) and 5 (*strongly agree*). Total scores for this subscale range from 9 to 45, with higher scores indicating a more favorable attitude and belief about teamwork and recognition about the benefits of shared learning.

The second factor, ***Professional Identity***, assessed students' acquisition of professional identities and responsiveness to sharing expertise with other students through positive educational experiences. This 7-item subscale was scored using a five-point Likert scale with endpoints labeled 1 (*strongly disagree*) and 5 (*strongly agree*). Total scores for this subscale

range from 7 to 35, with higher scores indicating a greater understanding of how professions can work together to clarify patient problems, which lends itself to students' success in collaborative learning and IPE programs.

The third subscale, ***Roles and Responsibilities,*** assessed students' understanding of their own roles and the roles of other health professionals. This 3-item subscale was scored using a five-point Likert scale with endpoints labeled 1 (*strongly disagree*) and 5 (*strongly agree*). Total scores for this subscale range from 3 to 15, with higher scores indicating a greater understanding of the boundaries that delineate roles in professional practice.

Parsell, Spalding, and Bligh (1998) tested the validity of the RIPLS and asserted that the three subscales reveal a causal relationship between the readiness to learn together and attributes underlying teamwork confirmed concurrent validity in its high correlation with a similar measure. The original development of the RIPLS provides good evidence of the content validity of the instrument (McFadyen, Webster, & Maclaren, 2006) and has been reported in other studies (e.g., Morison, Boohan, Moutray, Jenkins, 2004). Lie et al. (2013) determined concurrent validity by comparing the RIPLS to another internationally employed measure of student attitudes towards IPE called, the Interdisciplinary Education Perception Scale (IEPS; Luecht, Madsen, Taugher, & Patterson, 1990 revised by McFadyen, Maclaren, & Webster, 2007). Since its development, the RIPLS has been employed by a number of studies assessing students' readiness for shared learning (e.g., Horsburgh et al., 2001; Hind et al., 2003; Baxter, 2004; Donohoe & Danielson, 2004).

Cronbach's alpha of the 19-item scale ranges from .84 (Aziz et al., 2011), to .85 (Lie et al., 2013) to .90 (Parsell & Bligh, 1999). In the current study, Cronbach's alpha for the 19 items of the RIPLS was .86. Parsell and Bligh (1999) reported Cronbach's alpha for each subscale: $\alpha =$

.88 for the *Teamwork and Collaboration* subscale, α = .63 for the *Professional Identity* subscale, and α = .32 for the *Roles and Responsibilities* subscale. In the current study, Cronbach's alpha for each subscale was α = .85 for the *Teamwork and Collaboration* subscale, α = .83 for the *Professional Identity* subscale, and α = .27 for the *Roles and Responsibilities* subscale.

We acknowledged the poor alpha for the items in the *Roles and Responsibilities* subscale and considered eliminating them from the data set to achieve a higher alpha. This is the same consideration reported by the scale developers, Parsell and Bligh (1999), and other researchers. They noted that the poor alpha of this subscale did not meet the commonly accepted threshold of acceptable internal consistency (alpha < 0.60). They argued that the low alpha was largely due to the brevity of the subscale since internal consistency of a scale as measured by Cronbach's alpha depends on the length of a scale.

While few studies (e.g., Curran et al., 2008) have chosen to exclude the 3-item *Roles and Responsibilities* subscale, many studies (e.g., Horsburgh et al., 2001; Hind et al., 2003; Baxter, 2004; Donohoe & Danielson, 2004) have included it. Like these other studies that have employed the full RIPLS, removing the *Roles and Responsibilities* items from our dataset did not impact the overall Cronbach's alpha score of the RIPLS. For this reason, we chose to keep all three subscales, which were summed to provide an overall score for readiness for interprofessional learning and were used in the following analyses. Retaining all 19-items allowed us to consider counselling psychology students' scores on the RIPLS in light of the scores reported by other healthcare students in other studies that employed the full RIPLS. We also elected to use the RIPLS over other interprofessional readiness measures because it was described as the most suitable tool to measure students' attitudes towards interprofessional learning *before* embarking on such learning activities (Hind et al., 2003; Horsburgh et al., 2001;

Morison et al., 2004). We chose the RIPLS because it is effective in detecting mean score differences by student gender and training level (i.e., Masters vs. Doctoral students; year 1 vs. year 2; Aziz, et al., 2011; Lie et al., 2013), which were two of the moderating variables assessed in this study. The items in the RIPLS are shown in Appendix E.

Stereotypes

The *Student Stereotypes Rating Questionnaire* (SSRQ) was developed by Barnes, Carpenter, and Dickson (2000), and adapted by Hean at el. (2006a). The adaptation of the original questionnaire led to a questionnaire that was more appropriate for students with less experience in IPE and employed more neutral adjectives to rate different professions. The adapted version was extensively piloted among a panel of academics, health and social care professionals, and pre-registered students. Together, these professionals and students established content validity. The test-retest reliability of each item was examined and any items not reliable over a two-week time period ($p > 0.05$) were eliminated. The adapted version of the SSRQ asks respondents to use a five point Likert scale to rate different professions on nine characteristics: academic ability, interpersonal skills, professional competence, leadership, practical skills, independence, confidence, decision-making skills, and being a team player.

A total score of all nine characteristics can be used as very rough estimate of students' general perceptions of particular professions; however, stereotypes are not uni-dimensional constructs (Carpenter et al., 2003). Consequently, studies using stereotype scales, like the SSRQ, often examine and analyze individual items within a scale and compare to scores across different groups of students (e.g., nurses were stereotyped as being good team players).

To date, there are no studies that explicitly compare stereotype measures to guide researchers in selecting a measure to include in a study (Hean et al., 2006a). Until this occurs,

leading scholars in this area of measurement advise researchers to choose a measure designed to assess a normative sample that is similar to the sample in their study. We chose the SSRQ because it was developed on a normative sample of pre-licensure healthcare students, which is similar to the sample used in the current study. Moreover, we chose the SSRQ because it tends to be shorter in length, requiring less time to complete it and therefore improves response rate. The items in the SSRQ scale are shown in Appendix G.

Common to most other readiness scales for shared learning used in IPE, there is no set threshold for the RIPLS used to explicitly determine whether students are 'ready' or 'not ready' for shared learning. Similarly among stereotype scales used in IPE, the SSRQ does not have a set threshold that distinguishes 'negative' or 'positive' stereotypes based on students' scores. Instead, it is widely-accepted that the purpose of these measures is to provide a global sense of students' perceptions towards IPE.

Procedure

A list of students who met the study criteria was obtained from the Faculty of Education. The departmental administrative coordinator was asked to forward the study email invitation (see Appendix A) to all potential participants throughout two academic terms. The email invitation described the online study and informed students that participation was voluntary and anonymous. These steps were taken to protect the identity of all students and eliminate any concern that participation would impact students if they were registered in a course taught by the researcher at some point in their program. In fact, in addition to the assurance that data would be anonymous, it was clearly stated that results would not impact students' evaluations by faculty. Below the invitation in the email was a link for students to follow if they chose to participate.

When they clicked on the link to access the study or entered the link into a web-browser, students were presented with a protected webpage that included the title of the survey and a consent form (see Appendix B). Information about the study appeared with the consent form. At the bottom of the consent form, students were provided with the statement: "By clicking the 'submit' button, you are consenting to participate in this survey." After pressing 'submit', participants were given the option to provide their contact information for inclusion in the draw for an iPod (see Appendix C). This dataset was separated from the response dataset and viewed only by the primary researcher solely for making the draw for the iPod and coordinating delivery to the student. To ensure open communication with the student about the use of their contact information if they chose to provide it, students were provided with the following statement:

> To thank you for your time and thoughtfulness, you will be invited to enter a draw for an iPod touch! If you would like to enter the draw, please provide your phone number below. This information is NOT linked to your survey results. If you do not want to be considered in the draw, just click "submit" on this page to begin the survey.

Once the participants chose to enter or not enter the draw for the iPod, they proceeded to the next webpage where the survey began (see Appendices D through I). Although it was not explicitly indicated, participants were able to advance to the next set of questions if they chose not to answer all of the previous questions.

After completing all items, participants were presented with a debriefing form that provided information about the study. The contact information of the primary researchers was

given if the participating students had any questions or concerns about the study or if they were interested in the findings when the results were available.

Ethical Considerations

In agreement with the requirements of the University of Alberta and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, an ethics proposal was submitted to the University of Alberta Research Ethics Board for review. This proposal included information on the nature, length, and purpose of the study, data collection procedures, copies of invitation emails, consent and debrief forms, and procedures on how researchers provided anonymity and confidentiality for all participants.

Ethical concerns raised by this study were addressed. To ensure freedom to consent and anonymity of participants, we used an external survey hub that replaced participant names with participation numbers. The benefits of doing so were two-fold. First, participation (or non participation) could not be tracked back to students' names, making it impossible to know who did or did not participate. Second, replacing participant names with participant numbers made it impossible to trace responses back to students who did participate. Participation numbers were not linked to the telephone number provided by students who voluntarily and freely chose to enter their names into the iPod draw. Even when entering the draw, students were not asked to provide their names but only to provide telephone contact information for the sole purpose of being able to award the iPod to the randomly chosen winner of the draw.

Because the integrity and security of data was important, data were collected from participants using Fluid Surveys (fluidsurveys.com) – a survey platform based in Canada that offers high protection for online survey research. In line with the ethics guidelines of the

University of Alberta, data from the survey platform included no identifying information and was stored on a password-protected flash-drive.

CHAPTER IV: RESULTS

Preliminary Analyses

Data analyses were carried out using IBM Statistical Package for the Social Sciences (SPSS, version 23). A total of 80 students provided informed consent to participate in the survey. Three respondents did not continue beyond consenting to participate and therefore did not provide any data. Data analysis was completed on the remaining 77 participants (67 females, 10 males) who completed the survey items after providing consent to participate.

Prior to any analyses of the resulting data, negatively worded items were reverse scored so that high scores reflected favorable attitudes for all measures. Preliminary analyses were conducted to identity any outliers and to assess the normality of the data. All scores fell within the expected range and there were no outliers. Descriptive analyses provide response characteristics of the demographic variables (gender, age, educational institution, graduate level, and work experience in an interprofessional setting) and test variables (readiness to learn, auto stereotypes, and hetero stereotypes), as well as correlations between these variables. Further analyses included regression analysis and analysis of variance (ANOVA) to address the three objectives of this study.

The strength of the relationship between variables in the form of effect sizes was reported for the following analyses where applicable (see Cohen, 1988; Ellis, 2010). As a measure of effect size, Pearson correlation coefficients (*r*) were classified as small, medium, or large (*r* values of .10, .30, or .50, respectively). Small, medium, and large effect sizes were classified as follows for multiple regression (R-squared values of .02, .13, .26) and for ANOVA (partial eta squared values of .01, .06, .14). When justified by a statistically significant ANOVA result,

Bonferroni *post hoc* tests were conducted to determine where the statistically significant differences between means resided; effect sizes are not reported for Bonferroni tests.

Descriptive Analyses

Table 1 shows the demographic variables. Participants provided their age based on a set of categorical response options including 17–22, 23–26, 27–30, 31–35, 36–40, and 40+ years. The minimum age category selected was 17–22 years old (n = 1) and the maximum age range selected was 40+ years old (n = 12), with the highest percentage of students being 23–36 years old (n = 19). Thirty-six students (46.8%) were from the University of Lethbridge, 25 students (32.5%) were from Memorial University, and 16 students (20.8%) were from the University of Alberta. The sample consisted of 67 students (87%) enrolled in a Masters level graduate program and 10 students (13%) enrolled in a Doctoral level graduate program. No respondents were enrolled in a post-doctoral level graduate program. Fifty-five students (71.4%) reported having experience working in an interprofessional environment and 22 students (28.6%) reported not having experience working in an interprofessional environment.

Table 2 shows the characteristics of the test variables. The total scores on the RIPLS were calculated provided all three subscales were complete. The mean total score on the RIPLS was M = 82.97, and M = 40.51 on the *Teamwork and Collaboration* subscale, M = 30.41 on the *Professional Identity* subscale, and M = 11.99 on the *Roles and Responsibilities* subscale. The total scores on the SSRQ were calculated by summing the scores of all nine characteristics for each profession. Counselling psychology students assigned a mean total of M = 37.85 to counselling psychologists, M = 35.31 to medical doctors, M = 36.60 to nurses, M = 33.68 to social workers, and M = 35.70 to occupational therapists.

Table 1

Demographic Information

Demographic Information	*N*	Percent (%)
Gender	77	–
Female	67	87.0
Male	10	13.0
Age	76	–
17-22	1	1.3
23-26	19	24.7
27-30	14	18.2
31-35	18	23.4
36-40	12	15.6
40+	12	15.6
Educational institution	77	–
University of Lethbridge	36	46.8
Memorial University	25	32.5
University of Alberta	16	20.8
Graduate program	77	–
Masters	67	87.0
Doctoral	10	13.0
Interprofessional work experience	77	–
Yes	22	28.6
No	55	71.4

Table 2

Response Characteristics of the RIPLS and SSRQ

Variable	*N*	*M* (*SD*)
Readiness to learn	74	82.97 (7.57)
Teamwork and Collaboration subscale	76	40.51 (3.98)
Professional Identity subscale	75	30.41 (3.71)
Roles and Responsibilities subscale	77	11.99 (1.78)
Professional stereotypes		
Counselling Psychologists	75	37.85 (4.20)
Medical Doctors	74	35.31 (4.04)
Nurses	75	36.60 (4.36)
Social Workers	74	33.68 (5.35)
Occupational Therapists	73	35.70 (4.56)

Note. RIPLS = Readiness for Interprofessional Learning Scale, SSRQ = Student Stereotype Rating Questionnaire.

Correlational Analyses

Table 3 shows the correlations between the demographic variables (gender, age, level of training, and work experience in an interprofessional setting) and the test variables (readiness to learn, autostereotypes, and heterostereotypes).

Learner Characteristics

Gender did not correlate with any of the other variables. This may be partly due to the small sample of male participants (n = 10). Age had a moderate correlation with counselling psychology students' overall stereotype score assigned to social workers, $r(71) = .25$, $p = .035$. Older counselling psychology students held more desirable stereotypes of social workers than younger students. Level of training, combining students' graduate level (three-response options) and year of program (five-response options), was not associated with any of the other variables. Having worked in an interprofessional setting had a moderate correlation, $r(75) = –.24$, $p = .036$, with students' *Roles and Responsibilities* subscale scores. Students with more experience working in an interprofessional setting with other healthcare professionals reported a lesser understanding of the roles that belong to each profession.

Readiness to Learn

The RIPLS total scores correlated with all three subscale scores: *Teamwork and Collaboration*, $r(72) = .89$, $p < .001$; *Professional Identity*, $r(72) = .89$, $p < .001$; and *Roles and Responsibilities,* $r(72) = .42$, $p < .001$. A greater overall readiness to learn was associated with a positive attitude towards teamwork, a positive professional identity, and an understanding of roles of different members in a team. There was a correlation between *Teamwork and Collaboration* subscale scores and *Professional Identity* subscale scores, $r(72) = .66$, $p < .001$. There was no correlation between *Teamwork and Collaboration* subscale scores and *Roles and*

Responsibilities subscale scores, $r(74) = .13$, $p = .250$. There was no correlation between *Professional Identity* subscale scores and *Roles and Responsibilities* subscale scores, $r(73) = .20$, $p = .084$.

Table 3

Pearson Correlation Table of Demographic Information and Main Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
Demographic													
1. Gender	–	.07	–.18	–.10	.22	.22	.14	.17	.17	.07	.21	.16	.10
2. Age		–	–.05	–.01	.05	.05	.02	.02	.09	–.11	.02	.25*	.10
3. Level of education			–	–.09	.15	.09	.15	.07	.00	–.01	–.08	–.17	.00
4. Work experience				–	–.14	–.08	–.07	–.24*	–.03	.20	–.06	.00	–.08
Readiness													
5. Total					–	.89**	.89**	.42**	.16	.25*	–.03	.01	.23
6. Teamwork and Collaboration						–	.66**	.13	.20	.29*	.05	.11	.26*
7. Professional Identity							–	.20	.01	.21	–.13	–.14	.11
8. Roles and Responsibilities								–	.18	.01	.08	.09	.17
Stereotypes													
9. Counselling psychologists									–	.48**	.71**	.53**	.63**
10. Medical doctors										–	.60**	.42**	.64**
11. Nurses											–	.60**	.62**
12. Social workers												–	.42**
13. Occupational therapists													–

Note. *$p < .05$; **$p < .001$. Higher scores for each scale indicate a more extreme response in the direction of the construct assessed.

Number of participants for each correlation ranged from 74 to 77.

Stereotypes

Summing the responses to the characteristics assigned to each profession and dividing this number by nine calculated the total mean scores on the SSRQ assigned to each profession. A higher overall stereotype score indicated a more positive stereotype held towards the selected profession. Higher overall positive stereotype scores assigned to medical doctors correlated with counselling psychology students' RIPLS total scores and, $r(69) = .25$, $p = .035$. Higher positive stereotype scores of other professions did not correlate with counselling psychology students' RIPLS total scores. Higher overall positive stereotype scores assigned to medical doctors correlated with counselling psychology students' *Teamwork and Collaboration* subscale scores, $r(71) = .29$, $p = 0.014$. Similarly, higher overall positive stereotype scores assigned to social workers correlated with counselling psychology students' *Teamwork and Collaboration* subscale scores, $r(71) = .26$, $p = .024$. Overall positive stereotype scores of other professions did not correlate with counselling psychology students' *Teamwork and Collaboration* subscale scores. This means that a value in teamwork was especially important to counselling psychology students when working with medical doctors and social workers.

Overall stereotype scores assigned to each profession were strongly correlated with one another at $p < .001$. As shown in Table 3, counselling psychology students' stereotype scores of their own profession (autostereotypes) were positively correlated with stereotype scores that they assigned to other professions (heterostereotypes; i.e., medical doctors, nurses, social workers, and occupational therapists). Overall stereotype scores assigned to medical doctors were positively correlated with those assigned to nurses, social workers, and occupational therapists. Similarly, high overall stereotype scores assigned to nurses were positively associated with those

assigned to social workers and occupational therapists. Finally, overall stereotype scores assigned to social workers correlated with those assigned to occupational therapists.

Analyses of Study Objectives

Objective 1

The first objective of this study was to describe counselling psychology students' readiness for interprofessional education. As hypothesized, counselling psychology students demonstrated a readiness for interprofessional education – that is, out of a possible score of 95, their mean score on the RIPLS was 82.97 (*SD* = 7.57; see Table 2). This is higher than overall readiness scores reported by other student groups in previous studies. For example, Hind et al. (2003) studied undergraduate healthcare students (*N* = 933) who obtained an overall mean score of 76.41 (*SD* = 7.14). Of these students, those from medical (*n* = 77) and nursing (*n* = 321) programs had an overall readiness score of 73.78 (*SD* = 7.56) and 77.97 (*SD* = 6.50), respectively.

Counselling psychology students scored relatively higher on the RIPLS subscale scores compared to other healthcare students. Out of a possible subscale score of 45, their mean score on the *Teamwork and Collaboration* subscale was 40.51 (*SD* = 3.98). Out of a possible subscale score of 35, their mean score on the *Professional Identity* subscale was 30.41 (*SD* = 3.71). And out of a possible subscale score 15, their mean score on the *Roles and Responsibilities* subscale was 11.99 (*SD* = 1.78). Hind et al. (2003) found that students from medical (*n* = 77) programs obtained a mean score of 37.34 (*SD* = 3.69), 27.60 (*SD* = 3.66), and 8.84 (*SD* = 1.95) on the *Teamwork and Collaboration, Professional Identity*, and *Roles and Responsibilities* subscales, while nursing students (*n* = 321) obtained subscale scores of 38.64 (*SD* = 3.73), 29.31 (*SD* = 3.07), and 10.01 (*SD* = 1.78). Stull and Blue (2016) examined the readiness to learn among nine

groups of healthcare students (N = 846), who obtained a mean scores of 39.62 (SD = 4.07), 28.64 (SD = 3.99), and 9.17 (SD = 1.75) on the *Teamwork and Collaboration*, *Professional Identity*, and *Roles and Responsibilities* subscales.

A repeated measures analysis of variance (ANOVA) of the RIPLS subscale scores was conducted to identify differences between counselling psychology students' subscale scores using mean subscale scores adjusted for the number of items per subscale. There were statistically significant differences between the RIPLS subscale scores, $F(2, 146) = 24.76$, $p < .001$, $\eta^2_p = .362$. Bonferroni *post hoc* tests revealed that counselling psychology students scored higher on *Teamwork and Collaboration* scale (M = 40.51) than the *Professional Identity* scale (M = 30.41; mean difference = .15, $p = .007$) and the *Roles and Responsibilities* scale (M = 11.99; mean difference = .50, $p < .001$). Students scored higher on the *Professional Identity* scale than the *Roles and Responsibilities* scale (mean difference = .35, $p < .001$).

Multiple regression analysis was used to test if learner characteristics (age, gender, level of training, and work experience) predicted counselling psychology students' overall readiness to learn. The results of the regression indicated that these variables did not account for the variance in total RIPLS scores, $F(4, 68) = 1.71$, $p = .159$, $R^2 = .091$. The same method was used to test if learner characteristics (age, gender, level of training, and work experience) predicted counselling psychology students' scores on each of the RIPLS subscales (*Teamwork and Collaboration*, *Professional Identify*, and *Roles and Responsibilities*). Again, the results of the regression analyses indicated that these variables did not account for the variance in the RIPLS subscales: *Teamwork and Collaboration,* $F(4, 74) = 1.28$, $p = .285$, $R^2 = .068$, *Professional Identity,* $F(4, 73) = .90$, $p = .472$, $R^2 = .049$, and *Roles and Responsibilities* $F(4, 75) = 1.84$, $p = .131$, $R^2 = .094$.

Objective 2

The second objective of this study was to describe counselling psychology students' stereotypes of their own profession (autostereotypes) and of other healthcare professions (heterostereotypes). As hypothesized, counselling psychology students held positive stereotypes of their own profession (autostereotypes) and other healthcare professions (heterostereotypes). Also as predicted, however, was that counselling psychology students overall stereotype of their own profession (autostereotypes) was more positive than their overall stereotypes of other healthcare professions (heterostereotypes).

Overall stereotypes. A profile including the overall scores for each profession provides a rough estimate of students' general perceptions of their own profession and other professions. Table 4 shows the hierarchy of adjusted mean ratings on the *Student Stereotypes Rating Questionnaire* (SSRQ) for each professional group ($N = 69$). Counselling psychology students assigned higher ratings on the SSRQ to their own profession than to other professions.

Multiple regression analysis was used to test if learner characteristics predicted counselling psychology students' overall stereotypes of their own profession or other professions. Regression analysis was conducted on the overall stereotype score assigned to each profession with age, gender, level of training, and work experience as the independent variables. The effect of age on students' stereotypes of social workers, $F(4, 72) = 1.86$, $p = .128$, $R^2 = .098$ was the only learner characteristic that was a statistically significant predictor ($\beta = .23$, $p < .05$) of any overall stereotype score. Otherwise, learner characteristics did not predict students' stereotypes of their own profession (autostereotypes) or other professions (heterostereotypes) namely medical doctors, nurses, and occupational therapists.

Table 4

Hierarchy of Mean (SD) Ratings of Overall SSRQ Scores Assigned by Counselling Psychology Students to Different Health Professions.

Profession	*M* (*SD*)
Counselling psychologists	37.85 (*4.20*)[a]
Nurses	36.58 (*4.53*)[ac]
Occupational therapists	35.67 (*4.44*)[c]
Medical doctors	35.39 (*4.02*)[bc]
Social Workers	33.64 (*5.42*)[b]

Note. Number of participants who provided responses to calculate total SSRQ scores of each profession was 69; SSRQ = Student Stereotype Rating Scale.

Means sharing the same superscript are not different from each other (Bonferroni, $p < .05$).

A repeated measure analysis of variance (ANOVA) of the overall stereotype scores assigned to each profession was conducted to identify any significant differences between counselling psychology students' stereotype scores assigned to each profession. There was a difference between overall stereotype scores of professions, $F(4, 272) = 16.50$, $p < .001$, $\eta^2_p = .195$. Bonferroni *post-hoc* tests compared the overall stereotype scores revealing several significant differences. Compared to the overall stereotypes of their own profession (autostereotypes), counselling psychology students' assigned lower overall stereotype scores to medical doctors (mean difference = 2.25, $p < .001$), social workers (mean difference = 4.00, $p < .001$), and occupational therapists (mean difference = 1.97, $p = .001$) but not to nurses (mean difference = 1.06, $p = .095$). This means that counselling psychology students' rated counselling psychologists and nurses more positively than medical doctors, social workers, and occupational therapists. Nurses were assigned a higher overall stereotype score compared to social workers (mean difference = 2.94, $p < .001$).

Stereotype characteristics. Further analyses were conducted to provide a closer look at how counselling psychology students perceive their own profession (autosteoreotypes) and other professions (heterostereotypes). Repeated measures analysis of variance (ANOVA) was used to compare the mean scores on each characteristic in the SSRQ. Where justified a Bonferroni *post hoc* test was conducted to determine the differences in scores assigned to each profession (see Table 5).

Academic ability. Repeated measures ANOVA was performed on the mean scores of academic ability to identity statistically significant differences between each profession as assigned by counselling psychology students, $F(4, 288) = 32.37$, $p < .001$, $\eta^2_p = .310$. Bonferroni

post-hoc tests revealed differences between mean scores on academic ability assigned to each profession.

Autostereotypes. Counselling psychology students assigned higher scores on the academic ability characteristic to counselling psychologists than to nurses (mean difference = 0.29, $p = .033$), social workers (mean difference = 0.74, $p < .001$), and occupational therapists (mean difference = 0.34, $p = .001$). No difference was found among the perceived academic ability of counselling psychologists compared to medical doctors (mean difference = –0.21, $p = .150$).

Heterostereotypes. Medical doctors were assigned higher scores on the academic ability characteristic compared to nurses (mean difference = 0.49, $p < .001$), social workers (mean difference = 0.95, $p = .001$), and occupational therapists (mean difference = 0.55, $p < .001$). Nurses were assigned higher scores on academic ability compared to social workers (mean difference = 0.45, $p < .001$) but not compared to occupational therapists (mean difference = 0.06, $p = 1.000$). Social workers were assigned a lower mean score on the academic ability characteristic than occupational therapists (mean difference = –0.40, $p < .001$).

Professional competence. Repeated measures ANOVA was performed to identity statistically significant differences between the mean scores assigned to each profession by counselling psychology students, $F(4, 292) = 14.65$, $p < .001$, $\eta^2_p = .167$. Bonferroni *post-hoc* tests revealed differences between mean scores on professional competence assigned to each profession.

Autostereotype. Students assigned higher scores on the professional competence characteristic to counselling psychologists compared to social workers (mean difference = –0.40, $p < .001$) and occupational therapists (mean difference = 0.20, $p = .05$). No differences were

found between students' perceived professional competency of counselling psychologists compared to medical doctors (mean difference = 0.10, $p = 1.000$) or nurses (mean difference = –0.05, $p = 1.000$).

Table 5

Mean (SD) Ratings of Selected Characteristics Assigned by Counselling Psychology Students to Different Health Professions.

Stereotype characteristic	Counselling psychologists	Medical doctors	Nurses	Social workers	Occupational therapists
Academic ability	4.37 (.56)[a]	4.59 (.57)[a]	4.11 (.70)[b]	3.63 (.85)	4.03 (.62)[b]
Professional competence	4.28 (.62)[a]	4.18 (.58)[ab]	4.32 (.62)[a]	3.76 (.77)	4.07 (.60)[b]
Interpersonal skills	4.70 (.52)	3.01 (.83)	4.07 (.79)[a]	3.87 (.95)[a]	3.91 (.78)[a]
Leadership abilities	3.86 (.78)[a]	3.54 (.81)[a]	3.58 (.80)[a]	3.56 (.90)[a]	3.62 (.74)[a]
Work independently	4.41 (.64)	3.93 (.99)[a]	3.84 (.83)[a]	3.77 (.86)[a]	4.00 (.70)[a]
Team player	3.89 (.70)[a]	3.17 (.96)	4.26 (.74)	3.84 (.92)[a]	3.91 (.71)[a]
Decision making	4.11 (.71)[ab]	4.26 (.64)[a]	3.92 (.77)[bc]	3.72 (.80)[c]	3.93 (.60)[bc]
Practical skills	4.22 (.67)[a]	4.11 (.70)[ab]	4.47 (.58)[c]	3.83 (.80)[bc]	4.20 (.64)[abc]
Confidence	4.03 (.83)[ab]	4.50 (.68)	4.07 (.68)[a]	3.84 (.74)[b]	4.01 (.66)[ab]

Note. Number of subjects range from 72 to 74.

Means sharing the same superscript, per stereotype characteristic, are not different from each other (Bonferroni, $p < .05$)

Heterostereotypes. Medical doctors were assigned higher professional competency scores compared to social workers (mean difference = 0.41, $p < .001$) but not compared to nurses (mean difference = –0.15, $p = .550$) or occupational therapists (mean difference = –0.11, $p = 1.000$). Nurses were assigned higher professional competency scores than social workers (mean difference = 0.55, $p < .001$) and occupational therapists (mean difference = 0.26, $p = .010$). Social workers were assigned lower competency scores compared to all professions, including occupational therapists (mean difference = –0.30, $p = .009$).

Interpersonal skills. Repeated ANOVA was performed on the mean scores on the interpersonal skills characteristic to identity statistically significant differences between each profession, $F(4, 292) = 51.71$, $p < .001$, $\eta^2_p = .415$. The magnitude of the effect size was large where Bonferroni *post-hoc* tests revealed differences between the mean scores assigned to each profession.

Autostereotypes. Counselling psychologists were assigned a higher score on the interpersonal skills characteristic compared to all other professions: medical doctors, nurses, social workers, and occupational therapists (mean differences = 1.68, 0.62, 0.81, and 0.78, $p < .001$).

Heterostereotypes. Medical doctors were considered to have fewer interpersonal skills than nurses, social workers, and occupational therapists (mean differences = –1.05, –0.89, and –0.87, $p < .001$). There were no differences between the perceived interpersonal skills of nurses and social workers (mean differences = 0.19, $p = 1.00$) or occupational therapists (mean differences = 0.16, $p = 1.00$), or between social workers and occupational therapists (mean differences = –0.03, $p = 1.00$).

Leadership. Repeated measures ANOVA revealed differences between the mean scores on the leadership characteristic that were assigned to each profession by counselling psychology students, $F(4, 292) = 2.74$, $p = .029$, $\eta^2_p = .036$. Although the p-value reached significance in the repeated measures ANOVA, the difference was likely on the cusp of being statistically significant only since follow up Bonferroni *post hoc* tests revealed no statistically significant differences.

Ability to work independently. Repeated measures ANOVA was performed on the mean scores on the ability to work independently characteristic to identity statistically significant differences between each profession, as assigned by counselling psychology students, $F(4, 292) = 9.91$, $p < .001$, $\eta^2_p = .120$. Bonferroni *post-hoc* tests revealed differences only existed between scores assigned to counselling psychologists compared to other professions, and not between the other professions.

Autostereotypes. Counselling psychologists were perceived as being more able to work independently compared to all other professions: medical doctors, nurses, social workers, and occupational therapists (mean differences = 0.47, 0.57, and 0.64, and 0.41, $p = .001$).

Ability to be a team player. Repeated measures ANOVA was performed on the mean scores on the ability to be a team player characteristic to identity differences between each profession, as assigned by counselling psychology students, $F(4, 288) = 25.93$, $p < .001$, $\eta^2_p = .265$. Bonferroni *post-hoc* tests revealed differences between the mean scores assigned to each profession.

Autostereotypes. Counselling psychologists were scored higher than medical doctors (mean difference = 0.74, $p < .001$) but lower than nurses (mean differences = –0.41, $p = .002$) on the ability to be a team player. No differences between the scores assigned to counselling

psychologists compared to social workers (mean differences = 0.03, $p = 1.000$) or occupational therapists (mean difference = –0.01, $p = 1.000$) were found.

Heterostereotypes. Medical doctors were scored lower than all other professions: nurses, social workers, and occupational therapists (mean differences = –1.15, –0.71, –0.75, $p < .001$) on their ability to be a team player. Nurses were assigned higher scores compared to social workers (mean difference = 0.44, $p = 0.005$) and occupational therapists (mean difference = 0.40, $p = 0.002$). There was no difference between social workers compared to occupational therapists (mean difference = –0.41, $p = 1.000$).

Ability to make decisions. Repeated measures ANOVA was performed to identify statistically significant differences between counselling psychology students' perception of each profession's ability to make decisions, $F(4, 284) = 9.88$, $p < .001$, $\eta^2_p = .122$. Bonferroni *post-hoc* tests revealed differences between the mean scores assigned to each profession.

Autostereotypes. Counselling psychologists were scored higher on the ability to make decisions compared to social workers (mean difference = 0.39, $p = 0.002$) but not compared to the other professions: medical doctors, nurses, and occupational therapists (mean differences = –0.21, 0.15, and 0.15, $p > 0.400$).

Heterostereotypes. Medical doctors were scored higher on the ability to make decisions compared to nurses (mean differences = 0.36, $p = 0.005$), social workers (mean difference = 0.60, $p < 0.001$), and occupational therapists (mean difference = 0.36, $p < 0.001$). There were no statistically significant differences between mean scores assigned to nurses and social workers (mean differences = 0.24, $p = .458$) or occupational therapists (mean differences = 0.00, $p = 1.00$), or between mean scores assigned to social workers and occupational therapists (mean differences = –0.24, $p = .258$).

Practical skills. Repeated measures ANOVA was performed to identify statistically significant differences between counselling psychology students' perception of each professions practical skills, $F(4, 292) = 12.90$, $p < .001$, $\eta^2_p = .150$. Bonferroni *post-hoc* tests revealed differences between the mean scores assigned to each profession.

Autostereotypes. Counselling psychologists were perceived to have weaker practical skills compared to nurses (mean difference = –0.27, $p = .016$), but stronger practical skills than social workers (mean difference = 0.01, $p = 1.00$). There were no differences between the mean scores assigned to counselling psychologists and medical doctors (mean difference = 0.11, $p = 1.000$), or occupational therapists (mean difference = 0.01, $p = 1.000$).

Heterostereotypes. Medical doctors were assigned lower scores on the practical skills characteristic compared to nurses (mean difference = –0.38, $p < .001$). There were no differences between scores assigned to medical doctors and social workers (mean difference = 0.27, $p = 0.158$) or occupational therapists (mean difference = –0.10, $p = 1.000$). Nurses were assigned higher practical skills compared to social workers (mean difference = 0.65, $p < .001$), and occupational therapists (mean difference = 0.28, $p = .001$). Social workers were assigned lower scores compared occupational therapists (mean difference = –0.37, $p = .004$).

Confidence. Repeated measures ANOVA was performed to identify statistically significant differences between counselling psychology students' level of confidence scores assigned to each profession, $F(4, 288) = 14.47$, $p < .001$, $\eta^2_p = .167$. Bonferroni *post-hoc* tests identified these differences.

Autostereotypes. Counselling psychologists were perceived as being less confident than medical doctors (mean difference = –0.48, $p = 1.000$). No statistically significant differences were found between confidence scores assigned to counselling psychologists and nurses (mean

difference = –0.01, $p = 1.000$), social workers (mean difference = 0.21, $p = .624$), or occupational therapists (mean difference = 0.01, $p = 1.000$).

Heterostereotypes. Medical doctors were perceived to have more confidence compared to all other professions: nurses, social workers, and occupational therapists (mean differences = 0.44, 0.69, and 0.49, $p < .001$). Nurses were perceived as being more confident than social workers (mean difference = 0.25, $p = .011$), but not occupational therapists (mean difference = 0.06, $p = 1.000$). There was no difference between confidence ratings assigned to social workers and occupational therapists (mean difference = –0.19, $p = .258$).

Objective 3

The third objective of this study was to develop a model of the relationship between counselling psychology students' readiness for IPE, stereotypes of their own profession (autostereotypes), and stereotypes of other healthcare professions (heterostereotypes). Stereotype scores of medical doctors, nurses, social workers, and occupational therapists were combined and divided by four to obtain a mean heterostereotype score ($N = 35.25$, $SD = 3.76$).

In Figure 2, as expected, the results showed a positive correlation between counselling psychology students' stereotypes of their own profession (autostereotypes) and other healthcare professions (heterotstereotypes; $r(68) = .72$, $p < .001$). Subgroup analysis was consistent in showing counselling psychology students' stereotypes of their own profession (autostereotypes) to be correlated with stereotypes of each other healthcare professions (heterotstereotypes): medical doctors, $r(71) = .48$, $p < .001$, nurses, $r(72) = .71$, $p < .001$, social workers, $r(71) = .53$, $p < .001$, and occupation therapists, $r(70) = .63$, $p < .001$. These findings show that students who held more positive stereotypes of their own profession (autostereotypes) also held more positive stereotypes of other professions (heterostereotypes). What was unexpected was the weak

relationship between counselling psychology students' stereotypes of their own profession (autostereotypes) and their readiness to learn, $r(70) = .16$, $p = .193$. Similarly, the weak correlation between counselling psychology students' stereotypes of other healthcare professions (heterostereotypes) and their readiness to learn was also unexpected, $r(66) = .09$, $p = .478$.

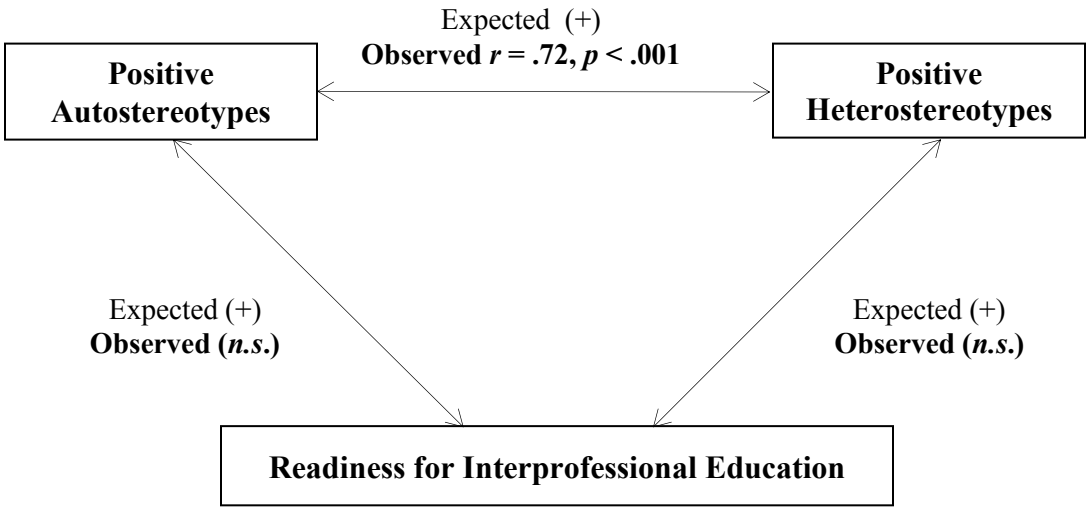

Figure 2. A Model of the Relationship between counselling psychology students' readiness for IPE, positive stereotypes of their own profession (autostereotypes), and positive stereotypes of other healthcare professions (heterostereotypes).

CHAPTER V: DISCUSSION

Chapter V summarizes the present study, discussion of the findings, limitations, future implications and recommendations. Core concepts of readiness and stereotyping covered in Chapter II will be referenced to further explain the findings. Finally, a statement is offered to capture the aim and scope of the information that has been acquired from this research.

Summary of Study

The purpose of the present study was to examine counselling psychology students' attitudes towards interprofessional education (IPE). These attitudes include their readiness to learn about IPE and their stereotypes of their own profession and other professions. Students (*N* = 77) enrolled in counselling psychology graduate programs at three Canadian universities completed an online survey by providing demographic information (i.e., learner characteristics) of gender, age, graduate level, and past experience working in an interprofessional setting. Respondents also completed the Readiness for Interprofessional Learning Scale (RIPLS) and the Student Stereotype Rating Questionnaire (SSRQ).

Discussion of the Findings

Previous research on attitudes toward IPE among specific healthcare student groups has supported, and has led to, their inclusion in IPE programs. The goal of the current study was to contribute to the limited data on counselling psychology students' attitudes towards IPE. This section discusses the implications of the findings for each of the three study objectives.

Objective 1

The first objective was to describe counselling psychology students' readiness for IPE. Students' readiness to learn was described in relation to relevant learner characteristics based on the literature (i.e. age, gender, academic institution, level of education, and past experience

working in interprofessional healthcare settings). Counselling psychology students' readiness to learn was also described in terms of their overall and subscale scores on the RIPLS, which were compared the results to those reported by other healthcare students.

Learner characteristics. Results from our study did not show an association between the learner characteristics and counselling psychology students' readiness to learn. In previous studies, female students have demonstrated a greater readiness to learn and were generally more positive towards teamwork in a healthcare setting compared to their male counterparts (Curran et al., 2008; Pollard et al., 2005). Other studies also found that having past experience working in an interdisciplinary healthcare setting predicted students' readiness to learn and better learner outcomes (Coster et al., 2008; Hind et al., 2003; Hood et al., 2014). Medves and colleagues (2013) found that students who were introduced to IPE early on in their training were more successful in IPE than their peers who were introduced to IPE later on in their training.

There are several possible reasons for the lack of significant correlation between counselling psychology students' readiness to learn and their learner characteristics. First, the current study had a limited sample size. Additionally, there were six times as many female participants than versus male participants. As such, gender differences may not be detectable in this study. Second, level of training may not have had a significant association with students' readiness to learn because there were six times as many masters level compared to doctoral level students. Similar to the situation with gender in the sample, the effect of graduate level may also have been superseded by the volume of master's-level participants. Third, past experience working in an interprofessional setting may not have had a significant association with readiness scores because this type of experience is not common to many graduate level counselling psychology programs. Even though a large number of participants in the current study reported

having such experience, it was likely limited and not a true depiction of what "past experience" looks like for other students from other programs. Another possibility is that according to the contact hypothesis, students' past experience working in an interprofessional setting did not meet the conditions necessary for significant attitude change.

Readiness to learn. Counselling psychology students demonstrated a readiness to learn and participate in IPE. There is no threshold cut-off point on readiness scores for the RIPLS that indicate readiness for a group of students to participate in IPE, therefore a relative sense of readiness was approximated from studies using similar populations that reported readiness scores and who have also benefitted from IPE. Counselling psychology students' overall readiness scores were comparable to, if not higher than, readiness scores reported by students in medicine and nursing (Hind et al., 2003; Keshtkaran, Sharif, & Rambod, 2014). Comparisons were made at the subscale level and similar results were found. In a study by Stull and Blue (2016), students from 10 healthcare programs (occupational therapy, clinical laboratory science, dentistry, dental hygiene, dental therapy, medicine, nursing, pharmacy, public health, and veterinary medicine) reported RIPLS subscale scores that were comparable to scores on the RIPLS subscales found in the present study.

Counselling psychology students' scores on the RIPLS subscales offers particular insight into their readiness for, and likelihood of success in, IPE. Their mean score on the *Professional Identity* subscale suggests a strong *positive* and *distinct* identification with their profession. A strong positive professional identity facilitates group differentiation between students in different professions and bodes well for future intergroup interactions, according to Taijfel and Turner's Social Identity Theory. Participants' scores on the *Teamwork and Collaboration* subscale suggests that teamwork and communication among healthcare professions is highly valued by

counselling psychology students. Higher scores on this subscale among other health professional students indicate their belief that effective communication is an important part of teamwork and patient care (Giordano, Umland, & Lyons, 2012; Ponzer et al., 2004). Compared to other studies where students expressed a poor understanding of their roles and responsibilities (Giordano et al., 2012), counselling psychology students demonstrated a generally good understanding of the roles of other healthcare professions.

These findings provide evidence to support counselling psychology students' involvement in IPE because their value in teamwork and communication, that were assessed by the RIPLS, are comparable to the ratings of students from other health professions, and align with the core competencies set out in IPE (Freeth & Reeves, 2004).

Objective 2

The second objective was to describe counselling psychology students' stereotypes of their own profession (autostereotypes) and other healthcare professions (heterostereotypes). First, we examined whether learner characteristics like gender, age, level of training, and previous work experience in an interprofessional setting factored into counselling psychology students' stereotypes of their own profession and other professions. Unlike studies that found that the level of training moderated healthcare students' stereotypes, our examination of counselling psychology students' stereotypes revealed no such relationship. Instead, results were consistent with findings by Ateah et al. (2011), which showed no significant impact of gender, age, or level of training on students' stereotypes.

Overall stereotypes. Students' overall stereotype scores assigned to each profession were assessed and used as a measure of students' general perceptions of other healthcare professions. Like the readiness scores, there is no threshold cut-off for stereotype scores for the

SSRQ that indicate whether students overall stereotype score were distinctly ‘positive’ or negative’. In lieu, comparing their stereotype scores to those reported by students from other disciplines approximated a relative sense of counselling psychology students’ stereotypes. Their overall stereotype scores of their own profession (autostereotypes) were higher than the overall stereotype scores that they assigned to other professions. Assigning a more desirable or positive stereotype (i.e., higher SSRQ score) of one’s own profession compared to stereotypes assigned to other professions is a consistent finding among students in a variety of different professions (Cook & Stoecker, 2014). Hind and colleagues (2003) posit that students rate their own profession as more favorable because they have a greater knowledge of their own profession, thereby fostering a stronger identification it.

Counselling psychology students assigned the second highest overall score to nurses, the third highest score to occupational therapists, the fourth highest score to medical doctors, and the lowest score to social workers. The order in which student groups assign overall stereotype scores varies in other studies. For instance, healthcare students in Foster and Clark Macleod’s (2014) study assigned a higher (i.e., a more positive) overall stereotype score to medical doctors, average scores to occupational therapists and nurses, and lower (i.e., less positive) overall stereotype scores to social workers. The impact of 'who evaluates whom' for this hierarchy of overall stereotype scores has not been adequately explored.

Stereotype characteristics. Counselling psychology students’ rated their own profession and other professions on nine characteristics that made up the overall scores of the SSRQ. Similar to the findings of Foster and Clark Macleod’s (2014) study that included ten different health and social care students, social workers received lower scores in almost all nine characteristics. Counselling psychology students’ character-specific stereotypes of other

professions were consistent with those reported by other healthcare students as outlined in Cook and Stoecker's (2014) systematic review of student stereotypes. For example, medical doctors were often perceived as having high levels of confidence, academic ability, and strong leadership and decision-making skills, but were also perceived as being poor team players and deficient in interpersonal skills. Nurses were most commonly perceived as being good team players but less able to work independently. Hean, Clark, Adams, and Humphris (2006a) also examined students' stereotypes of ten different professions. Doctors and pharmacists were perceived as being highly competent, more confident, academically inclined, and decisive but poor team players. Nurses, social workers, and occupational therapists were perceived as having strong interpersonal and communication skills, and the ability to be a team player but less academically-inclined. Ateah et al. (2011) examined students' stereotypes of seven different professions. They found similar differences between scores on stereotype characteristics assigned to medical doctors, nurses, and occupational therapists. Social workers were not included.

In general, the findings show that counselling psychology students' stereotypes of certain professions, most notably social workers, are less desirable. Cook and Stoecker's (2014) systematic review of healthcare student stereotypes suggested that healthcare providers with different backgrounds (i.e., either physical or social sciences) were generally perceived differently from one another (e.g., Hean et al., 2006a; Lindqvist, Duncan, Shepstone, Watts, & Pearce, 2005). That is, nurses and doctors are often traditionally assumed to come from a physical science background, whereas social workers and psychologists are often traditionally assumed to come from a social science background. The results from the current study, where counselling psychology students assigned some of the lowest ratings of stereotypes to social workers, contradicts the expected results suggested in the previous literature. Of the overall and

character-specific stereotypes reported in this study, perhaps the most interesting are counselling psychology students' scores assigned to social workers.

Authors propose various hypotheses for explaining negative perceptions between similar healthcare disciplines. On the one hand, counselling psychology students may be unaware or uninformed about the role of social workers in healthcare teams and therefore rate them poorly. This hypothesis would coincide with the theoretical underpinning of the contact hypothesis and social identity theory whereby students are more likely to rate their own profession more favorably simply because they know more about their own profession. On the other hand, students' low SSRQ scores of social workers may reflect fear about having overlapping professional roles, which is perceived as a threat to job security (Baker, Egan-Lee, Martimianakis, & Reeves, 2011; Solimeo, Ono, Lampman, Paez, & Stewart, 2015).

The possibility that counselling psychology students feared having overlapping roles with social workers could mean that counselling psychology students perceive mental health counselling to be a large part of what social workers do. Having discrepant views on the development, maintenance, and treatment of mental health issues may also be a source of conflict between psychologists and social workers. In their chapter on the impact of stigma on mental health and training mental health workers, Rogers and Pilgrim (1996) acknowledged that most professionals differ in their perspective on mental illness and that training courses take place in isolation from each other. This contributes to competition between different mental health professionals. Professions have traditionally achieved power and status by claiming areas of specialized knowledge and ability. It is often professionals' ignorance, misunderstanding, and competition with one another that lead to failure to work together and isolation from one another. Barnes and colleagues (2000) have shown how the ramifications of such segregation can be

linked to negative stereotypes and attitudes among social workers and other healthcare professionals, particularly psychiatrists and nurses working in a mental health setting.

Counselling psychology students' scored relatively high on the *Professional Identity* and *Roles and Responsibilities* subscales, which are supposed to reflect a clear understanding of their professional roles and the roles of others. However, the possibility that they fear having overlapping roles with social workers, suggests otherwise by the low stereotype scores they assigned to social workers. This discrepancy between the messages gleaned from the *RIPLS* compared to the *SSRQ* may be due to the fact that the items in *RIPLS* did not specifically compare social workers to other professions whereas a subset of the *SSRQ* items focused only on social workers, shedding a more accurate light on counselling psychology students' opinion of social workers. The implication here is to emphasize role differentiation, particularly in relation to social work, in IPE training with counselling psychology students. Under ideal conditions, the contact hypothesis would predict that shared learning experiences of IPE would foster positive attitudes. Having such opportunities could help students from counselling psychology and social work programs learn more about each other's roles, alter the relative status of each other, maximize differences, promote intergroup differentiation, and increasing collaborative efforts.

According to the social identity theory, good intergroup relations are promoted by alignment between how a group sees themselves and how others see them (Hean et al., 2006b; Taijfel et al., 1971; Taijfel & Turner, 1986). This is known as mutual intergroup differentiation. For this reason, Barnes and colleagues (2000) emphasize that IPE programs should not only encourage interaction and differentiation, but also establish each group's valued identity on specific characteristics and mutual recognition of strengths and weaknesses between groups. In principle, this would optimize mutual intergroup differentiation and role security would be

solidified. Evidence supporting the potential of mutual intergroup identification exists. Hewstone and colleagues (1994) found that social work students saw themselves, and were seen by student doctors, as superior on life experience. Doctors saw themselves and were seen by social workers as superior on academic qualities. Both groups recognized these shared distinctions leading to mutual intergroup differentiation.

For the sake of working towards mutual intergroup differentiation, an assessment of social work students' stereotypes of counselling psychology students and comparison with the stereotypes counselling psychology students' have of themselves could be beneficial. If social work students' stereotypes of counselling psychologists match the stereotypes that counselling psychology students hold about themselves, then intergroup differentiation is achieved. This same notion also applies to comparing counselling psychology stereotypes of social workers to the stereotypes that social work students have of their own profession.

Objective 3

Few studies in IPE research have explicitly examined the association between students' readiness to learn, autostereotypes, and heterostereotypes (e.g., Hind, et al., 2003). The third objective of this study was to examine the relationship between counselling psychology students' readiness to learn, autostereotypes, and heterostereotypes. It was hypothesized that a positive relationship existed between counselling psychology students' readiness to learn, positive stereotypes of their own profession (autostereotypes), and positive stereotypes of other healthcare professions (heterostereotypes). The results showed a positive correlation between counselling psychology students' autostereotypes and heterostereotypes but not with their readiness to learn. This does not imply that counselling psychology students are not ready for IPE. Instead, this suggests that stereotypes and readiness for IPE may be two distinct concepts

for counseling psychology students. The lack of association may be the result of our small sample size and instrumentation. For instance, work by Hind and colleagues (2003) explicitly assessed the relationship between student readiness and stereotypes of 933 healthcare students and found a positive association between students' positive stereotypes and readiness to learn. Despite their investigation, however, they figure that "it is theoretically unclear what relationship might be expected between the auto and hetero stereotyping ratings and the students readiness for interprofessional learning" (Hind et al., 2003, p. 25). The implication from these findings is that, although stereotypes are theorized to facilitate or inhibit students' success in IPE, stereotypes should not be used as predictors in counselling psychology students' readiness to learn.

Another explanation for the null findings could be that that the inter-relationships between learning characteristics, perceived stereotypes, and readiness vary across different profession groups. These differences could be the result of students' training within different theoretical models (i.e., not the medical model), the amount of interprofessional learning and working experience, or the proportion of male and female students. Past IPE experience has been a useful component in predicting other students' readiness to learn and stereotypes, however, results from the present study suggest that there may be other components to consider when associating readiness to learn and stereotypes of different student groups.

Limitations

There are limitations to the study that must be considered when interpreting the results and conducting future research. First and foremost are the limitations that are inherent to the research design and instrumentation in IPE research.

Research Design

A general lack of quality research methods and the constraints imposed by survey design methodology is also a limitation for IPE research and the current study (Barr, Freeth, Hammick, Koppel, & Reeves, 2006; Hammick et al., 2007; Ireland, Gibb, & West, 2008; Lapkin et al., 2011; Reeves et al., 2009; Reeves et al., 2010; Remington, Foulk, & Williams, 2006; Zwarenstein et al., 1999, 2000). Reeves et al. (2010) suggests that more robust evidence and greater clarity on the effectiveness of IPE can be obtained with rigorous mixed method studies. This goal can be achieved through pre-post intervention studies. Such rigor in the research design allows researchers to draw a stronger connection between the underpinning theories of IPE, such as the Contact Hypothesis, the Social Identity Theory, and the Adult Learning Theory, that support the change in attitudes and stereotypes in the IPE realm.

Instrumentation

Instrumentation is a common limitation in IPE research. Although we sought to choose the most appropriate assessment measures that were validated by students who were similar to those who participated in our study, no measure is perfect. For example, when developing the RIPLS, Parsell and Bligh (1999) did not indicate a threshold score ascertaining students' readiness in learning IPE. Instead, researcher interpretation requires relative comparison of the measurement to scores of other groups. The same applies to the SSRQ. Moreover, some might argue that since the IPE instruments often measure attitudes rather than behavior, it is not in itself a measure of behavioural readiness for interprofessional practice (Horsburgh et al., 2001). There have been some projects indicating that IPE does positively influence behaviour in a professional setting (Freeth & Chaput de Saintonge, 2000; Reeves & Freeth, 2002; Turner et al., 2000). The general consensus is that stronger psychometric measures of student readiness and

stereotypes need to be developed for more accurate assessment of these constructs (Buring et al., 2009; Reeves, et al., 2010; Schmitz & Brandt, 2015). Zwarenstein and colleagues (2000) note however, that the absence of psychometrically strong measures to enable rigorous results on the assessment of factors contributing to IPE does not necessarily mean that these factors and effects do not exist.

Sampling

Another limitation of the current study relates to the representativeness of the sample and the response rate.

Generalizability. We chose and had the goal of focusing on counselling psychology students. However, it is also important to note that the findings may not be applicable or accurately reflect the attitudes towards IPE held by students in other mental health education programs outside of counselling psychology. For instance, other mental healthcare programs may differ in gender ratios, age, or length of the program (diploma versus doctorate). Moreover, Murdoch and colleagues (2015) distinguished psychologists from other healthcare providers in the mental health field on several accounts. Psychology graduate students from accredited training programs obtain a greater breadth of literary knowledge, practice, and assessment. They learn to be scientist-practitioners and receive training in the biopsychosocial foundations of human functioning. As such, psychologists have a unique combination of skills and knowledge applicable to various conceptualizations of health, which may indeed, classify them as a 'hybrid' discipline that is 'crossed' between biological and social sciences.

Response rate. The low response rate must be considered when evaluating the study findings. Approximately 300 students were contacted via email to participate in the study, of which only 80 students replied and of them, 77 provided valid and useable data. It is possible

that self-selection bias was present; students with strong views on interprofessional learning were more likely to complete the questionnaire, and likewise, students without strong views on, or limited awareness of, interprofessional learning were less likely to participate. However, other factors could be involved, such as particular workload demands on students or the fact that IPE or research participation is not an assessed part of the curriculum. Regardless, lack of representativeness of a sample can often bias the results of a quantitative study such as this one.

Future Implications and Recommendations

Future implications and recommendations for research, education, and practice, as it relates to counselling psychology education programs, can be extrapolated from the results of this study.

Research

Despite the enthusiasm that the results of the current study may create for the potential involvement of counselling psychology students in IPE, there is still much more research to be carried out to support an integrated and successful IPE implementation. In future research with this population, one recommendation would be to increase the sample size to gain a more representative data set.

A broader concern, however, is the growing pains that accompany the search for appropriate methods to assess healthcare students' attitudes and perceptions and in evaluating the effectiveness of IPE. A recent systematic review of IPE research in allied health found that few studies were theory driven, provided adequate participant descriptions, and often utilized an inductive approach to understanding the processes behind IPE (Olson & Bialocerkowski, 2014). Subsequently, the authors concluded that IPE research is facing an epistemological struggle.

The lack of theoretical clarity and reliable data curtails enquiry into alternative research methods and study designs. Employing qualitative methodologies could potentially be a fruitful avenue for IPE research. Though the literature is sparse, there are some studies in IPE that used an entirely qualitative approach to understand healthcare professional perceptions of teamwork. For example, Peck and Norman (1999) facilitated group meetings with mental health providers working in multiprofessional teams. Specific issues related to teamwork were used to elicit discussion and develop a dialogue to help explain why the team members experienced problems in establishing and sustaining a collaborative approach. The study summarized the self-perceptions and stories of psychiatrists, nurses, social workers, occupational therapists, clinical psychologists, house workers, and community support workers. The authors also documented messages that each profession wanted to convey to the other professions. Overall, occupational therapists, social workers, and psychiatrists valued the work of clinical psychologists and expressed interest in having a stronger working relationship with them. Nurses, however, seemed to express a less favorable message to clinical psychologists and suggested that the need for psychologists to clarify their core responsibilities. Psychologists messages to nurses, psychiatrists, and occupational therapists were positive and relayed interest in working more closely with them. For unexplained reasons, psychologists in Peck and Normans' study did not generate a message to social workers. The quantitative results from the current study may hint at the possible message that psychologists would have provided to social workers.

Another alternative research methodology to understanding the complexities underlying IPE research is to employ a mixed methods approach. Mixed methods research uses both quantitative and qualitative methods as well as the integration of a single study or series of studies (Creswell, 2003). One advantage of this blended approach to data collection with IPE

research may be that it provides additional tools to assess the effectiveness of IPE and offers a good compromise to the inconclusive results in the literature. Another advantage to a mixed methods approach may be to increase the diversity in methodological approaches, opening the door to new study designs and perspectives that may not be detected by quantitative methods alone. Mixed methods research has been adopted in the field of counselling psychology (Hanson et al., 2005), which can apply to IPE research, and in turn, increase counselling psychology's involvement in this research. It should be noted that although the diversity of methodological approaches in mixed methods research is beneficial, it comes with its challenges. Similar to the pitfall in IPE where there is no 'one way' to conduct and report research, there has been a lack of coherence and presentation of data reported in mixed methods practices in qualitative research (Archibald, Radil, Zhang, & Hanson, 2015). To help curb this challenge, Archibald et al. (2015) provides a review of the literature, practical issues, and recommendations for best practices.

Faculty attitudes. The attitudes towards IPE held by faculty, facilitators, and administrative staff inevitably impact students' attitudes towards IPE. Kreamer and Kahanov (2014) reviewed the literature and suggested that the creation and implementation of successful IPE programs require positive attitudes towards IPE and the support and commitment of faculty and administrators. To a heavy extent, students' success in IPE is dependent on the role models who guide them through it (Adams et al., 2006). This means that the attitudes and perceptions held by faculty, facilitators, and administrative staff must also be examined prior to entering IPE.

Intervention studies. If or when they begin participating in IPE programs, pre- and post-intervention studies may be used to measure the effectiveness of IPE among counselling psychology students. In this case, Abu-Rish and colleagues (2012) strongly encourage researchers to use structured reporting guidelines to increase comparability and replication of

future IPE interventions. As such, Abu-Rish and colleagues (2012) developed a template called the Replicability of Interprofessional Education (RIPE, available online), for researchers to follow in their reporting of IPE interventions.

Evidence that may also shed light on the potential success of counselling psychology students' involvement in IPE is other disciplines' perceptions of counselling psychology students'. Although Peck and Norman (1999) conducted a qualitative study on the perceptions of mental health providers (including occupational therapists, social workers, psychiatrists, nurses, and clinical psychologists), documented perceptions of one another are limited and additional data is needed. If other healthcare students' perceptions of the counselling psychology profession are congruent and positive with the perceptions that counselling psychology students hold of their own profession (e.g., strong academic abilities and interpersonal skills), then counselling psychology students would be expected to fare better in the practice and education of teamwork with other students (Hean, Clark, Adam, Humphris, & Lathlean, 2006b).

Research that provides additional information on the attitudes of students and faculty can inform curricular and program development and facilitate the integration of counselling psychology students into IPE settings.

Program Development and Education Considerations

There are a number of ways that a program can approach the development and implementation of IPE. Kreamer and Kahanov (2014) describe an Interprofessional Education Development Model that outlines the need to assess student and faculty members' attitudes, which would then be used to guide curriculum changes and faculty training in a series of steps. These steps involve curriculum changes and faculty preparation.

Curriculum changes. Counselling psychology students' readiness was not significantly thwarted by stereotypes, in general, which can be influential when planning counselling psychology student's curriculum and involvement in IPE. For example, these findings suggest that overall stereotype change may not have to be central to counselling psychology students' goals in IPE. Instead, uncovered pitfalls in counselling psychology students' attitudes towards IPE could be central to their IPE experience. For instance, Onyett, Pillinger, and Muijen (1997) found that clinical psychologists, along with social workers, were less clear than any other professions about their role and the role of the team as a whole. Although this does not reflect the RIPLS findings of the current study, it may be related to counselling psychology students' lower stereotype ratings assigned to social workers – a group of professionals who have traditionally shared overlapping roles with psychologists before specialization. Consequently, learning more about overlapping responsibilities shared by psychologists and other healthcare professionals might be worthwhile. This suggestion aligns with Medves and colleagues' (2013) recommendation that educators must take into account the differences between specific healthcare student groups by tailoring IPE activities to suit those differences. What could also be considered when developing the curriculum for counselling psychology students is the degree to which the competencies of their discipline align with the competencies of IPE. For example, Verma, Paterson, and Medves (2007) assessed standards of professional conduct of the College of Psychologists in Ontario to gauge the need for appropriate emphasis of particular competencies among psychology students. Comparing IPE core competencies to those of the psychologists of Ontario revealed striking similarities. With harmonized core competencies between the IPE framework and the psychologists' profession, students in psychology would become even strong candidates for adopting lessons learned in IPE.

Although it is suggested that healthcare education programs undergo a curricular change, the literature repeatedly shows that several barriers, like structural and organizational difficulties (Barnsteiner, Disch, Hall, Mayer, & Moore, 2007; Margalit et al., 2009), stand in the way of achieving this goal. An alternative to undergoing a complete curriculum change would be to refine the practicum component of counselling psychology graduate training programs to involve more interprofessional experience and placements. Not only would this be less disruptive to the course of the students' education but it would also align with the Adult Learning Theory where experiential and hands-on practice improves learning among adults.

Knowledge base for IPE. Acknowledging that psychologists are traditionally trained independently and in professional 'silos' (Peck & Norman, 1999), interdisciplinary work and knowledge is likely limited, which necessitates additional preparations. A "Learning Package" developed by Morrissey et al. (2010) is one such possible preparatory tool. Providing these packages to students before their practicum placements enhanced interprofessional knowledge, and improved conceptual and communication skills (McAllister et al., 2011).

Taking the findings of the current study into consideration, emphasizing intergroup differentiation among counselling psychology students as well as students from other disciplines would be helpful based on increased role security. This would help resolve barriers and negative stereotypes towards professions that have overlapping roles.

Practical component of IPE. IPE employs different types of interactive learning methods and choosing the right one can make a difference in the success of IPE (Barrett, Curran, Glynn, & Godwin, 2003; Reeves, 2016). Presenting IPE material in an experiential manner where students are actively working together and collaborating could be beneficial by highlighting similarities and differences. The difference between interprofessional *practice* and

course experiences was exampled by Ko and colleagues (2014) who found that only interprofessional practice played a role in significantly predicting positive attitudes toward IPE collaboration. Engaging counselling psychology students in more interactive learning would also address not only the American Psychologists Association's (2013) reported concerns related to sufficient practice among psychology trainees, but also the reported need for mental health support in communities. That is, by including counselling psychology students in service-learning opportunities, student-learning goals are met while also providing communities with support (Billing & Furco, 2002). Buen (2014) met both educational and service- related goals by involving students in nursing, nutrition, and dentistry in community programs to address the healthcare needs of women transitioning from prison to the community. Not only did students gain practical skills in their own discipline and valuable interprofessional experience, but the community also benefitted by better preparing women to re-integrate into their community.

Faculty and facilitators. IPE is most successful when faculty and administrators are well trained, competent, and motivated to initiate and lead IPE (Murdoch-Kinch, 2015). The training of students must ultimately begin with the training of faculty members and facilitators (Barnsteiner, Disch, Hall, Mayer, & Moore, 2007). Therefore, providing opportunities for faculty development is critical – especially when facilitators who are expected to teach IPE were not taught within the IPE model themselves (Murdoch-Kinch, 2015). To create a culture that endorses IPE, experts in the area have set forth several recommendations on how to train faculty members while taking into account institution-specific aspects (Reeves, 2016). Hall and Zierler (2014) offer useful guidance on the methods and concepts that are essential in the training of faculty members, based on their one-year pilot program conducted at multiple institutions that used various approaches to preparing facilitators.

Healthcare

By adding to the literature on the assessment of counselling psychology students' attitudes towards IPE, the field also moves forward in entering these students into IPE where they learn how to work with other healthcare professionals after graduation. According to the World Health Organization, the main benefits of this goal are the delivery of effective, efficient, and high-quality patient-centered care.

Consumers of healthcare. Mental illness is the leading cause of disability in Canada (Mental Health Commission of Canada, 2014) and comes with an annual cost of about $51 billion (Lim, Jacobs, Ohinmaa, Schopflocher, & Dewa, 2008). Canadians report that psychotherapy and counselling (not pharmacotherapy) are the most preferred methods of treatment of mental illness however these are the treatments that are likely to be used (Sunderland & Findlay, 2013). This mismatch between mental health needs and mental health treatment preferences and services is likely the result of limited funding and access to mental health care in general, especially psychological services (Peachey, Hicks, & Adams, 2013) The fact that healthcare managers, policymakers, and insurers rarely recognize the differences among the disciplines providing mental health services (Cohen & Peachey, 2014; Murdoch, Gregory, & Eggleton, 2015) also contributes the mismatch between mental health needs and services. Including psychologists as an integral part of care, especially in primary care, can strengthen its identity as a discipline (Hartman, Fergus, & Reid, 2016) and make mental health services more accessible (Cubic et al., 2012; WHO, 2001b).

In Chapter II, we described the interconnection between mental and physical health and how effective treatment of one may lead to better outcomes for the other. Stigmatization of mental health problems, however, acts as a serious barrier to seeking mental health treatment.

This stigma keeps many people who could benefit from psychotherapy from seeking or accepting treatment, which can in turn worsen associated physical illness and comorbidities (Cubic et al., 2012). Making it standard practice for psychologists to become integral members of healthcare teams may reduce the stigma associated with mental illness by validating and normalizing the prevalence and treatment of these illnesses. This is particularly important considering that one in four people suffer from a mental disorder at some point in life (WHO, 2001b).

On the other hand, there are patients who frequently seek mental health treatment, which strains resources and healthcare providers, and creates a social burden. Known as the "revolving door phenomenon", there is a subpopulation of chronically mentally ill patients who are frequently readmitted to psychiatric units (Garrido & Saraiva, 2012). Some factors contributing to this phenomenon include non-compliance to treatment and inadequate assessment and treatment recommendations. Psychologists are professionals that receive expert training in the assessment, diagnosis, and treatment planning for people with mental illness (APA, 2013; Murdoch et al., 2015; Peck & Norman, 1999). Therefore, their participation on healthcare teams adds expertise in assessment and treatment planning for this sub-population. A systematic review of the Canadian and international literature on mental health in collaborative care found that the combination of enhanced collaboration and treatment guidelines was more beneficial over either intervention alone in helping those with major depression (Craven & Bland, 2006).

Providers of healthcare. Including psychology graduates as a necessary part of IPE programs would allow the profession to become more involved in healthcare and recognized as a unique discipline of mental health specialists. An article by Hartman, Fergus, and Reid (2016) discusses the perception that psychology, as a discipline, is often considered nonspecific,

nonscientific, and nonessential to Canada's health care mandate. Not acknowledging the distinction between psychologists and other less-qualified (and lower paid) mental health providers results in limited public health funding to psychological services that are provided by those who are trained to be the mental health experts. Inevitably, there are fewer job positions for counselling psychologists to offer psychological services in the public healthcare system and independent practice becomes the most common work setting for registered counselling psychologists (Bedia, Sinacoreb, & Christianic, 2016). To reclaim and strengthen psychology's identity as a discipline and within the healthcare field, Hartman and colleagues (2016) offer several opportunities, one of which is to integrate psychologist into Canadian primary care by way of interprofessional education, training, and practice opportunities.

Including psychologists as a fundamental piece in healthcare programs will impact the way they practice as a profession but also the way other healthcare providers practice. That is, although there have been significant efforts to educate and increase awareness about mental health, stigma still lingers – even among healthcare professionals. A recent study by Gulati, Das, and Shavan (2014) found that medical students, who did not have any prior exposure to psychiatry, had an overall negative attitude towards mental illness and psychiatry. The revolution in healthcare education to include mental health students and professionals may increase mental health awareness among students and primary care providers (Cubic et al., 2012). Considering the growing demand for mental healthcare support, encouraging collaboration between professionals as a way of addressing an individual's health concerns may also lead to a reduction in competition for limited resources between professionals (Barrett et al., 2007).

Conclusion

Interprofessional education (IPE) has come a long way since it was first introduced. The current study aimed to contribute to the growing body of IPE literature and to aid in its expansion towards including counselling psychology students. Results from this study suggest that counselling psychology students are ready for IPE and hold positive stereotypes of their own profession and other professions. The findings also support the incorporation of IPE curricula into counselling psychology programs, where students are shown to be strong candidates to succeed in and benefit from entering into IPE. Future studies on this population are needed to confirm our findings.

There is a strong need for mental health experts in healthcare teams. Currently, these students are rarely prepared in their training to effectively carry out their role in an interdisciplinary team. This research contributes to the literature on diversifying IPE and advancing the provision of patient-centered care in a way that adequately addresses the *physical, mental,* and *social* components of human health.

AFTERWORD

The last comment is a personal challenge for my fellow psychology graduate students. As mentioned earlier in this chapter, psychology graduate students are trained within the scientist-practitioner model to be knowledgeable in both conducting empirical research and carrying out clinical practice. This unique combination of skills provides us with opportunities to become more involved in IPE research and to make a difference. More specifically, the combination of our knowledge in the scientific method and our training in the biopsychosocial foundations of human behavior and functioning can be used to help untangle the "epistemological struggle" (Olson, 2014, p.236) in IPE research that currently plagues its development. Our understanding of interpersonal behaviour and attitudes may also contribute to the development of stronger assessment strategies and in turn help unravel the interpersonal complexities faced by healthcare teams. This may be one of the immediate contributions psychology graduate students can make to interprofessional education and research.

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APPENDIX A

Invitation Email

Dear Counselling Students,

Collaborating with other health care providers is emerging as best practice and is currently offered to students in other health care disciplines like medicine, pharmacy, and nursing. Little is known, however, about the involvement of counseling psychology students in these interdisciplinary education programs.

As a graduate student in counseling psychology, *You are invited to participate in a 10-15 minute survey regarding your perceptions towards* ***inter professional health care teams****.*

To thank you for your time and thoughtfulness, you will be invited to enter a draw for an iPod touch!

If you are interested in participating, please the link below for read the information/consent form and the survey (if you agree to provide consent and participate).

http://fluidsurveys.com/surveys/nicole-2gb/consent-form/

Thank you in advance,

William Whelton, University of Alberta
Elaine Greidanus, University of Lethbridge
Greg Harris, Memorial University of Newfoundland

APPENDIX B

Information and Consent Form

UNIVERSITY OF ALBERTA

COUNSELLING PSYCHOLOGY
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

Information Letter and Consent Form

Project Title: Interprofessional education (IPE) opportunities and attitudes among counseling psychology students in Canada.

Investigators:	**Institutional affiliations:**	**Telephone:**
William Whelton	University of Alberta	(780) 492-7979
Elaine Greidanus	University of Lethbridge	(403) 329-2186
Greg Harris	Memorial University of Newfoundland	(709) 864-6925

This research is being funded by the Faculty of Education, University of Lethbridge.

The following form describes the current study and includes information about participating in this study and your right to withdraw from the study, if you chose to participate. Please contact the above researchers if you have any questions about the study or would like more information before you consent.

Background: Interprofessional education is becoming a critical component of education among healthcare students. In order to address the need for the development of interprofessional education among counseling psychology students, researchers at the University of Lethbridge, Memorial University of Newfoundland and University of Alberta have partnered to explore the perceptions of counselling students regarding interprofessional teamwork.
Though the body of literature on interprofessional teams is growing, little research focuses on counseling students' and their perceptions of interprofessional education. The current study looks to fill this gap in the literature. By gaining an understanding of students' perceptions towards interprofessional education, curriculum developers and educators are able to improve students' learning experiences and provide these experiences to the students at the appropriate point in the educational programs.

Objective: The objective of this study is to survey counselling students to determine their perceptions towards interprofessional education and team care.

Reporting of Results: Results of this survey will be analyzed and summarized to describe student's perceptions of the role of interprofessional teamwork in counselling psychology. These research findings will be presented at national and international conferences and published in peer reviewed journals. In addition, two thesis students are involved in the collection and analysis of the data and therefore their theses will be publically available at the QEII library and

the University of Alberta library. No personally identifying information will be included in any reports.

Procedure: The questionnaire includes two brief standardized scales: (1) Readiness for Interprofessional Learning Scale and (2) Student Stereotype Rating Scale, followed by some self-devised items to provide further depth on the information collected from the standardized scales. The survey will take 10-15 minutes to complete. You will not be asked to disclose your name in this survey. Submission of the survey implies your consent to participate in the research.

After completing as much of the survey as you choose to complete, you will be given the opportunity to enter a draw. Should you decide to enter the draw you will need to provide your phone number. This information is NOT linked to your survey results. The purpose of collecting this information is to enter your name into a draw to win an iPod Touch (approximate value $250; there is a one in one hundred chance of winning; must answer a skill-testing question to claim the prize).

Due to ethical considerations, participants are not provided with any undue compensation or inducements, or coercion to research participants. If you would not otherwise choose to participate if the compensation was not offered, then you should decline.

The survey results will be collected via FluidSurveys, a Canadian survey provider, (www.FluidSurveys.com) and returned to the institutional researchers. The security of the data collected and transmitted to the researchers from FluidSurveys is ensured by FluidSurveys and any inadvertent limitations in the security of the data will not include any of your identifying information. FluidSurveys is compliant with Canadian privacy and accessibility standards and the data collected by FluidSurveys is hosted in Canada (https://fluidsurveys.com/about/privacy). In addition, as per FluidSurveys' Privacy and Security Options, the survey will be anonymous and user privacy information (such as IP address) will not be tracked.

Benefits and Risks: Although there may be no direct benefit to you for taking part in the survey, this study will help the researchers to determine the most appropriate approaches to providing interprofessional learning experiences. There are no anticipated risks to you by participating in this research. However, if you experience any anxiety from participating, you may withdraw from the study at any time and it is recommended that you contact further support appropriate to your institution, which is provided below.

Privacy and Confidentiality: Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time prior to submitting the online survey form. Because the survey in anonymous and your name is not linked to the survey results, there is no way to remove your data from the study after you submit your responses.

Your participation is voluntary; you do not have to be a part of the study if you so choose. Participation or non-participation will in no way affect your status or grade in your program of study. Should you decide to take part, you have the right to refuse to answer any questions within the survey.

All the information will be saved on a secure computer. You will not be identified in the database. The database will be stored on a password protected computer, in a password protected file, and on a secure server for a minimum of 5 years and then destroyed.

Voluntary Participation: Your participation is free, voluntary, and anonymous. The choice to participate or not participate will never be known by the researchers and no identifying information is required from the participants.

Freedom to Withdraw: Participants have the right to withdraw from the study by not completing the survey. If the participant chooses to withdraw from the study prior to completing the survey, anonymity of the data is preserved. Due to the anonymous nature of the survey, it is not possible to delete individual student responses from the dataset once the online survey is submitted.

Contacts:
University of Lethbridge: If you have any questions about this study or if you wish to withdraw from the study, please contact Dr. Elaine Greidanus at (403) 329-2186. If you have any concerns about how this study is being carried out, please contact the Chair of the Faculty of Education Human Subjects Research Committee at the University of Lethbridge (403-329-2425).

University of Alberta: If you have any questions about this study or if you wish to withdraw from the study, please contact Dr. William Whelton at (780) 492-7979. The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Memorial University of Newfoundland: The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

By clicking the "submit" button, you are consenting to participate in this survey.

APPENDIX C

Survey Preface

This survey is being completed in collaboration with the University of Alberta, University of Lethbridge, and Memorial University of Newfoundland.

Your specific responses to the questions on the survey will remain <u>anonymous</u>.

If you choose to provide your contact information in order to be considered for the ***draw for the iPod Touch***, this information will *only* be used to contact you regarding the draw and will not be associated *in any way* with the survey results.

In many health science programs, students have the opportunity to work with other students from different health disciplines (medicine, nursing, pharmacy, rehabilitation medicine, etc.). In your training as a counsellor, you may or may not have had the opportunity to participate similar opportunities.

APPENDIX D

Demographics

1. What is your age?
   a. 17–22
   b. 23–26
   c. 27–30
   d. 31–35
   e. 36–40
   f. 40+

2. What is your Gender?
   a. Male
   b. Female
   c. Other

3. What educational institution are you attending/did you recently attend?
   a. University of Lethbridge
   b. Memorial University of Newfoundland
   c. University of Alberta

4. In which graduate-level program are you currently enrolled?
   a. Masters
   b. Doctoral
   c. Post-Doctoral

5. What year of program are you enrolled in?
   a. 1
   b. 2
   c. 3
   d. Graduated (not currently working as a counsellor)
   e. Graduated (currently working as a counsellor)

6. Are you currently registered as any of the following:
   a. Certified Canadian Counsellor
   b. Provisional Psychologist
   c. Registered Psychologist
   d. Registered Social Worker
   e. Registered Clinical Social Worker
   f. Marriage and Family Therapist
   g. Other: _____
   h. N/A

7. Do you have any previous interprofessional experiences?
   a. Yes
   b. No

8. Have you ever worked in an interprofessional environment?
   a. Yes
   b. No

Please note, as a student of counselling psychology you are considered part of the "health care" field (Mental Health is an important part of health!).

APPENDIX E

Readiness for InterProfessional Learning Scale Survey

Using the rating system indicated below, how strongly would you agree or disagree with the following statements regarding shared learning activities among health sciences disciplines?

		Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
9.	Learning with other students will help me become a more effective member of a health care team.			□		
10.	Patients would ultimately benefit if health care students worked together to solve patient problems.					
11.	Shared learning with other health care students will increase my ability to understand clinical problems.					□
12.	Learning with health care students before qualification would improve relationships after qualification.	□				
13.	Communication skills should be learned with other health care students.					
14.	Shared learning will help me to think positively about other professionals.					
15.	For small group learning to work, students need to trust and respect each other.					
16.	Team-working skills are essential for all health care students to learn.					
17.	Shared learning will help me understand my own limitations.					
18.	I don't want to waste my time learning with other health care students.					
19.	It is not necessary for undergraduate health care students to learn together.					
20.	Clinical problems-solving skills can only be learned with students from my own department.					
21.	Shared learning with other health					

	care students will help me to communicate better with patients and other professionals.					
22.	I would welcome the opportunity to work on small group projects with other health care students.					
23.	Shared learning will help to clarify the nature of patient problems.					
24.	Shared learning before qualification will help me become a better team worker.					
25.	The function of nurses and therapists is mainly to provide support for doctors.					
26.	I'm not sure what my professional role will be.					
27.	I have to acquire much more knowledge and skills than other health care students.					

APPENDIX F

Additional Readiness Questions

28. Overall, which of the following best describes your perception of the importance of interdisciplinary teamwork in the work of a counsellor:

    a. I don't see why counsellors would ever need to work with anyone except the clients

    b. Working with other professionals is against the most important part of counselling: confidentiality. Working with other professional is unethical.

    c. Counsellors need to consult with other professionals sometimes

    d. Working with other professionals is probably important but I don't really know what this would look like in counselling

    e. Working with other professionals is important and in the best interests of the client

    f. Other:_____

29. If you are currently working as a counsellor, which of the following best describes the role of interdisciplinary teamwork in your work as a counsellor:

    a. I work independently. The only others in my practice are my clients.

    b. I work with others in my practice, but only other counsellors.

    c. I work with other health professionals in my practice, but only other mental health professionals.

    d. I work with health professionals in my practice and find the teamwork seamless and supportive most of the time

    e. I work with health professionals in my practice and find the teamwork challenging, but rewarding

    f. I work with health professionals in my practice and find the teamwork challenging, frustrating, and a waste of time

    g. I work with health professionals in my practice and find the teamwork challenging and is more often harmful than helpful

    h. I should be working with other health professionals more closely, but I tend not to.

30. Reflecting on your training in your program, what are the take away messages that you have perceived regarding interdisciplinary practice? [Text response]

APPENDIX G

Student Stereotypes Rating Questionnaire

Please rate the following five health care professional groups based on the characteristics below.

How would you rate **medical doctors** on:

		Very Low 1	2	3	4	Very High 5
31.	Academic ability	□	□	□	□	□
32.	Professional competence	□	□	□	□	□
33.	Interpersonal skills (e.g., warmth, sympathy, communication)	□	□	□	□	□
34.	Leadership abilities	□	□	□	□	□
35.	The ability to work independently	□	□	□	□	□
36.	The ability to be a team player	□	□	□	□	□
37.	The ability to make decisions	□	□	□	□	□
38.	Practical skills	□	□	□□	□	□
39.	Confidence	□	□		□	□

How would you rate **nurses** on:

		Very Low 1	2	3	4	Very High 5
40.	Academic ability	□	□	□	□	□
41.	Professional competence	□	□	□	□	□
42.	Interpersonal skills (e.g., warmth, sympathy, communication)	□	□	□	□	□
43.	Leadership abilities	□	□	□	□	□
44.	The ability to work independently	□	□	□	□	□
45.	The ability to be a team player	□	□	□	□	□
46.	The ability to make decisions	□	□	□	□	□
47.	Practical skills	□	□	□□	□	□
48.	Confidence	□	□		□	□

How would you rate **social workers** on:

		Very Low 1	2	3	4	Very High 5
49.	Academic ability	□	□	□	□	□
50.	Professional competence	□	□	□	□	□
51.	Interpersonal skills (e.g., warmth, sympathy, communication)	□	□	□	□	□
52.	Leadership abilities	□	□	□	□	□
53.	The ability to work independently	□	□	□	□	□
54.	The ability to be a team player	□	□	□	□	□
55.	The ability to make decisions	□	□	□	□	□
56.	Practical skills	□	□	□□	□	□
57.	Confidence	□	□		□	□

How would you rate **occupational therapists** on:

		Very Low 1	2	3	4	Very High 5
58.	Academic ability	□	□	□	□	□
59.	Professional competence	□	□	□	□	□
60.	Interpersonal skills (e.g., warmth, sympathy, communication)	□	□	□	□	□
61.	Leadership abilities	□	□	□	□	□
62.	The ability to work independently	□	□	□	□	□
63.	The ability to be a team player	□	□	□	□	□
64.	The ability to make decisions	□	□	□	□	□
65.	Practical skills	□	□	□□	□	□
66.	Confidence	□	□		□	□

How would you rate **counselling psychologists** on:

		Very Low 1	2	3	4	Very High 5
67.	Academic ability	□	□	□	□	□
68.	Professional competence	□	□	□	□	□
69.	Interpersonal skills (e.g., warmth, sympathy, communication)	□	□	□	□	□
70.	Leadership abilities	□	□	□	□	□
71.	The ability to work independently	□	□	□	□	□
72.	The ability to be a team player	□	□	□	□	□
73.	The ability to make decisions	□	□	□	□	□
74.	Practical skills	□	□	□□	□	□
75.	Confidence	□	□		□	□

APPENDIX H

Perceived Barriers to Interdisciplinary Education

76. Do you think that ethical and legal obligations to client confidentiality deter counselling psychologists from working in collaboration with other health care professions?

No, not at all				Yes, very much
1	2	3	4	5

Do you know enough about the following health care professions to confidentially refer your client to their services if your clients' needs feel outside the scope of your responsibilities and competency level?

		No 1	2	3	4	Yes 5
77.	Medical Doctor	☐	☐	☐	☐	☐
78.	Nurse	☐☐	☐	☐	☐	☐
79.	Social Worker	☐	☐	☐	☐	☐
80.	Occupational Therapist	☐	☐	☐	☐	☐

APPENDIX I

Perceptions Among Counselling Psychology Students

81. Do you think there is a distinct role for a counselling psychologist in an interdisciplinary health care team working with general health related issues?

No	2	Unsure	4	Yes
1		3		5

82. How important do you think counselling psychology is in treating medically health-related issues?

Not Important	2	Unsure	4	Very Important
1		3		5

83. Would you participate in an interdisciplinary education opportunity if it were offered to your program?

No	2	Unsure	4	Yes
1		3		5

84. Which of the following experiences have you had the most when working with medical doctors?
    a. Work experience
    b. Volunteer experience
    c. Student experience
    d. Patient experience
    e. None
    f. Other, please specify [Text response]

85. Which of the following experiences have you had the most when working with nurses?
    a. Work experience
    b. Volunteer experience
    c. Student experience
    d. Patient experience
    e. None
    f. Other, please specify [Text response]

86. Which of the following experiences have you had the most when working with social workers?
    a. Work experience
    b. Volunteer experience
    c. Student experience
    d. Patient experience
    e. None
    f. Other, please specify [Text response]

87. Which of the following experiences have you had the most when working with occupational therapists?
    a. Work experience
    b. Volunteer experience
    c. Student experience
    d. Patient experience
    e. None
    f. Other, please specify [Text response]

88. Which form of information contributes most to your perception of other health care professions?
    a. Formal Education
    b. Advertising/Media
    c. Television/Movies
    d. Peers within your program
    e. Family members
    f. Personal
    g. Other, please specify [Text response]