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Examining the Relationship Between Racial/ Ethnic Minority Students' Learning Experiences and Their Choice of Psychology Specialty: Implications for Minority Recruitment in School Psychology

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Examining the Relationship between Racial/Ethnic Minority Students' Learning Experiences and
their Choice of Psychology Specialty: Implications for Minority Recruitment in School

Psychology

by

Joel O. Bocanegra

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ABSTRACT
EXAMINING THE RELATIONSHIP BETWEEN RACIAL/ETHNIC MINORITY
STUDENTS' LEARNING EXPERIENCES AND THEIR CHOICE OF PSYCHOLOGY
SPECIALTY: IMPLICATIONS FOR MINORITY RECRUITMENT IN SCHOOL
PSYCHOLOGY

By

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The University of Wisconsin-Milwaukee, 2014

Under the Supervision of Professor Markeda Newell

Racial/ethnic minorities have historically been underrepresented within the profession of school psychology. An increase in minorities within the field of school psychology has been forwarded as a way to improve the service provision to the nation's racial/ethnic minority student population. Unfortunately, trainers within school psychology have struggled to recruit minority graduate students, with the most recent demographic survey of the field suggesting that racial/ethnic minorities comprise 9.3% of school-based practitioners (Curtis, Castillo, & Gelley, 2012). Furthermore, research has indicated that school psychology training programs have also lagged behind counseling and clinical psychology training programs in the recruitment of minority students (Fiegener, 2009).

In this current study, a Social Cognitive Career Theory framework was used to identify alterable variables that may impact undergraduate psychology students' choice intention for entering a school psychology training program. Junior and senior undergraduate psychology students were selected for this study due to being a common pool of potential applicants for school, counseling, and clinical psychology training programs. This dissertation was divided into

two studies. In the first study, advanced undergraduate psychology students' knowledge, exposure, and perception of field's commitment to diversity (i.e., learning experiences) were compared across choice intention for three professional psychology types (i.e., school, counseling, and clinical psychology). Difference between minority and non-minority students' endorsement of these learning experiences were also assessed. Within the second study, a mediation analysis was conducted in order to examine whether self-efficacy and outcomes expectations mediated the relationship between advanced undergraduate psychology students' learning experiences and choice intentions for school psychology.

Results suggest that advanced undergraduate psychology students have less knowledge and exposure to school psychology compared to counseling or clinical psychology. However, no significant difference between school psychology and the two other fields was found for perception of commitment to diversity nor was there a significant difference between minority and non-minority participants' for any of the learning experiences. Furthermore, the relationship between each learning experience (i.e., knowledge, exposure, and commitment to diversity) and choice intention for school psychology was mediated by outcome expectations for attaining a degree in school psychology and self-efficacy for meeting school psychology academic milestones. Implications for diversity recruitment within school psychology are discussed.

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Chapter I: Introduction

For over forty years, training directors within the field of school psychology have struggled to adequately recruit graduate students from racial/ethnic minority populations (Esquivel, Warren, & Littman Olitzky, 2007). Difficulty recruiting minority students has attributed to the creation of a profession that lacks racial/ethnic diversity and fails to adequately represent their diverse clientele. Curtis, Castillo, and Gelley (2012) analyzed the National Association of School Psychology's (NASP) membership data and found that racial/ethnic minorities within school psychology are underrepresented, comprising only 9.3% of NASP's membership. They also found that the overwhelming majority (90.7%) of NASP's membership self-identifies as being White. The limited representation of school psychologists from racial/ethnic minority populations is a significant problem, due in part, to school psychologists not reflecting the racial/ethnic diversity represented in the US student population.

Aud, Fox, and KewalRamani (2010) revealed that, from 2000 to 2007, enrollment of students from racial/ethnic minority populations increased from 39% to 44%, which represents a 5% increase in 7 years. This increase signifies that 4 out of 10 students within the current public school system are racial/ethnic minorities and that racial/ethnic minority student populations are rapidly expanding, likely becoming the majority by 2023 (U.S. Census Bureau, 2008). The shift towards a majority minority nation, or a nation where racial/ethnic minorities, as a whole, statistically outnumber non-Hispanic Whites, has already commenced. New Census data released in 2012 indicated that for the first time in US history, the majority of children under the age of one are identified as being of minority descent (U.S. Census Bureau, 2012).

The expanding racial/ethnic minority student population will bring some new challenges to the field of school psychology. Presently, racial/ethnic minority students, as a whole, tend to exhibit lower achievement, higher rates of disciplinary problems, higher rates of placement in special education, and higher rates of school dropout compared to their non-Hispanic, White peers (Aud, Fox, & KewalRamani, 2010). Many of these challenges can have a lasting negative impact on racial/ethnic minority students, impacting their educational, financial, and emotional outcomes. Therefore, professionals in the field of school psychology must do their part to ensure that the needed services for a burgeoning racial/ethnic minority population are provided and that providers are adequately prepared to service an evolving student population.

Several strategies have been proposed to improve the academic, social, emotional, and mental health needs of racial/ethnic minority students (e.g., nonbiased assessment, culturally-relevant interventions, multicultural education, etc.). One of the most commonly suggested strategies for improving the performance of racial/ethnic minority students has been increasing the number of school psychologists from racial/ethnic minority populations to serve racial/ethnic minority students (APA; 2003; CEMRRAT, 1997; NASP, 2009; Vasquez et al., 2006). Although this is a commonly proposed solution to this problem, there is currently a dearth of research regarding whether increasing the number of racial/ethnic minority school psychologists will have a significant impact on the performance and outcomes of racial/ethnic minority students. Despite not having a clear understanding of whether racial/ethnic minority school psychologists will have a significant impact on the outcomes for racial/ethnic minority students, some scholars have found some important benefits of increasing the racial/ethnic diversity of school psychologists. Before going forward, it is important to note that racial/ethnic minorities will be the focus of the

present study; however, in order to decrease the redundancy of language, in the following sections, the terms diversity and minority will often be used interchangeably with racial/ethnic minority.

Benefits of Racial/Ethnic Diversity in School Psychology

One possible way to increase the quality of services provided to a rapidly increasing minority student population is through targeted recruitment efforts of minority undergraduate students into school psychology graduate programs. Increasing the racial/ethnic diversity within the field of school psychology would: a) reduce the shortage of school psychologists in practice and academia, b) allow for more school psychologist-client ethnic match, and c) increase opportunities for graduate students in school psychology to interact with members of racial/ethnic minority groups.

Reduce the shortage of school psychologists. There is currently a personnel shortage within the field of school psychology, which is projected to continue into the foreseeable future and is expected to impact both school psychology practitioners and faculty (Clopton & Haselhuhm, 2009; Curtis, Chesno Grier, & Hunley, 2004). In a recent study, Clopton and Haselhuhm (2009) examined the number of faculty openings within school psychology training programs; they found that 79% of programs had at least one faculty opening. Furthermore, school psychology program directors surveyed within Clopton and Haselhuhm's study reported concerns over their ability to fill these vacant positions. Therefore, unless there is a significant increase in the recruitment of school psychologists, students within the school system may not receive adequate services due to insufficient numbers of: practitioners to provide services, trainers to train future providers, and researchers to create the tools to meet the needs of our

future clientele. One possible way to overcome the current personnel shortage is through the increased recruitment of minority undergraduate psychology students, which are currently underrepresented within the field and may represent an untapped resource. In addition to helping to address the shortage of school psychologists, increasing minority recruitment would also allow for more opportunities for ethnic match between client and practitioner.

Ethnic match. Ethnic match can be defined as matching client with a practitioner based on perceived ethnic or racial similarities (Cabral & Smith, 2011). Some scholars have found that client-practitioner ethnic match can have an impact on the client-practitioner relationship and its outcomes (Chapman & Schoenwald, 2011; Halliday-Boykins, Schoenwald, & Letourneau, 2005). More specifically, several researchers have found that ethnic match between practitioner and client may have a significant positive impact on: client treatment adherence, working alliance, likelihood of discharge, and reduction of externalizing and internalizing behaviors (Cabral & Smith, 2011; Chao, Steffen, & Heiby, 2012; Chapman & Schoenwald, 2011; Halliday-Boykins, Schoenwald, & Letourneau, 2005; Sue, Fujino, Hu, Takeuchi, & Zane, 1991). However, some scholars have found contradictory findings (Shin et al., 2005). Therefore, more research is needed in order to fully understand the impact of ethnic match within school psychology.

Increased interaction with racial/ethnic minorities. Lastly, researchers have overwhelmingly found that diversity recruitment efforts can have a positive impact on students' openness to diversity, understanding of diverse people, and can even reduce prejudice and bias toward minority groups, through increase interaction with diverse students (Pettigrew & Tropp, 2006; Pettigrew & Tropp, 2008; Pettigrew et al., 2008; Pike, Kuhn, & Gonyea, 2007; Tausch et

al., 2010; Tropp & Pettigrew, 2005). These benefits of increased intergroup contact can play a critical role in furthering trainers' efforts of creating culturally competent practitioners by providing school psychology trainees with a foundational understanding and appreciation for individual differences. Hence, increased diversity recruitment may facilitate the creation of school psychologists who are more aware of cultural diversity through increased interaction with racially/ethnically diverse graduate students.

In summary, increasing the racial/ethnic diversity of graduate students entering school psychology training programs may have a profound impact on the field and the quality of services that clients receive. As was briefly highlighted in the previous sections, diversity recruitment is an essential step in meeting the future personnel needs of the profession, due to this population representing an untapped resource for recruitment. Secondly, the increased recruitment of racial/ethnic minority graduate students could benefit the field of school psychology by providing minority clients with the choice of having a practitioner who may reflect the client's culture, beliefs, or phenotypic properties. Lastly, researchers have overwhelmingly concluded that contact between dissimilar racial/ethnic groups can potentially decrease prejudice, bias, and can increase openness to diversity. The benefits of intergroup contacts appear to be most impacting when group members are of equal status and have similar goals; thus, increased diversity recruitment into training programs is likely to be one of the most efficient means of decreasing trainee bias while also increasing their openness to diversity. Given these identified benefits of racial/ethnic diversity, improving efforts to recruit racial/ethnic minorities into school psychology should be a top priority for trainers in school psychology.

Racial/Ethnic Minority Recruitment Efforts in School Psychology

Diversity recruitment efforts within the field of school psychology have largely been promulgated through the creation of position statements (NASP, 1989; 2009) and through the establishment of diversity focused committees such as the Commission on Ethnic Minority Recruitment, Retention, and Training in Psychology (CEMRRAT, 1997). The creation of position statements and minority-focused organizations within psychology has helped create a sense of awareness concerning the importance of racial/ethnic minority recruitment. However, the literature base for racial/ethnic diversity recruitment efforts within the field of school psychology is overwhelmingly devoid of empirically derived interventions and recruitment frameworks. Hence, for school psychology training directors to increase the diversity of their programs and, in turn, impact the field of school psychology as a whole, it is important for scholars to reevaluate current recruitment efforts and identify more effective ways of recruiting minority students. The establishment of an empirical body of research regarding diversity recruitment would provide training directors with the tools needed in order to meet the goals set out by leaders within both, school psychology and psychology, at large. One possible avenue for identifying factors that may impact minority recruitment is through the study of the recruitment practices established within similar fields of professional psychology (i.e. clinical and counseling psychology).

Racial/ethnic minority recruitment across professional psychology specialties. In the study of diversity recruitment, it is useful to understand why individuals choose to apply to school psychology programs, in comparison to other applied fields of psychology. Although psychology as a whole suffers from the underrepresentation of minorities within its ranks, some

subtypes of applied psychology have been more successful in recruiting minority students. In fact, Fiegner (2009) noted that in 2008, the trainers within the field of psychology awarded fewer than 25% of their doctorate degrees to minority PhD students. Moreover, within the same study it was also found that for the applied subfields of psychology, school psychology trainers awarded approximately 18% of their PhD's to minority students, while clinical psychology trainers awarded 25%, and counseling psychology trainers awarded 28% to minority graduate students (Fiegner, 2009). This signifies that school psychology program directors have not only struggled to keep up with the general increase of minorities within the United States, but also lags behind the recruitment of racial/ethnic minorities when compared to fellow applied psychology subfields.

Given that graduate program directors from school, clinical, and counseling psychology are recruiting from largely the same pool of students; it is important to better understand why minority students generally choose clinical and counseling programs over school psychology graduate programs. A literature review of organizational diversity recruitment practices across all three subtypes of professional psychology (which will be presented within chapter two) did not reveal any major differences in organizational recruitment practices. This finding strongly suggests that other factors may be impacting minority undergraduate students' choice of psychology specialty. Identifying and understanding these factors would allow for school psychology training directors to engage in concerted, evidence-based recruitment efforts. These recruitment efforts will likely increase the pool of minority applicants, allowing for school psychology faculty to admit a higher number of minority students into their programs. Therefore, the purpose of this study is to examine the factors that predict undergraduate psychology

students' choice of applied psychology specialty, using an empirically validated academic choice model as a framework.

Academic Choice as a Framework for Diversity Recruitment

Successful diversity recruitment efforts must be built upon evidence-based recruitment frameworks. However, a PsychInfo literature search, conducted on August 26, 2012, using the keywords of *recruitment* and *school psychology* failed to identify any study that investigated the application of such framework within the field of school psychology. This lack of diversity recruitment research signifies that diversity recruitment efforts within school psychology are being largely implemented without an empirically supported model to guide program directors' recruitment efforts. The creation of a school psychology specific, evidence-based framework would be advantageous to the field of school psychology, due to it potentially increasing the effectiveness of recruitment efforts; thus, allowing program directors to more efficiently allocate their limited resources. However, before a school psychology diversity recruitment framework is established, there first must be an identification of factors influencing undergraduate student choice of psychological sub-specialty.

Lent, Brown, and Hackett (1994) created an academic and career process theory that can be used to predict and explain academic interest, performance, and choice. The use of this theory within diversity recruitment research holds promise due to it highlighting important academic choice related factors that may explain psychology undergraduate students' academic choice making process. If researchers can verify that these academic choice factors, as identified through the Social Cognitive Career Theory (SCCT) model, are influential in undergraduate

psychology students' choice of applying to school psychology graduate programs then these factors could be integrated into a school psychology-specific, diversity recruitment framework.

The use of SCCT choice model for diversity recruitment. The Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994), which is based on Bandura's social cognitive theory (1986), is a comprehensive academic and career process theory that can be used to explain and predict academic and career related interest, performance, and choice processes. Much like the social cognitive theory, within the SCCT human behavior is explained through the interaction between the person, their behavior, and the environment. Furthermore, the SCCT also borrows from the Social Cognitive Theory constructs such as self-efficacy, outcome expectations, learning experiences, among others, which play a prominent role in both theories. Due to the breadth of the theory, the SCCT theory is subdivided into three sub-models: the interest model, the performance model, and the choice model. For the purpose of this study, the choice model of the SCCT will be used due to the focus on identifying the factors impacting undergraduate psychology students' choice of applying for admittance into a school psychology graduate program. Furthermore, the use of the SCCT theory for research focusing on the academic choice of minority students is supported by numerous studies that have successfully used the model to explain the academic and career choice making process within minority populations (Alliman-Brissett & Turner, 2010; Flores & O'Brien, 2002; Lent, Brown, & Hackett, 2000; Lent et al., 2001; Lent, 2005; Williams & Subich, 2006). Thus, the use of SCCT choice model to study minority undergraduate students' choice of psychological specialties is not a significant demarcation from established practice, but rather, the application of an empirically supported framework to a new domain of study.

In conclusion, the use of the SCCT framework to study choice of psychological subspecialty can benefit diversity recruitment efforts within school psychology by identifying factors that would increase the probability of qualified minority undergraduate students choosing to apply to school psychology graduate programs. Upon the identification of the school psychology choice related factors, school psychology program directors would have the knowledge needed in order to engage in more concerted, efficient, evidence-based recruitment efforts. The increase in the number of minority applicants could eventually have a significant impact on the actual representation of minorities within the field of school psychology, and thus, have a positive impact on the field's service provision to its diverse clients. Hence, the purpose of this study is to benefit the field of school psychology by identifying factors that predict minority undergraduate psychology students' choice of applied psychology subtype using the SCCT choice model.

Chapter Two: Literature Review

The profession of psychology is a vast field comprised of numerous subspecialties such as clinical, counseling and school psychology, among others. Although most subspecialties have representation with the American Psychological Association (APA), membership within APA is not mandatory. Thus, individuals working within the field of psychology may not belong to APA, but rather, to other national organizations such as the National Association of School Psychologists or the American Counseling Association; in addition to numerous state level associations. Due to the numerous agencies that represent psychological professionals, and much of the demographic information being taken from the membership data of these agencies, it is difficult to ascertain an accurate picture of the demographic makeup of the field. However, a commonly used indicator of the diversity of the field of psychology, as a whole, has been the demographic composition of Master's and PhD recipients. A review of the demographic composition of Master's and PhD recipients paints a rather singular picture of the field of psychology as a profession that has historically suffered from a critical shortage of minority representation, but has recently made great strides in increasing that representation. For example, a report produced by the American Psychological Association's (APA) Commission on Ethnic Minority Recruitment, Retention, and Training in Psychology (CEMRRAT, 1997) found that in 1976 minorities accounted for 4.2% of all PhD recipients and 9.5% of all master's degrees. However, as previously mentioned, in 2008, approximately 25% of doctorates were awarded to racial/ethnic minorities within the field of psychology, while in 2009, 37.4% of master's degrees were awarded to racial/ethnic minorities in psychology (Fiegener, 2009; NSF, 2011).

While progress has been made, racial/ethnic minorities continue to be underrepresented within the field of psychology (Maton, et al., 2006). The acknowledgement of the lack of minority representation has fueled numerous recruitment efforts within psychology, and across its specialties, with some efforts achieving greater success than others. Due to the importance of understanding the historical development of diversity recruitment efforts, a historical overview of the diversity recruitment movement within the field of psychology will be presented.

Diversity Recruitment Efforts in Psychology

The rationale for psychology's diversity recruitment efforts can be traced back to the Vail conference in 1973 (Zhou et al., 2004). A common theme throughout this conference was the need for psychology programs to increase the recruitment and training of underrepresented groups (Korman, 1974). Towards this effort, it was suggested that an office of ethnic minority affairs (later to be named the Office of Ethnic Minority Affairs, OEMA) and a board of ethnic minority affairs be created in order to help achieve these goals (Korman, 1974). These were the first steps taken by APA to address the underrepresentation of minorities in psychology.

In 1978, a conference was held at Washington Dulles International Airport. This conference, which later became known as the Dulles conference, focused on "Expanding the Role of Culturally Diverse People in the Profession of Psychology" (p.203) (Jones, 1998). During this conference, the importance of creating the office and board of ethnic minority affairs was reasserted, with OEMA being established in 1978 and the Board of Ethnic Minority Affairs (BEMA) being established in 1980 (Jones, 1998). As was the case in the Vail conference, the office and board were seen as a critical part of ensuring that psychology became an inclusive profession that was equipped to meet the needs of all its clients.

By 1992, APA's Ethical Principles of Psychologists' Code of Conduct was revised to include the understanding diversity as an ethical obligation. Furthermore, in 1993, APA adopted a resolution that placed a high priority on issues relating to the education of ethnic minorities and in 1994, the Commission on Ethnic Minority Recruitment, Retention, and Training in Psychology (CEMRRAT) was established and tasked with creating a five year plan for increasing minority representation in psychology (APA, 1997). CEMRRAT leaders' sought to increase minority representation through the solicitation and dissemination of knowledge regarding minority recruitment, retention, and training, by advocating for policy change within APA and through media campaigns (APA, 1997). Furthermore, as part of the five-year plan, CEMRRAT outlined recommendations as to how psychology could meet identified challenges in minority recruitment (APA, 1997). Some of the recommendations outlined by CEMRRAT were the creation of a media campaign that focused on the contribution of minorities to the field of psychology, the establishment of a working relationship between graduate psychology programs and institutions with high percentage of undergraduate minority students, and the creation of incentives for psychology programs to actively recruitment minority students. In 1999, CEMRRAT 2 task force was established to oversee the implementation of the CEMRRAT plan; it published a progress report in 2008 and made recommendations for the next four years. One of these recommendations was to "promote data collection, research, and evaluation on ethnic minority recruitment, retention, education, graduation, and training" (p.79), which the authors argued was largely insufficient and disparate. Lastly, APA adopted *Guidelines on Multicultural Education, Training, Research Practice, and Organizational Change* in 2004 (APA, 2004).

Although advocacy for increased diversity recruitment has largely come from APA, each sub-specialty of professional psychology has its own specific governing body, outside of APA and its divisions. These agencies have played an important role in furthering minority recruitment within the disciplines. For example, mirroring APA's recruitment effort, NASP's leadership has sought to increase the representativeness of school psychology through the creation of standards, principals, and guidelines (Curtis & Zins, 1989). In 1989, NASP published its first position statement touting the importance of diversity recruitment in order to meet the needs of a changing demographic. NASP reiterated its belief in minority recruitment in 2003, and 2009 through the release of updated minority position statements, with the most recent position statement declaring that, "NASP is firmly committed to increasing the number of culturally and linguistically diverse school psychology students, practitioners, and trainers in school psychology programs" (p.1). In 2004, NASP established the Minority Recruitment Task Force with the goal of obtaining data on minority recruitment in order to increase the diversity of the field (NASP, 2010). In 2009, NASP published a document highlighting recommendation for the recruitment of culturally and linguistically diverse school psychologists, and in 2012 NASP highlighted the importance of minority recruitment by identifying it as a strategic priority within a document identifying its visions, missions, values, and priorities. A general theme that emerged from these documents is that leaders within NASP sought to increase the recruitment of minority school psychologist through active outreach, mentoring, and increased financial support.

Similarly, the Association of Multicultural Counseling and Development (AMCD), which is part of the American Counseling Association (ACA), sought to advocate for the increased multicultural competency and inclusion of minority individuals within the counseling

field since its inception in 1972 (AMCD, 2012). Furthermore, ACA's ethical standards (2005) state that counseling trainers will actively recruit and retain diverse students and faculty. This emphasis on the importance of diversity recruitment is echoed by the Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2009). This organization accredits both Master's and PhD level counseling programs. CACREP (2009) declares one of its accrediting standards as, "the counselor education academic unit has made systematic efforts to attract, enroll, and retain a diverse group of students and to create and support an inclusive learning community" (p.4).

Lastly, unlike school psychology and counseling psychology, where non-APA organizations provided a significant portion of impetus for diversity recruitment, clinical psychology's recruitment effort has been predominately directed by APA and its division for clinical practice (Division 12). This relative lack of advocacy for diversity recruitment by non-APA organizations is evidenced by almost a complete lack of the mention of diversity recruitment practice within clinical psychology non-APA governing agencies, outside the Master in Psychology and Counseling Accreditation Council's (MPCAC, 2011) accreditation policy, which states, "A written policy of commitment to recruitment of students representing a variety of societal subgroups and subcultures shall be developed and implemented by the program faculty" (p.27).

Examining the differences among the different sub-fields of professional psychology recruitment efforts, a commonality that can be found is that the main form of advocacy for diversity recruitment is through the integration of diversity recruitment requirements within their accreditation standards. These standards, set by the various accrediting agencies, were largely

based upon good faith efforts and many of them did not have measurable goals, or indicated specific strategies to meet their standards. However, it is important to note that these movements toward the increased representativeness of the field were not driven solely by the progressive notion of racial integration. Many of these diversity recruitment efforts were in part, set in motion and maintained by the notion that diversity recruitment can benefit the field beyond simply increasing the ethnic makeup of its membership. Numerous arguments have been put forward in order to support the importance of increased minority recruitment within the field of psychology that include improved services for clients, increased diversity of perspectives and experiences, personnel shortages, and to help protect against the abuse of minority research participants (APA; 2003; CEMRRAT, 1997; Maton et al., 2006; NASP, 2009; Vasquez et al., 2006). It is with the understanding that diversity recruitment can benefit the field of school psychology beyond phenotypic parity that a subsequent review of the literature regarding the importance and various benefits of diversity recruitment will be presented.

Importance of Diversity Recruitment

The American Psychological Association (APA), National Association of School Psychologists (NASP), and the American Counseling Association's (ACA) leadership have repeatedly advocated for increased minority recruitment. However, many of the arguments used for forwarding the importance of diversity recruitment efforts have been centered upon the importance of ethnic parity between the population serviced and providers of psychological services. When arguing for systemic change, it is important to establish arguments that appeal to a broad range of stakeholders within the system change agency. It will likely be impossible for systemic change to take part, solely based on the egalitarian ideals of ethnic parity and/or

affirmative action. Therefore, it is critical to note that the benefit of diversity recruitment goes far beyond the fulfillment of egalitarian beliefs; within diversity recruitment there is the potential of significant benefit to the field through its direct positive impact on; a) school psychologist shortages, b) client choice of ethnic match, and c) graduate students' increased interaction with racial/ethnic minority peers while in graduate training.

Addressing the shortage of school psychologists. Data on the underrepresentation of minority individuals within the field of psychology demonstrates that minority populations are an untapped source for future psychological professionals. The Bureau of Labor Statistics (2012) reports that the field of psychology is expected to experience a 22% increase in employment growth between the years of 2010 and 2020. According to this report, much of this growth will be driven by the increase demand of psychological services within the schools, hospitals, and mental health centers. Within the report, school psychology was highlighted as a profession with high recruitment needs due to the increasing number of children that will be attending schools.

The projected need of psychologists, particularly school psychologists, is supported by several studies that have indicated a critical shortage of school psychology trainers and practitioners (Clopton & Haselhuhn, 2009; Curtis, Chesno Grier, & Hunley, 2004). At the practitioner level, Curtis, Chesno Grier, and Hunley (2004) conducted a study on the demographic characteristics of the field of school psychology. The authors used historical trends in the number of school psychologists and current rates of attrition to project the future composition of the field. Curtis, Chesno Grier, and Hunley (2004) concluded that due to attrition, retirement, and insufficient numbers of new school psychologists, the field of school psychology

will experience a significant personnel shortage. This shortage will be had at both the practitioner and the trainer levels.

In further support of the critical shortage of school psychologists, Clopton and Haselhuhn (2009) investigated the current need of school psychology trainers. The authors surveyed school psychology program directors representing 94 graduate programs. Clopton and Haselhuhn (2009) found that for the years of 2004 through 2007, 79% of the training programs had at least one faculty opening, with 136 total openings reported for those years. Furthermore, of the 79 faculty openings for the years of 2004 through 2006, 24% went unfilled. The authors also projected that there will be a graying of the profession of school psychology, with more trainers retiring from the field than there are school psychologist entering academia (Clopton & Haselhuhn, 2009; Curtis, Chesno Grier, & Hunley, 2004). This data, coupled with the information from Bureau of Labor Statistics (2012) and Curtis, Chesno Grier, and Hunley (2004), strongly suggests that the profession of school psychology will be experiencing a shortage of practitioners and unless the field refocuses its recruitment practices, the field of school psychology will struggle to meet the needs of an expanding student population.

Ethnic match. As previously articulated, school psychology has suffered from a serious shortage of minority service providers. This severe underrepresentation not only tarnishes the image of our field, identifying it as the subfield of applied psychology with the least number of minority service providers, but may also hamper the field's ability to provide equitable services to all its clients. Currently, a large portion of psychoeducational services are being provided by school psychology practitioners who are racially/ethnically dissimilar from their clients, with 32.4% of school psychologists reporting moderate to high ethnic incongruence within their

practice for counseling and 44.2% for assessment (Loe & Miranda, 2005). Although, for many clients, ethnic incongruence may not prove to be an issue, especially if the service provider is a culturally competent provider, research has demonstrated that some minority clients may experience better outcomes from ethnically/racially similar providers than from ethnically/racially incongruent practitioners.

Several researchers have found that an ethnic match between client and practitioner may have a significant impact on length of treatment, quality of working alliance, and the outcomes associated with such treatment (Cabral & Smith, 2011; Chao, Steffen, & Heiby, 2012; Flicker, Waldron, Turner, Brody, & Hops, 2008; Gamst, Dana, Der-Karabetian, & Kramer, 2001; Halliday-Boykins, Schoenwald, & Letourneau, 2005; Sue, Fujino, Hu, Takeuchi, & Zane, 1991). For example, in a highly cited article, Sue et al. (1991) investigated the impact of ethnic match between four different ethnic groups (i.e. African American, Asian American, Hispanic American, and White) on length of treatment and treatment outcome, as measured through the use of the Global Assessment Scale (GAS). According to the authors, the GAS is similar to the Global Assessment of Functioning (GAF) scale and has been found to have high reliability and good concurrent and predictive validity. Ethnic match was conceptualized as the client and the therapist having the same ethnicity. The study included approximately 12,000 participants representing each of the four aforementioned groups. The authors found that for all ethnic groups studied, ethnic match significantly increased the number of sessions that the clients stayed with treatment. Ethnic match also significantly increased positive outcomes for Mexican Americans as measured through their improvement on GAS score and reached a near significance level for Asian Americans (Sue et al., 1991). Furthermore, the authors found that the impact of ethnic

match on dropouts, number of sessions, and treatment outcome was more robust for Asian and Hispanic Americans whose primary language was not English and had been matched based on primary language and ethnicity than clients matched solely on language. Sue et al. hypothesized that this robust finding was likely due to non-primary English speaking clientele being less acculturated to US society, and therefore, possibly benefiting more from ethnic matching than more acculturated clients.

Some scholars have questioned whether the relationship between ethnic matching and increased benefits of therapy for Hispanic and Asian American clients is an artifact of language and not ethnic congruence. However, several researchers that have examined the impact of ethnic match with English speaking clients have found support for the benefits of ethnic match. For example, Flicker et al. (2008) examined whether ethnic match between Hispanic and White clients and their therapists had a positive impact on clients' drug abuse behaviors when in group therapy. They found that ethnic matching did have a significant effect on treatment outcomes for Hispanic clients. This study moved beyond previous research due to it measuring treatment specific outcomes (i.e. not using GAS score or other proxy variables as measure for treatment outcome), and by measuring a specific minority group (highly acculturated Mexican American) with a specific disorder (drug abuse), while conducting treatment only in English (Flicker et al., 2008). Within the study, it was found that Hispanic youth treated by Hispanic therapists reported less drug use at post-treatment and at a four month follow-up than Hispanic youth treated by Caucasian therapists. In fact, when compared to pretreatment level of drug use, Hispanic clients only reported significant change when treated by Hispanic therapists (Flicker et al., 2008). This relationship between ethnic match and treatment outcome was only found for Hispanics, but the

ethnic match for White clients revealed that White clients had similar rates of substance use regardless of therapist's ethnicity.

Similarly, Chao, Steffen, and Heiby (2012) found that client-practitioner ethnic match can influence client-therapist working alliance (WA) in clients with severe and persistent mental illness (SPMI). Chao, Steffen, and Heiby's (2012) study included 67 clients from White, Filipino, Hawaiian, Japanese, and Hispanic ethnic groups. The majority of participants spoke English as their first language and were born in the US. The authors found that ethnically matched clients reported a significantly higher WA with their therapist than those clients who were not ethnically matched. Furthermore, clients with higher WA had better treatment outcomes as measured through clients' self-reported quality of life and self-efficacy for dealing with mental health difficulties (Chao et al., 2012)

Lastly, a study by Halliday-Boykins, Schoenwald, and Letourneau (2005) examined the impact of caregiver-therapist ethnic similarity on youth outcomes using an empirically-based treatment. The use of an empirically-based treatment in the investigation of the benefits of ethnic match was a strength in their study, due to it allowing researchers to better account for the actual effectiveness of the techniques used by the therapist. The treatment used was the multisystem therapy, which is an intensive family based treatment that targets ecological factors, such as peer groups, neighborhood, family, etc. that could contribute to the client's symptoms. The ultimate goal of the intervention is to empower parents so that they can, in turn, implement interventions that will impact other systems influencing children's behaviors (Halliday-Boykins et al., 2005). The participants in the study consisted of predominantly boys (65.1%) with 58.1% of the sample identifying as White, 18.6% as African American, 5.8% as Asian or Pacific Islander, 4.5% as

Latino and .4% as American Indian. The study found that caregiver-therapist ethnic match did have a significant positive impact on youth's decrease of symptoms, treatment adherence, and whether clients were discharged due to meeting their prescribed goals (Halliday-Boykins et al., 2005).

Although many researchers have found support for ethnic matching, not all researchers have found ethnic matching to have a significant impact on clients' mental health; and in fact, the idea of ethnic matching has been controversial due to the conflicting findings. For example, Shin et al. (2005) performed a meta-analysis of the ethnic match literature for African Americans, from 1991 to 2001. This meta-analysis included a total of 10 studies, published and unpublished. Furthermore, 9 of the 10 studies used descriptive or non-experimental design, with only 1 of the 10 studies using a quasi-experimental design. In regard to the authors' predominant focus on African Americans, Shin et al. (2005) argued that African Americans were chosen as the population of interest in their study due to African Americans primarily speaking solely English. Some have speculated that a possible contributor to the positive impact that has been found in the field regarding ethnic matching is due to individuals within minority groups such as Asian Americans and Hispanic Americans speaking a language other than English. Hence, the authors postulated that the effect found in the ethnic matching literature may actually be an artifact of language match (Shin et al., 2005). A random effects model, which accounts for within and between study variability, was used to analyze the findings of their meta-analysis. As a result of their meta-analysis, the authors found no significant effect of African American ethnic match for retention, tenure, and treatment outcomes. Several limitations of this study included the incorporation of non-evidence-based studies, the sole focus on African Americans,

researchers not controlling for or assessing acculturation, not taking into consideration client preference, and equating racial match with ethnic match. Although these issues are important and may have impacted the results from the meta-analysis, these limitations are largely a result of most studies within the ethnic match literature using a simplistic conceptualization of client-practitioner matching.

However, in contrast to Shinn et al.'s (2005) meta-analysis, Cabral and Smith (2011) recently conducted a meta-analysis that examined the benefits of ethnic match across several ethnic groups, which found some support for the benefit of ethnic matching. Cabral and Smith (2011) specifically sought to investigate minority clients' preference for ethnic matching, clients' perception of therapist as a result of racial/ethnic matching, and outcomes associated with such matching. The study included 154 total articles, with 52 specific to preference for match, 81 specific to clients' perception of therapist, and 53 specific to clients' outcomes as a result of match. To date, this is the most extensive meta-analysis of the ethnic matching literature. In regard to clients' preference for ethnic match, Cabral and Smith (2011) found a moderately strong effect for clients preferring therapists of their own race/ethnicity. Furthermore, the authors also found that clients tended to perceive matched therapists as moderately better therapists than racial/ethnically dissimilar therapists. Lastly, Cabral and Smith found that clients tended to have slightly better outcomes when matched to ethnically similar therapists.

An analysis of racial/ethnic group difference revealed that there were significant differences on the aforementioned dependent variables by racial/ethnic group. African Americans were found to be the most affected by ethnic match, having significant results for preference, perceptions, and outcomes, when other ethnic groups were removed from the sample

(Cabral & Smith, 2011). In contrast, White clients seemed to be the least affected by ethnic matching, having no significant findings for preference, perceptions, and outcomes. The data for Asian Americans and Hispanic Americans were mixed, with Hispanics preferring ethnically matched therapists and Asian Americans having a significantly better perception of Asian therapists. All other findings for these two racial/ethnic groups were found to be non-significant (Cabral & Smith, 2011).

These studies evidence the complexity of social constructs such as race and ethnicity. Race and ethnicity are terms that are often used to make assumptions about more substantive variables such as worldview, culture, religion, experiences, and acculturation. The use of such constructs complicates research and may make it difficult to make conclusive statements about the impact of ethnic match on clients' functioning. Nevertheless, based on the results of previous studies, it can be concluded that there is likely some impact of ethnic match on ethnic minorities' functioning within the therapeutic environment and this functioning will likely vary depending on the group and individuals within the groups studied. It should be noted that most researchers investigating the topic of ethnic match have focused on adult populations and the few that have included school age clients have not investigated the ethnic match within the school environment. Due to vast developmental and social differences between school age and adult populations, in addition to the particularities of the school environment, caution must be used when generalizing findings regarding ethnic match to students within the school environment, where most school psychologists work.

However, although this area of research may still be evolving and some studies have demonstrated mixed and even non-significant results, the issue of ethnic-match may simply boil

down to, as Sue (1988) astutely states, freedom of choice. Like White clients, minority clients should be afforded the option to receive services from a practitioner who reflects their own race and/or culture. Yet, in the profession of school psychology, that is often not possible due to a lack of minority practitioners. Therefore, it is important for the field of school psychology to investigate the academic choice process in order to better recruit minority students. This increased recruitment would help to afford minority clients the option of an ethnically similar school psychologist, in addition to helping meet the general recruitment needs of school psychology.

Intergroup contact. In addition to the benefits that an increase in minority student recruitment can have on the overall number of school psychologists working within the field, and the potential benefits of client-practitioner ethnic match, increased recruitment of minority students may also have the added benefit of helping school psychology students become more culturally aware burgeoning professionals. The field of psychology as a whole has sought to increase the quality of services provided to minority populations. One avenue that has been advocated by APA is to increase the multicultural competency of its members. APA (2003) acknowledges the role that multicultural competency plays in the ethical service provision of its minority clients by outlining several principles and guidelines within its document on multicultural education and training. An underlying commonality within these principals and guidelines is that psychologists should have knowledge and awareness of diversity. These same fundamental attributes of multicultural competency were echoed by Sue, Arredondo, and McDavis (1992) when they outlined their three basic components of multicultural competency, which are knowledge, skills, and awareness.

In present society, one of the most common means of increasing our understanding of other racial and cultural groups has been through intercultural contact. Increased intercultural or intergroup contact has the potential benefit of not just increasing awareness, but may actually decrease prejudicial tendencies and biases (Allport, 1954; Pettigrew & Tropp, 2006; Tausch et al., 2010; Tropp & Pettigrew, 2005). Much of the premise behind the benefits of intercultural contact has come by way of Allport's intergroup contact theory (1954). Allport's theory holds that under optimal conditions, intergroup contacts can reduce bias between groups, especially when groups have equal status, a common goal, intergroup cooperation, and support from societal custom, authorities and/or law (Pettigrew & Tropp, 2006). In support of the benefit of intergroup contact on bias/prejudice reduction, Pettigrew and Tropp (2006) conducted a meta-analysis.

Pettigrew and Tropp's (2006) meta-analysis moved beyond previous reviews of the intergroup contact literature by sampling all relevant literature, using strict inclusion criteria, and using fully quantitative assessment procedures to measure contact effects. Their meta-analysis included 515 studies, representing 38 nations, and represents the largest review of the literature to date. As a result of their meta-analysis, Pettigrew and Tropp (2006) concluded that intergroup contact did significantly reduce intergroup prejudice and that the reduction of intergroup prejudice did generalize to within situation, across situations, within outgroup, across outgroup, and to other outgroups (Pettigrew & Tropp, 2006).

These findings indicated that the benefits of intergroup contact on prejudice reduction was not restricted to the reduction of prejudice in one setting or to one outgroup, but rather, intergroup contact reduced prejudice across situations and was even generalized to other

outgroups. Furthermore, Pettigrew and Tropp (2006) concluded that although studies that included Allport's four conditions for optimal intergroup contact (i.e. equal status, a common goal, intergroup cooperation, and support from societal custom, authorities and/or law) reported larger effect sizes, these four conditions were not necessary for intergroup contact to have a significant impact on intergroup prejudice. Hence, equal status, common goals, intergroup cooperation, and agency support were beneficial, but not a necessary condition for prejudice reduction (Pettigrew & Tropp, 2006).

Pettigrew and Tropp's (2006) findings regarding the impact of intergroup contact on decrease prejudice towards secondary outgroup has important implications for diversity recruitment efforts. These findings signify that the mere act of interacting with an outgroup can reduce prejudice, not just with that outgroup, but also with other outgroups, even if there has not been direct contact with the second outgroup. Due to the ramifications of these findings, Tausch et al. (2010) investigated the secondary transfer effect of intergroup contact. Tausch et al.'s study included three cross-sectional studies and one longitudinal study. Within these studies, Tausch et al. sought to rule out alternative explanation for the secondary transfer effect and identify possible mediating variables. The authors' findings supported Pettigrew and Tropp's (2006) original results, which indicated that contact with one outgroup could reduce prejudice toward other outgroups, even without direct contact to the secondary outgroup (Tausch et al., 2010). These findings regarding the secondary transfer effect of intergroup contact helped to initiate an explosion of research in this area, with studies generally finding the secondary transfer effect to be a robust phenomenon (Bowman & Griffin, 2012; Harwood, Paolini, Joyce, Rubin, & Arroyo, 2011; Schmid, Hewstone, Küpper, Zick, & Wagner, 2012; Vezzali & Giovannini, 2011).

The benefits of intergroup contact on prejudice and bias reduction is believed to be mediated by several important factors, such as anxiety reduction, increased knowledge, and enhanced empathy (Pettigrew & Tropp, 2008; Pettigrew et al., 2008). In a follow-up meta-analysis to their highly influential 2006 meta-analysis, Pettigrew and Tropp (2008) sought to identify whether increased knowledge of outgroup, reduction of anxiety of outgroup, and/or enhanced empathy for outgroup mediated the relationship between intergroup contact and reduction in prejudice. For this current meta-analysis, Pettigrew and Tropp (2008) reanalyzed the data from their 2006 study. The authors found that all three constructs, anxiety reduction, increased knowledge, and enhanced empathy mediated the relationship between intergroup contact and bias reduction. However, the mediational value of enhanced knowledge was not as strong as empathy and anxiety reduction (Pettigrew & Tropp, 2008). This indicates that the impact of intergroup contact on prejudice and bias reduction is at least partially explained by an increase in knowledge, empathy, and reduced anxiety. Pettigrew's work has helped to revolutionize research regarding the effect of intergroup contact on bias reduction. His studies have led to further cross-national research, which have overwhelmingly supported his findings (Bowman & Griffin, 2012; Harwood, Paolini, Joyce, Rubin, & Arroyo, 2011; Schmid, Hewstone, Küpper, Zick, & Wagner, 2012).

However, the benefits of intergroup contact are not solely consigned to bias and prejudice reduction. Research has also found that the intergroup contact caused by increased human diversity within college campuses can impact students' openness and understanding of diversity, in addition to fostering their cognitive development (Bowman, 2010; Pike, Kuh, & Gonyea, 2007). For example, Pike, Kuh, and Gonyea (2007) conducted a study that explored the direct

and indirect relationship between increased student diversity within college campuses and increased understanding of diverse groups. The study was based on data taken largely from the National Survey of Student Engagement (NSSE) and other preexisting data sets. The NSSE survey included 473 colleges and universities and was nationally representative. Furthermore, the study used Chang's (1999) diversity index in order to measure the universities' diversity composition.

Chang's diversity index measures diversity through the variance in student composition across the four major racial/ethnic groups. This measure is preferred over other indexes due to it taking into account the heterogeneity within a school and not solely the percent of minority students, which can become skewed when measuring historically Black colleges and universities (HBCU's) and other schools whose student population may represent predominately one racial/ethnic population. The study found that there was a significant relationship between campus diversity, interaction between diverse peers, and increased understanding of diversity. Moreover, it was found that the relationship between campus diversity and increased understanding of diversity was largely mediated by the interaction with diverse peers (Pike, Kuh, & Gonyea, 2007).

In further support of the role of diversity recruitment in meeting school psychology's stated goal of multicultural competency, Bowman (2010) conducted a meta-analysis that surveyed the impact of diversity within college campus on cognitive development, which has been postulated to play a role in prejudice reduction. Bowman's meta-analysis included 17 studies, which represented approximately 77,000 undergraduate students. Bowman found that diversity experiences at colleges did have a positive impact of cognitive development, especially

when those experiences were interactional experiences. Furthermore, Bowman argued that there are two types of cognitive outcomes, which are cognitive skills and cognitive tendencies; cognitive skills are the specific thinking abilities and skills, and cognitive tendencies are a person's inclination toward a certain type of thinking style. Although both types of cognitive development outcomes were significantly impacted, cognitive tendencies was impacted the most by diversity experiences. This is believed to have happened due to interaction with diverse individuals challenging preexisting worldviews, which, in turn, forces individuals to integrate new experiences into current thinking or to create new schemas. These processes have the potential for the increased development of both cognitive skills and cognitive tendencies.

In summary, the aforementioned research findings provide strong evidence for the role of intergroup/intercultural contact in: 1) prejudice, bias, and anxiety reduction and 2) empathy, diversity knowledge, and cognitive development. More specifically, within the aforementioned studies, it was found that intergroup contact could reduce prejudice and bias towards primary contact group and other culturally dissimilar groups (secondary contact group), even if no direct contact with secondary contact group. Furthermore, researchers found that much of the impact of intercultural contact on bias and prejudice reduction could be explained through its impact on empathy, knowledge, and anxiety. Lastly, researchers concluded that diversity within a university environment could have a significant impact on its students' cognitive tendencies and cognitive skills.

As has been evidenced within this review, successful diversity recruitment efforts have the potential to increase the quality of school psychologists' service provision to their clients by: 1) helping to fill the current and future human resource needs, 2) increasing the opportunity for

client-therapist ethnic match and, 3) increasing the opportunity for intergroup contact while in graduate training. Together, these benefits could help to ameliorate the challenges that will undoubtedly arise from a rapidly burgeoning minority student population. Thus, school psychology program directors should seek to increase the diversity of their graduate programs through more effective diversity recruitment efforts. However, to have a substantial impact on the diversity of school psychology, program directors must have a better understanding of factors predicting undergraduate students' choice of professional psychology. A better understanding of the mechanisms influencing undergraduate students' academic choice could help school psychology programs to attract more minority applicants, creating a larger pool of minority applicants to select from for admission. To achieve this goal of increased diversity recruitment it is important to identify career and academic theories that may highlight pertinent factors influencing undergraduate choice of professional psychology specialty. The identification of pertinent factors within an already established theory would provide support for the study of such factors, possibly leading to the creation of a school psychology specific recruitment framework. Hence, in the subsequent section, several prominent career and academic theories will be explained.

Academic and Career Theories

Numerous theories have been brought forward in an attempt to explain career related behaviors, with several theories benefitting from a long history of use within career counseling. They include the Theory of Career Choice (Holland, 1959), Theory of Work Adjustment (Dawis & Lofquist, 1984; Lofquist & Dawis, 1969), Super's Theory (1969, 1980, 1990), and Social

Cognitive Career Theory (SCCT, Lent, Brown, & Hackett, 1994). In the following section, each of these theories will be explained in further detail.

Theory of Career Choice. Holland's theory of career choice is a person environment fit theory that was first introduced over 60 years ago and has been influential within the realm of vocational psychology ever since (Holland, 1959; Swanson & Fouad, 2009a). Within Holland's theory of vocational choice three main questions are highlighted: 1) what factors of the person and environment lead to positive and negative career outcomes, 2) what factors of the person and environment lead to vocational stability, and 3) what is the best way to help people find their optimal career (Swanson & Fouad, 2009a). With this in mind, Holland's theory uses six general personality types to categorize individuals. These personality types are realistic, investigative, artistic, social, enterprising, and conventional. It is believed that individuals found to fit within each personality type will espouse distinctive set of attributes that help them respond to the environment, and will be drawn towards certain types of vocational and leisurely activities, values, beliefs, etc. (Swanson & Fouad, 2009a). It is important to note that most individuals are thought to espouse more than one personality type; and these personality types are believed to be developed through the interaction between cultural and personal factors.

Holland's theory also holds that the vocational environment can be categorized into the same six personality types. The categorization of environments into the six types is based on the predominant personality type that comprises that vocational environment. Thus, the theory posits that individuals and environment, alike, will function best when there is a close match between an individual's and the vocational environment's personality types (Swanson & Fouad, 2009a).

Theory of Work Adjustment. The theory of work adjustment (TWA, Dawis & Lofquist, 1984; Lofquist & Dawis, 1969), much like Holland's career choice theory (CCT), is a theory based on a person-environment fit conceptualization of vocational functioning. However, one of the most important areas of demarcation from the CCT is that the TWA focuses on work adjustment while the CCT theory focuses on career choice (Swanson & Fouad, 2009b). The TWA theory is based on a series of prepositions that highlight important attributes between person and their vocational environment that are believed to predict job satisfaction (Swanson & Fouad, 2009b). Furthermore, the TWA holds that there are two important dimensions to work adjustment; a) an individual's assets as an employee and b) the match between an individual's work values and the type of rewards given within the work environment. In identifying the congruence between an individual and his/her work environment, the TWA perspective identifies both abilities and values. Abilities are identified as a grouping of acquired skills and values are seen as a grouping of needs. Within the TWA theory, six critical values are recognized that include achievement, comfort, status, safety, autonomy, and altruism (Swanson & Fouad, 2009b). Thus, from the TWA perspective, individuals function optimally at work when the employee meets the needs of the employer; while the work environment provides the employee with the types of reinforcers that match his/her work values.

Super's Theory. Super's theory (1969, 1980, 1990) takes on a developmental perspective in the conceptualization of career processes. Super's theory has several pertinent components that include prepositions, life stages, and life-roles (Salomone, 1996; Super, 1990; Super, Savickas, & Super, 1996). Super based his theory on 14 prepositions which have been modified from the original 10, over 60 years ago (Super, Savickas, & Super, 1996). These

propositions formed the basis of the theory and focused on individuals' career development, characteristics, and interaction with work environment (Salomone, 1996). Furthermore, as a result of Super's developmental perspective, he identified five life stages that he believed would be important for understanding and meeting the needs of individuals with vocational issues (Salomone, 1996; Super, Savickas, & Super, 1996). These stages, which included Growth, Exploration, Establishment, Maintenance, and Decline, covers the period of development ranging from birth to old age (age 65 and beyond) and are further comprised of substages (Salomone, 1996).

However, the most influential component of Super's theory to our present understanding of vocational behavior is Super's life space theory. This theory holds that people take on various roles, nine to be exact, across their lives with some roles being more common than others at certain developmental points. Furthermore, the theory holds that the number of roles held by an individual will likely change throughout an individual's life, with some individuals adopting numerous roles simultaneously (Super, 1990). This focus on the fluid and evolving nature of the career process acknowledges the influence of contextual factors and the interaction between personal and situational factors. The importance of acknowledging the influence that life role can have across the life span on the vocational process has led to the creation of a life-career rainbow (Super, Savickas, & Super, 1996). This life-career rainbow model makes it easier for clients to identify how different contextual factors can impact their vocational functioning.

The aforementioned theories all played an important role in the continued understanding of career related processes. However, a particularly promising theory was put forward in 1994 that integrated previous career theories into one overarching framework, using the basic tenets of

the Social Cognitive Theory called the Social Cognitive Career Theory (SCCT, Lent, Brown, & Hackett, 1994). The SCCT theory is of particular benefit for understanding undergraduate students' choice of psychology type due to researchers finding support for its use in predicting and explaining academic and career related behaviors in minority and non-minority populations, while taking into consideration cognitive related variables. Thus, in the subsequent section the SCCT will be presented.

Social Cognitive Career Theory

The social cognitive career theory (SCCT, Lent, Brown, Hackett, 1994) is a framework that seeks to explain career and academic interest, choice, and performance. One of the greatest strengths of the SCCT theory is its ability to coalesce many of the various disparate theories of career development into one usable and interpretable framework; a framework that allows for the explanation and prediction of education and career related processes (Lent, 2005). Lent, Brown, and Hackett (1994) stated that they conceptualized their SCCT framework to be applicable to both the career and academic process, due to many academic and career models being very similar, and therefore, possibly highlighting similar casual mechanisms between both domains. Furthermore, Lent et al. (1994) contends that the casual mechanisms impacting career development do not change between the ending of academic career and the commencement of professional career, but rather is the developmental continuation of the same processes. This developmental focus on the academic choice process makes the SCCT particularly pertinent to understanding undergraduate psychology students' educational decision making processes.

The SCCT model is built upon Bandura's (1986) social cognitive theory and like social cognitive theory, much of the power of the SCCT comes from the acknowledgment that

individuals have volitional control and that career processes are most likely influenced through a dynamic interaction of personal, behavioral, and environmental factors (Lent, 2005; Lent et al. 1994). This idea of dynamic interaction was borrowed from Bandura's (1986) notion of triadic reciprocity, and its incorporation into career theory represented a substantial demarcation from previous career focused frameworks. Most previous career theory tended to conceptualize person-oriented factors as static, and therefore, failed to take into account the dynamic changes that happen when an individual and his/her environment interact. Furthermore, similar to the social cognitive theory, the SCCT focuses on the interaction between self-efficacy, outcome expectations, and goals, which are essential features of the social cognitive theory. However, unlike its primogenitor (the social cognitive theory), the SCCT was created to meet the specific developmental needs of individuals within late adolescent and early adulthood. The focus on these developmental periods was due to these periods being the developmental phases most associated with educational and career related processes (Lent, Brown, & Hackett, 1994).

The SCCT model is further conceptualized as containing three distinct, yet interlinking sub-models: the interest model, choice model, and performance model (Lent, 2005). The interest model focused on academic and career related interest development, while choice model focused on the academic and career choice processes, and the performance model delineated academic and career performance processes (Lent, Brown, & Hackett, 1994). Each sub-model integrates self-efficacy (i.e., perception of own ability to perform specific task), outcome expectations (i.e., perception of most probable outcome of engaging in a specific behavior), and goals (i.e. determination to perform a specific behavior or to achieve a specific outcome) with other factors that are specific to each model, in order to explain career/academic related processes. For

example, the interest model takes into account self-efficacy, outcome expectations, goals, performance and practice, performance outcomes, sources of self-efficacy, and interest (Lent, 2005). In contrast, the choice model includes person inputs, background affordances, learning experiences, self-efficacy, outcome expectations, interests, choice goals/intentions, choice actions, performance domains and attainment, and contextual influences (Lent, 2005). Due to the present study focusing on undergraduate students' choice of psychological subspecialty, only the choice model will be used. In the following section, the choice model and its pertinent components will be presented.

SCCT Choice Model

Choice from the SCCT perspective is not conceptualized as a static process, but rather, a dynamic process that can be modified by numerous factors and will likely change throughout an individual's life (Lent, 2005). Furthermore, career choice is not completely determined by an individual's actual wants; but rather, in many occasions, academic or career choice is influenced by a person's environment such as access to financial or educational resources. Lent, Brown, and Hackett's (1994) integration of various theoretical components into one fluid, developmental model of career/academic choice created a highly complex model of human choice behavior. Thus, Lent, Brown, and Hackett's (1994) SCCT choice model frames career choice as a complex interaction involving multiple sub-processes, which include the following components: a) self-efficacy (e.g., belief in ability to accomplish specific task), b) outcome expectations (e.g., expected consequences of behavior), c) goals/intentions (e.g., aspirations to accomplish task), d) contextual affordances (e.g., contextual factors impacting the choice making process), e) interests (e.g., preferences regarding career related activity or occupation), f) actions (e.g., choice

making behaviors), g) learning experiences (e.g., experiences that increases person's knowledge), h) personal inputs (e.g., personal factors such as age, gender, and race) , and i) performance (e.g., level of accomplishment or persistence). All of these components are intricately involved in determining career choice. Due to the complexity of the model and the numerous pathways theoretically linking each component it is important to understand the interaction between the pertinent components within SCCT choice model. Furthermore, given the need to better understand the factors that predict minority undergraduate psychology students' choice of professional psychology specialty, the focus of this study will solely be on academic goal/intention, self-efficacy, outcome expectations, and learning experiences. These four components of the SCCT choice model will be reviewed in greater detail due to: a) most recruitment efforts falling within learning experience domain, b) self-efficacy and outcome expectations being theorized as mediators between learning experiences and choice goals/intentions, and c) choice intentions being the outcome variable for the present study.

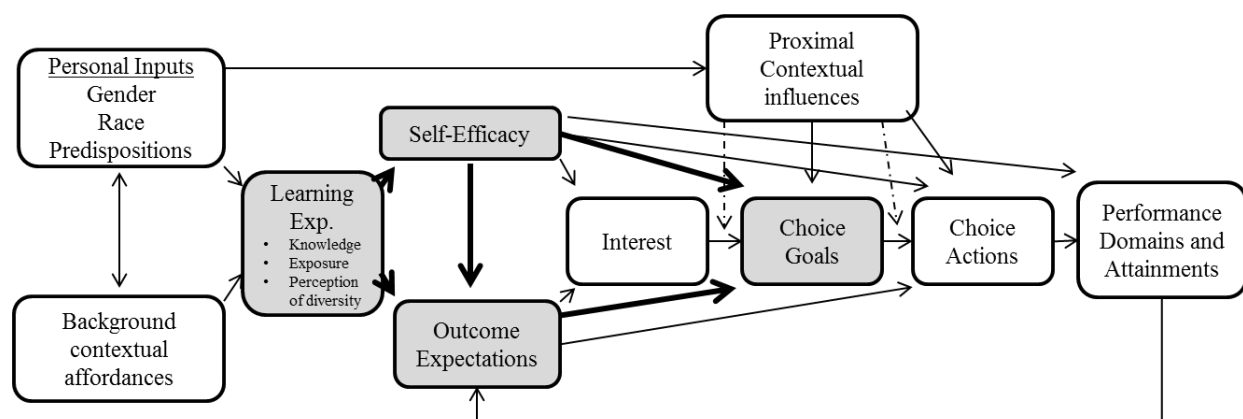


Fig. 1 Social cognitive theory model of Choice behavior. Adapted with permission from Lent, Brown, and Hackett (1993)

Pertinent pathways of SCCT choice model. As shown in figure 1, learning experiences, which are the experiences that impact a person's level of knowledge, are believed to directly influence outcome expectations and self-efficacy. For example, students' knowledge or experiences regarding the tasks performed by school psychologists can increase their belief in their ability to do well in that profession; similarly, information regarding school psychology can also modify their belief in the most likely outcome of becoming a school psychologist. Furthermore, self-efficacy, is conceptualized as directly affecting outcome expectations. For example, individuals are likely to perceive more positive outcomes for tasks that they perceive themselves to be good at completing. In turn, outcome expectations (i.e., perception and value of consequences related to the engagement in a specific task) and self-efficacy are also believed to directly influence goals/intentions, with students who believe that they would do well as a school psychologist and perceiving positive consequences from becoming a school psychologist, being more likely to create goals or having intentions of becoming a school psychologist.. Lastly, within the SCCT theory, choice goals/intentions (i.e., resolution to engage in specific activity) are believed to impact academic choice actions (i.e., implementation of choice). Each of these components is believed to play an integral role in the academic/career choice process and has been supported by research. The interaction between these constructs can influence a person's level of motivation, persistence, academic expectations, and career goals/intentions (Lent, Brown, & Hackett, 1994). Due to the importance of understanding the literature supporting the inclusion of these construct and their pathways, choice goals/intentions, self-efficacy, outcome expectations, and learning experiences will be explained.

Choice goals/intentions. Goals are defined as an individual's aspiration to accomplish a certain task or to experience certain outcomes (Lent, 2005). Within SCCT, these goals are categorized as either choice content goals or performance goals. Choice content goals are goals that focus on the type of career or activity that a person wishes to engage in, while Performance goals are the level of achievement that a person wishes to attain (Lent, 2005). The creation of goals is believed to be important in directing, organizing, and sustaining a person's behaviors, due to it allowing for the symbolic representation of a desired activity or outcome. This symbolic representation allows for the association of positive emotions to the attainment of the goal, which encourages self-regulation and sustainment of effort (Lent, Brown, & Hackett, 1994). The relationship between self-efficacy and outcome expectations, and goals is believed to be reciprocal, with advancement (or lack of advancement) towards goals likely influencing the strength of the other factors (Lent, 2005). Furthermore, research has shown that choice goals/intentions correlate highly with proximal and distal choice action (Rogers & Creed, 2011).

For example, Rogers and Creed (2011) investigated the predictors of choice action using both a cross-sectional and longitudinal design. The authors included a sample of 819 students at time 1 and 631 at time 2. There was a six month gap between time 1 and time 2. These students attended two private high schools in Australia that serviced a primarily middle class student population. Measures used in the study included: subscales of the Career Development Inventory, the Career Decision-Making Self-efficacy scale-short form, an adapted outcome expectations scale, a career goal scale, the Career Influence Inventory, and the NEO Five-Factor Inventory. All scales, except subscales within the personality inventory, were found to have an internal reliability of .79 or higher. All measures, except the personality measures were given

twice, six months apart. Personality measure was given only at time 1. Rogers and Creed found (2011) that goals at time 1 were significantly correlated with choice action at time 1 and at time 2. Furthermore, the authors also found support for the role of self-efficacy in the creation of goals at both time 1 and time 2 with increased self-efficacy at time 1 being positively correlated with the clarity of goals at time 1 (.64) and time 2 (.48). This relationship between self-efficacy and career goals is important due to the SCCT choice model indicating a strong association between self-efficacy and the creation of career related goals.

Self-efficacy. Self-efficacy is the perception of a person's ability to perform a specific task, in a specific context, in order to achieve a specific goal (Zimmerman & Cleary, 2006). Self-efficacy holds a central role in the social cognitive theory due to a plethora of studies that have supported the benefits of having high self-efficacy. Individuals with high self-efficacy have been found to be more effortful in their actions, more resilient against failure, and have improved performance (Zimmerman & Cleary, 2006). Furthermore, self-efficacy has been found to be a malleable construct, often being influenced by environmental conditions and informational sources (Lent, 2005). The malleability of self-efficacy by environmental conditions and information sources, and its correlation with actual success has proven to be an endearing characteristic to many researchers who use SCT and SCCT themes. This malleability signifies that interventions can be implemented in order to modify this construct and in turn, help to make more general behavioral change.

Researchers studying the SCCT framework have found self-efficacy to be predictive of outcome expectations, interests, and intentions (Fouad & Smith, 1996). For example, Fouad and Smith (1996) conducted a study with the goal of validating specific components of the SCCT

choice model. In their study, the authors included 380 students from a Midwestern, urban middle school. Study participants were seventh and eighth grade middle school students. Most students within the study were identified as being a racial/ethnic minority with 59 % identifying as Hispanic, 15% as White, 11% as African American, 3% Asian American, 3% Native American, and 9 % other (Fouad & Smith, 1996). Fifty-eight percent of participants were female. All study participants were part of a science and math career program. Students' self-efficacy, outcome expectations, and intentions were assessed through the use of instruments developed and validated by the study's first author and were found to have adequate internal reliability. These instruments were largely based on previously established scales and were adapted for use based on the purpose of the study. Fouad and Smith (1996) analyzed the relationship between self-efficacy, outcome expectations, and intentions through the use structural equation modeling. The authors found that self-efficacy was predictive of outcome expectations, interests, and choice intentions in middle school students for the domain of math and science. Furthermore, this relationship held, even when model was analyzed by students' ethnic groupings (.i.e., Hispanic, White, and African American).

Additionally, Ford (2003) conducted a study that examined the use of the SCCT and college racial composition to predict graduate school consideration in African American males. The study included 190 Black undergraduate male students, with 71 students attending a primarily White institution (PWI) and 118 attending a historically Black college or university (HBCU). Participants' ranged from 18 to 42 years old, with 11 freshmen, 8 sophomore, 76 junior, and 89 senior students (Ford, 2003). Scales used in this study were a self-efficacy scale that had been adapted by Hackett and Byars (1996) for use in a previous study, an outcome

expectation scale that was based on previous research, and a graduate school consideration scale that was developed by the author for a previous study. The author analyzed the data by way of hierarchical multiple regression. The author found self-efficacy to be a strong predictor of graduate school consideration and outcome expectations in undergraduate African American males. Interestingly, the author did not find a significant relationship between undergraduate school type (PWI versus HBCU) and students' self-efficacy or outcome expectations. Ford (2003) hypothesized that this lack of expected relationship between self-efficacy, outcome expectations, and undergraduate school type was likely due to the numerous minority focused support programs, such as the McNair and College Advancement Achievement Program that were implemented in the PWI. These support structures may have had a positive impact on African American students' performance at PWI's which may have mitigated the expected relationship between self-efficacy and outcome and university type (i.e., PWI versus HBCU).

Furthermore, Flores and O'Brien (2002) conducted a study that examined the applicability of the SCCT choice model to Mexican American females' pursuit of non-traditional gender role occupations. In their study, the authors included 364 Mexican American females in their senior year of high school. Participants attended a predominately Hispanic high school located in the southwest. Participants' age ranged from 16 to 21 years of age. Students were assessed for: acculturation level, feminist attitudes, mother's level of education, mother's occupational traditionality, nontraditional career self-efficacy, nontraditional career interest, parental support, perceived occupational barriers, career choice prestige and traditionality, and career aspirations. Previously established measures were used to assess the aforementioned constructs: Acculturation was assessed through the use of the ARSMA-II (Cueller, Arnold, &

Maldonado, 1995), feminist attitudes was assessed through the use of the FWM (Fassinger, 1994), mothers occupational traditionality was assessed by percent of women employed in that field, non-traditional career self-efficacy was assessed through the modification of the occupational self-efficacy questionnaire (Church et al. 1992), parental support was measured through the Career Support Scale (Binen, Franta, &Thye, 1995), perceived occupational barriers was assessed through the use of Perceptions of Barriers Scales (McWhirter, 1997), Career choice prestige was measured through the use of Stevens and Feathermen's (1981) socioeconomic index of occupational status, and career aspirations was measured through the use of the Career Aspiration Scale (O'Brien, 1992). Flores and O'Brien's (2002) data was analyzed through using path analysis. They found self-efficacy to be significantly associated with interest for non-traditional careers and career choice in Mexican American females (Flores & O'Brien, 2002).

Lastly, Lent et al. (2008) conducted a longitudinal test of the influence of self-efficacy on later outcome expectations, interests, and choice goals in undergraduate engineering students. This study moved beyond previous research by attempting to build support for a causal, temporal link between self-efficacy and later outcome expectations, interests, and choice goals. The study participants consisted of 166 male students, 37 female students, and 6 students that did not identify their sex. One-hundred-sixty-four of these students were enrolled in a primarily White state university and 45 students were recruited from private HBCU. Furthermore, 63% of participants self-identified as White, 22% as African American, 11% as Asian, 2% as Hispanic, and 2% as other. All students were enrolled in an introductory engineering class during the recruitment phase of the study and the majority of the participants (92%) were first year students.

Participants were given several social cognitive, academic, and demographic measures at two time points that were separated by 5 months. The measures included previously validated self-efficacy, outcome expectations, interests, and goals measures. The self-efficacy measure had been used in a previous study, where it was found to have a coefficient alpha of .91. This self-efficacy scale had been adapted from the self-efficacy for academic milestone scale (Lent et al., 1986) and from a coping efficacy scale (Lent et al., 2001, 2003). The outcome expectations scale, interest and goals measures had been used in previous studies (Lent et al., 2001, 2003, 2005) where they were found to have good internal reliability and correlate in the expected direction with theorized constructs. The authors used path analysis to test the longitudinal relationship between the aforementioned variables. Lent et al. (2008) compared four models: 1) a base model that examines the stability of self-efficacy, outcome expectations, interests, and goals across time, 2) a Self-efficacy – antecedent model in which self-efficacy is predictive of outcome expectations, interest, and goals, 3) Self-efficacy – consequence model in which levels of self-efficacy are being predicted by outcome expectations, interests, and goals, and 4) a bidirectional model test whether the relationship between self-efficacy, outcome expectations, interests, and goals are reciprocal. The authors found the self-efficacy-antecedent model to be the best fit, which supported the theoretical assumption that self-efficacy at time 1 predicts outcome expectations, interest, and goals at time 2.

Taken together, the aforementioned studies help to provide support for the role of self-efficacy within the SCCT and its applicability across some minority groups. More specifically, the studies found that there is a relationship between self-efficacy, outcome expectations, interest, goals, and choice, with self-efficacy likely influencing the other constructs. Therefore,

the aforementioned studies helped to support the role of self-efficacy in determining career choice.

Outcome expectations. Outcome expectations are the beliefs of the most probable outcome of engaging in a particular behavior (Lent, Brown, & Hackett, 1994). Examples of outcome expectations are the belief that, “if I study hard for a test, I will get a good grade” or that, “if I get a job as a school psychologist, I will be happy”. Outcome expectations are thought to play a critical, yet complex role, in a person’s decision to engage in a given task. For example, if a person has positive outcome expectations, and assuming that this person has high self-efficacy for the same task, then that person is more likely to perform that task since they will expect a beneficial outcome as a result of performing the task. However, if the same person has negative outcome expectation then the person is less likely to take part in the behavior, even if the individual has high self-efficacy for the task, due to the person not perceiving the attainment of beneficial outcomes upon accomplishing the task (Lent, Brown, & Hackett, 1994). Outcome expectations are subdivided into three different classes of expectations and have been identified as: a) physical (e.g. the attainment of food, shelter, or exposure to pain), b) social (e.g. receiving increased social acceptance, recognition, or prestige), and c) self-evaluative (e.g. feeling increased self-esteem or loss of self-worth) outcomes (Bandura, 1986; Fouad & Guillen, 2006; Lent, Brown, & Hackett, 1994).

Outcome expectations and self-efficacy differentiate in that self-efficacy is a person’s belief in their ability to perform well on a specific task, while outcome expectations is the belief of the benefits of performing that task. Both of these factors are theorized to be important in determining whether a person will engage in a task. However, the interaction between self-

efficacy and outcome expectations and their influence on choice action may depend on the complexity of the task (Lent, 2005). For example, a person with high self-efficacy for completing their dissertation will likely not engage in that task unless they have high outcome expectations for engaging in that task. The need for high outcome expectations for the aforementioned task is due to the complexity and time commitment needed to complete the task. In contrast, an individual with high self-efficacy for sharpening a pencil may engage in the task even if he does not have high outcome expectations for that task, since the task is not complex or requiring a large amount of resources. Furthermore, outcome expectations are believed to be directly influenced by both self-efficacy and learning experiences. Learning experiences' role in influencing outcome expectations is believed to be due to peoples' perception of the expected outcome deriving from their previous exposure to knowledge regarding the likeliness and benefits of that outcome. Like self-efficacy, outcome expectations are believed to be directly shaped by informational sources (i.e. personal accomplishments, vicarious learning, physiological states, and social persuasion learning experiences) which are confined within the construct of learning experiences (Lent, Brown, & Hackett, 1994). In addition to learning experiences, outcome expectations are also believed to be directly influenced by self-efficacy (Lent, Brown, & Hackett, 1994). Lastly, Lent, Brown and Hackett (1994) postulated that within the choice model self-efficacy and outcome expectations would jointly influence the creation of interest, choice goals, and choice action (Lent, Brown, & Hackett, 1994).

Studies using the SCCT framework have found outcome expectations to be predictive of interest, goals/intentions, and choice action. For example, the previously cited studies of Fouad and Smith (1996) and Ford (2003) found that outcome expectations were predictive of interests

and intentions in middle school students for the domain of math and science and of African American undergraduate male students' graduate school consideration. Furthermore, Blanco (2011) examined the applicability of the SCCT's choice model in the prediction of academic interest and goals for statistics in Spaniard psychology students. The study included 1036 undergraduate students across five universities in Spain. Due to Blanco (2011) requiring that participants having taken a course in statistics, freshmen and sophomores students were not included in the study. Therefore, 25% of participants were third year, 33% were fourth year, and 42% were fifth year students. In addition, 84% of study participants were females, which according to Blanco (2011) was representative of the gender composition of Spaniard psychology students. Instruments used in the Blanco's study were adapted by the author and validated using a subsample of participants. These instruments included a self-efficacy, outcome expectations, interest, mastery experiences, and goals scales. The alpha coefficients for these scales were .91 for self-efficacy, .91 for outcome expectations, .85 for interest, .86 for goals, and .58 for mastery experiences. The mastery experiences scale was based on two questions, one which asked them their grade point average in statistics and the other assessed their perception of past performance in statistics. The lack of items within the mastery experience scale and the discrepancy between the constructs assessed within the scale is likely responsible for the low internal consistency found within the mastery experience scale.

Blanco (2011) used structural equation modeling to analyze the data. Based on his analysis the author reported finding support for the use of the SCCT choice theory in the prediction of undergraduate Spaniard students within the domain of statistics. More specifically, Blanco (2011) found that in Spaniard psychology students, outcome expectations played an

important role in predicting interest and goals. The author found that as hypothesized, self-efficacy had an indirect influence on goals through interest and outcome expectations and that outcome expectations had both a direct and indirect influence on choice goals. As postulated within the SCCT choice model, outcome expectations influence on goals was through a direct pathway between outcome expectations and goals and an indirect pathway by way of interest. Hence, Blanco's (2011) study not only provides support for the use of SCCT choice model with cross-cultural populations, but it also provides further evidence to the importance of outcome expectations within the SCCT model.

In summary, research regarding outcome expectations has lagged behind self-efficacy. However, researchers examining outcome expectations have generally found support for its theorized role in the career choice process and its generalizability across various racially/ethnically diverse populations. Thus, the preceding review evidences the importance of including outcome expectations within models of academic or career choice. As postulated within the SCCT choice model, outcome expectations, coupled with self-efficacy, help to influence an individual's academic or career choice processes. Due to the prominent role that both self-efficacy and outcome expectations can play in academic choice process, it is important to investigate how certain theorized constructs impact both self-efficacy and outcome expectations. Within the SCCT choice framework, one construct that is postulated to directly impact both of these variables is learning experiences.

Learning experience. Learning experience are the events in a person's life that increases that person's level of knowledge. This construct is believed to be the experiential source of outcome expectation and self-efficacy and arises from personal accomplishment, vicarious

learning, verbal persuasion, and physiological/emotional arousals (Lent, Brown, & Hackett, 1994; Schaub & Tokar, 2005). Examples of learning experiences are psychology students' exposure to psychology subtypes, their awareness of racial/ethnic minorities within different fields of psychology, and their attainment of knowledge regarding each field through coursework. It is important to note that Lent, Brown, & Hackett (1994) contend that the relationship between learning experiences and later constructs (i.e. self-efficacy and outcome expectations) are not always direct, due to the impact of a person's perception on the interpretation of their experiences. For example, a student's bias may increase the student's likeliness to focus on certain aspects of a professor's lecture, which may not be an accurate representation of intended message of the lecture, nevertheless, the student's biased perception of the professor's message may impact the student's self-efficacy and outcome expectations associated with the course. Hence, within a SCCT perspective, a person's perception regarding their learning experience may be as important, if not more important, than their actual experience.

Numerous researchers have found support for the influence of learning experiences on self-efficacy and outcome expectations (Bandura 1986, 1997; Campbell & Hackett, 1986; Dawes, Horan, & Hackett, 2000; Shuab & Tokar, 2005; William & Subich, 2006). For example, Luzzo et al. (1999) examined the influence of learning experiences on math/science self-efficacy, interest, goals and action through the use of learning experience interventions; in addition to investigating the impact of learning experience on self-efficacy by learning experience type (i.e., vicarious learning versus performance accomplishment). Luzzo et al.'s (1999) study included 94 (55 females and 39 male) undecided first year college students from a large public university in

the southern United States. Eighty-six percent of the participants were White, 12% were African American, and 2% were identified as *other*. The age of participants ranged from 18 to 23. All participants were recruited from a college orientation course for freshmen.

Instruments used in this study to measure math/science self-efficacy were math/science course self-efficacy scale, self-efficacy for technical/scientific fields-educational requirements scale, and math/science occupational self-efficacy scale. These scales were adapted from previously established instruments of self-efficacy and all scales were found to have an internal reliability of .89 or higher (Luzzo et al., 1999). Math/science career interest was measured through the creation of the Career Interest Rating Scale. The Career Interest Rating Scale is a five point Likert scale, which has participants rate their level of interest across 15 different careers. Internal reliability for this scale was found to be .95 (Luzzo et al., 1999).

Study participants were randomly assigned to one of four treatment conditions: no treatment, vicarious learning, performance accomplishment only treatment, and vicarious learning and performance accomplishment combined treatment. Participants completed the aforementioned measures before commencing treatment, immediately after treatment, and four weeks after treatment (Luzzo et al., 1999). In the vicarious learning condition, students watched a video where undeclared college students had several successful experiences in math/science and later went to have successful careers in math/science. In the Performance accomplishment condition, students were told that they had to solve at least six out of twelve math problems correctly in order to pass the activity (Luzzo et al., 1999). Math problems varied in difficulty; however, math problems were created in order to increase the probability that students would get

at least six problems correct. All participants that took part in this task were able to get at least six problems correct (Luzzo et al., 1999).

Data was analyzed through the use of MANCOVA. Luzzo et al. (1999) found that individuals within the performance accomplishment conditions evidenced a large ($ES = .51$), statistically significant change ($p < .01$) in their reported immediate post treatment self-efficacy for doing well in math/science courses, when compared to no treatment group. Furthermore, the combined treatment group endorsed significantly higher math/science career interests than other condition groups (Luzzo et al., 1999). Lastly, participants in performance condition when assessed four weeks after treatment were found to be higher in; math/science course self-efficacy, math/science occupational requirement self-efficacy, interest for math/science courses, and enrollment in math/science course, when compared to the no treatment group (Luzzo et al., 1999). Thus, Luzzo et al. (1999) findings indicated that the performance condition learning experience had a significant impact on students' math/science self-efficacy, math interest, and enrollment in math/science related courses. However, this impact of performance condition learning experience on self-efficacy, interest, and enrollment did not generalize across learning experience type. The authors did not find vicarious learning to have a significant impact on any of the dependent variables measured. This lack of influence of vicarious learning experience could be due to a need for prolonged exposure to the vicarious learning experiences in order for it to influence self-efficacy. The differential impact between learning experience types is in line with Bandura's (1986) belief that different types of learning experiences will have differing magnitude of impact on self-efficacy, with personal accomplishment having the most impact on self-efficacy and outcome expectations.

Furthermore, a study by Schaub and Tokar (2005) examined the role of personality type and learning experiences within the SCCT model. More specifically, the authors sought to investigate the relationship between personality types and career interest through the analysis of learning experiences and socio-cognitive components (i.e., self-efficacy and outcome expectations) that are believed to mediate the relationship. Study participants consisted of 327 (118 males and 209 females) students at a mid-Atlantic university. Sixty-seven percent of participants identified as White, 12.8% as Asian American, 5.2% as African American, 3.4% as multiracial, 3.1% as Hispanic, and 8.6% as other. Participants' ages ranged from 18 to 49, with a mean age of 20.3. Participants' represented a broad range of academic majors and were recruited through email announcement and fliers.

Schaub and Tokar's (2005) measured participants' personality through the use of the NEO Five-Factor Inventory short form. Learning experiences were measured through the Learning Experiences Questionnaire, which is a previously validated measure that was created to assess the four types of learning experiences for each of Holland's themes (Schaub & Tokar, 2005). Self-efficacy was measured through the use of the Skills Confidence Inventory. Outcome expectations were assessed through the use of the Occupational Outcome Expectations scale and Vocational interest was measured through the use of the Strong Interest Inventory. All measures within the study had been previously validated and were found to have adequate internal consistency, ranging from .72 to .96 (Schaub & Tokar, 2005).

Schaub and Tokar (2005) analyzed their data through a series of path analyses. The authors found that learning experiences was a significant predictor of self-efficacy and for social and realistic personality theme related outcome expectations. However, when taking into account

the direct and indirect effect of learning experiences (by way of self-efficacy) on the outcome expectations, learning experiences was found to have a significant influence on outcome expectations for all six personality themes (i.e., Realistic, Investigative, Artistic, Social, Enterprising, and Conventional). Furthermore, the authors found most personality types measured to be significantly predictive of learning experiences. Thus, the authors concluded that the relationship between personality type and professional interest was at least partly mediated by learning experiences, with learning experiences impacting self-efficacy directly and outcome expectations both directly and indirectly, through self-efficacy (Schaub & Tokar, 2005). Thus, these findings largely support the pathways linking learning experiences to interest within the SCCT choice model that were postulated by Lent, Brown, and Hackett (1994).

In summary, the aforementioned studies have provided support for the theorized role of learning experiences within the SCCT academic choice model. Luzzo et al. (1999) used an experimental design in order to investigate the relationship between learning experiences and self-efficacy, interest, goals and actions. The authors found that a learning experience intervention could significantly impact later self-efficacy and action. In addition, Schaub and Tokar (2005) also found support for the hypothesized relationship between learning experiences and self-efficacy, and the direct and indirect pathway from learning experiences to outcome expectations.

Support for the use of SCCT Choice Model to Study Choice of Specialty

As evidenced in the previous section, the SCCT choice model is a complex model comprised of 10 components linked by various pathways. The complexity of the model makes it very difficult to test the model as a whole. Therefore, research using the SCCT model typically

examines only a portion or portions of the model. Nevertheless, although no study to date has examined the model as a whole, a plethora of studies have found support for various components of the SCCT choice model and the pathways between these components. However, the extent to which each component has been studied and the level of support found for each component varies, with components such as self-efficacy and goals benefitting from years of research, while components such as learning experiences has only recently receiving increased attention. Therefore, as a whole, the SCCT has been predominately supported by research, however, some components of the theory would benefit from further research.

In addition to the need for further research to support specific components of the theory, more research needs to be completed examining the application of the theory across various domains. The SCCT is a framework that is largely context specific, therefore, many of the constructs within the framework will be influenced by the context in which it is applied. Thus, it is important to test the theory across various contexts. Due to the benefits of convenience sampling and the fact the SCCT model examines the processes involved during academic and career choice decisions, a substantial portion of the research regarding this framework has taken place within the university environment (Blanco, 2011; Schaub & Tokar, 2005; Williams & Subich, 2006). This research has found support for the use of the model within the university environment with minority and non-minority undergraduate students. However, no research has yet to use the SCCT choice model to investigate minority undergraduate students' choice intentions for a psychological graduate training specialty.

The understanding of factors impacting minority undergraduate psychology students' choice of psychological specialty is important due to undergraduate psychology students' choice

of school psychology, over other types of psychology, being a critical step within the school psychology pipeline. Without an adequate number of minority undergraduate students applying to school psychology programs it would be near impossible for school psychology graduate programs to recruit enough students into their training programs to meet their recruitment needs. This realization makes it ever more apparent that the profession of school psychology must investigate what modifiable factors predict minority undergraduate students' intentions of choosing school psychology over other professional psychology specialty. As a result of minority undergraduate psychology students choosing a psychological specialty after years of learning experiences regarding psychology, the learning experiences that these students are exposed to represents a promising avenue for research. If certain, alterable learning experiences can be identified as impacting students choice of psychology specialty type, interventions could be put in place in order to increase the number of minority students applying to school psychology. Hence, within the subsequent section factors within the learning experience domain that have been identified as impacting the recruitment of minority and non-minority undergraduate students will be presented.

Learning Experience Variables found to Impact Diversity Recruitment Efforts

As previously stated, learning experiences are those experiences throughout a person's life that impact his/her knowledge and/or awareness. An example of such experiences is an undergraduate psychology student learning about the different fields of psychology through interactions with mentors/advisors and through personal experiences, media, and academic readings. The SCCT holds that these experiences are likely to influence undergraduate psychology students' sense of self-efficacy and outcome expectations, which, in turn, can impact

interest and choice of professional psychology specialty. This relationship between learning experience and self-efficacy and outcome expectations is likely due to learning experiences impacting individual's level of knowledge, which people interpret through the use of cognitive mechanisms in order to assess: a) their probability of succeeding at a specific task (self-efficacy) and b) the favorability of the expected outcomes of successfully engaging in that task (outcome expectations) (Bandura, 1986). Self-efficacy and outcome expectation (in addition to proximal contextual affordances) are subsequently linked to academic interest, goals/intentions, and action (Bandura, 1986; Lent, Brown, & Hackett, 1994). Thus, a focus on understanding the influence of modifiable learning experiences (i.e., learning experiences that can be modified through interventions) on academic choice is imperative for diversity recruitment, due their potential impact on self-efficacy and outcome expectations and subsequent academic choice processes. Hence, the identification of modifiable learning experiences, that impact undergraduate psychology students' intentions of applying to a graduate psychology specialty would allow for the implementation of recruitment focused interventions that would likely have an impact on choice behavior through its influence on self-efficacy and outcome expectations pathways.

Due to the importance of understanding how certain modifiable learning experiences impact the academic choice process, learning experience factors within the recruitment literature that have been found to impact or has been posited as impacting diversity recruitment will be presented. Based on a review of the recruitment literature these factors will be grouped into; a) exposure to the field of school psychology, b) perceived knowledge regarding the field of school psychology, and c) perception of the diversity of within the field of school psychology.

Exposure to professional specialty. Sources of learning experiences can range from personal interaction with school psychologists to the portrayal of psychologists within the media. Research has indicated that there are fewer sources of information regarding school psychology than the other types of professional psychology. For example, in a study Haselhuhn and Clopton (2008) examined the representation of applied psychology specialties (i.e. clinical, counseling, school, and industrial/organizational psychology) within undergraduate psychology textbooks. The authors found school psychology to be the least represented of the applied subfields within students' text.

Furthermore, Graves and Brown Wright (2009) conducted a study where they investigated the sources of information that students use to gather knowledge regarding professional psychology specialties. Graves and Brown Wright's (2009) study included 10 possible sources of information ranging from textbooks to professional associations (i.e. APA and NASP). For all categories, except for school psychology's own professional organization, NASP, students reported having gathered less information pertaining to school psychology than for clinical or counseling psychology. This study suggests that school psychology is suffering from a lack of representation across most sources of information. This general lack of exposure could have an impact on undergraduate psychology students' general knowledge regarding school psychology. A general lack of knowledge could in turn impact students' interest and choice to enter the field of school psychology due to knowledge being a critical component in establishing appropriate self-efficacy and outcome expectations about the field of school psychology (Bandura, 1986).

Knowledge. Knowledge of psychological subfields can play an important role in guiding undergraduates' choice of psychological specialty. According to the SCCT choice model, knowledge of specific psychology subtypes impacts academic choice through its influence on self-efficacy and outcome expectations. Researchers have generally found undergraduate psychology students to have less knowledge regarding school psychology than other types of professional psychology, which has been postulated as contributing to school psychology current recruitment difficulties. For example, Graden (1987) commented that a possible contributing factor to school psychology's recruitment impasse is a lack of general knowledge of school psychology. In partial support of this notion, Crislip (2012) found that undergraduate psychology students' knowledge of school psychology was significantly related to their choice of school psychology as a profession, with individuals with more knowledge of school psychology choosing school psychology as a profession more often than students who had less knowledge of the field.

Furthermore, researchers that have attempted to assess undergraduate students' knowledge of psychological subspecialty have generally found that psychology undergraduate students as having less knowledge of school psychology than other applied psychology subtypes (i.e. clinical and counseling psychology). For example, Graves and Brown Wright (2007) conducted a study where they examined why school psychology students chose to enter the field of school psychology. The authors included 307 graduate students from NASP membership database, which were selected through the use of stratified random sampling. Study participants completed a survey that included open ended questions. A qualitative analysis of the open ended questions revealed that a substantial portion of school psychology students surveyed felt that

they had very little awareness regarding the field of school psychology before going into the field. A common theme within this response was having to find out about school psychology through students' own research or by chance and having more knowledge about counseling and clinical psychology than school psychology (Graves & Brown Wright, 2007).

The general lack of awareness regarding the field of school psychology is further supported by Stark-Wroblewski, Wiggins, and Ryan (2006) and by Graves and Brown Wright (2009). Stark-Wroblewski, Wiggins, and Ryan assessed undergraduate psychology students' familiarity and interests in the different subtypes of professional psychology. The study included 83 undergraduate psychology students from one Midwestern university. The study compared students' interest and familiarity across forensic, clinical, counseling, and school psychology. In addition, due to the popularity that criminal profiling was receiving in the media, they also included criminal profiling into their study. The authors found that students were significantly less interested in school psychology than criminal profiling, forensic psychology, clinical psychology, and counseling psychology. Furthermore, of the three traditional specialties within professional psychology, students reported to be less familiar with school psychology than with clinical and counseling psychology.

Unfortunately for diversity recruitment efforts, this general lack of knowledge regarding school psychology has been also found within historically black universities (HBCU; Graves & Brown Wright, 2009). HBCU's are a critical resource for minority recruitment due to these universities being primarily comprised of minority students. Due to the important role that HBCU's can play in overcoming school psychology's recruitment impasse, Graves and Brown Wright (2009) examined psychology undergraduate students' from three HBCU's perception of

field of school psychology. These students reported a significantly lower level of knowledge regarding school psychology than counseling and clinical psychology. Furthermore, this difference in perceived knowledge regarding the fields of professional psychology was found to be generally constant across academic level (e.g. freshmen, sophomore, junior, and senior).

However, not all researchers have found significant results regarding undergraduates' knowledge of school psychology. Gillman and Handwerk (2001) studied undergraduate students' knowledge of various psychological sub-disciplines. The participants within this study were from five different universities and represented a diverse range of majors. The authors found that among all majors surveyed in the study, students endorsed having slightly more perceived knowledge regarding school psychology than clinical psychology. However, when examining only psychology undergraduate students' perceived knowledge, these students reported more knowledge of clinical psychology than school psychology, but this difference failed to reach significance.

Gillman and Handwerk's (2001) contradictory findings could be due to the use of a four point scale ranging from no knowledge to extremely knowledgeable. The extreme anchor points of the scale may have encourage students to choose one of the two more moderate ratings (.i.e. somewhat knowledgeable, pretty knowledgeable) which may have artificially decreased the variability within responses. Further complicating this study's results is the descriptive nature of school psychology's name. Students who are equally unfamiliar with clinical and school psychology may rate themselves as having slightly more knowledge of school psychology than clinical psychology due to their ability to deduct that school psychologist normally work within schools and thus, confounding their results.

In summary, researchers have generally concluded that most psychology undergraduate students are less informed about school psychology than counseling and clinical psychology. This lack of knowledge regarding the field of school psychology may negatively impact the academic choice process, due to its deleterious impact on the establishment of a positive self-efficacy and outcome expectations towards the profession of school psychology, which will subsequently impact choice goals/intentions towards school psychology; thus, increasing the likelihood of graduate school bound psychology students choosing a sub-specialty of professional psychology that is not school psychology.

However, a lack of knowledge or exposure to school psychology may not be the only contributing factor impacting the representation of minorities within the field of school psychology. Some researchers have found that minorities are more likely to enroll in graduate programs if they perceive that program as being more diverse. This finding is troubling due to the severe underrepresentation of minorities within the field of psychology. Therefore, it is possible that a contributing factor to the underrepresentation of racial/ethnic minorities within the field of school psychology is the perception of school psychology as a field lacking ethnic/racial diversity. Due to the perception of a field likely being established as a result a person's direct or indirect exposure to that field, undergraduate psychology students' perception regarding the diversity of school psychology can be conceptualized as falling within the learning experience domain.

Perception of diversity within subspecialties of professional psychology. Researchers have found that people's perception of an organization's ethnic/racial diversity to be an important factor in effective ethnic/racial diversity recruitment efforts (Cho, Hudley, Lee, Barry,

& Kelly, 2008; Gasman, Kim, & Nguyen, 2011; Opp, 2001). For example, Cho et al. (2008) conducted a study that attempted to identify which factors were most influential in prospective undergraduate students' choice of college. The researchers found that the factors that were deemed as most influential varied by gender, racial/ethnic grouping, and by student generation status (e.g. first generation student versus non-first generation student). The authors also found that African American students and first generation Latino students reported the ethnic diversity of the campus to be an important variable to consider when making their choice of which college to attend.

Furthermore, Johnson (2009) conducted a study that examined the most used minority recruitment strategies within school psychology and the effectiveness of those strategies. The study included all 108 program directors of specialist level NASP accredited school psychology program. Recruitment factors that were assessed were a) the existence of a written recruitment policy, b) minority specific recruitment practices, c) number of minority and non-minority graduate students within the last five years, d) number of minority students within each student cohort, and e) total number of minority faculty within the program.

In regard to the most used strategy type within school psychology programs, Johnson (2009) found that the most used strategy categories were program brochures/website, followed by personal contacts, and the emphasis of program benefits. Within these minority recruitment categories, the three most frequently used individual strategies were promotion of program reputation, offering prospective students opportunity to visit program, and interaction with faculty and mentors. Unfortunately, the use of regression analysis did not find any of these

factors to be a significant predictor of the total number of minority students enrolled in the programs.

What Johnson (2009) did find was that the factors that were significantly related to the actual minority student representation within the programs were the geographic location of the program, with urban locations having a higher number of minority students, and the representation of minorities within program faculty. This correlation between higher numbers of minority faculty and the number of minority students attending the program could be due to students' perceiving the programs with increased minority faculty and minority students as being more open to diversity and supportive of minority students.

Lastly, Opp (2001) examined the recruitment strategies and barriers at 562 colleges. Participants consisted of a national sample of Chief Student Affairs Officers at two year colleges. Study participants were surveyed on their use of minority recruitment strategy. Subsequently, data from this survey was merged with data from the National Center of Education Statistics, which provided the author with data on organizational characteristics and enrollment statistics. Opp (2001) found that the number of minority faculty and administrators was one of the strongest predictor for increasing the number of minority students at the institution. The author argues that one of the possible reasons for the impact of greater minority faculty representation and increase minority recruitment could be due to a perception of acceptance of diversity.

Taken as a whole, these studies strongly suggest that minority students are more likely to choose an academic program based on their perception of the acceptance and commitment to diversity of that program. This same phenomenon is likely to impact undergraduate psychology students when making choice of professional psychology specialty. Therefore, within the current

study undergraduate psychology students' perception of commitment to diversity of each specialty will be assessed. For this study, commitment to diversity will be conceptualized as part of the learning experience domain due to students' perception of the field's commitment to diversity likely being a result of their accrument of knowledge regarding that psychological specialty and thus, a product of their learning experiences.

Current study

In summary, minorities have been historically underrepresented within the field of school psychology. This underrepresentation of minorities is of great concern due to school psychology program directors inability to keep pace with the diversity found within their clientele. Researchers have demonstrated that diversity recruitment can benefit the field of school psychology through various means that include client-therapist ethnic match, meeting human resource needs, and higher rates of intergroup contact, which has been shown to increase openness to diversity and reduce bias. Especially troubling is that school psychology has both failed to keep pace with both the diversity of our clientele and the recruitment of diverse graduate students by sister programs of professional psychology (i.e. clinical and counseling psychology). Since all sub-specialties of professional psychology recruit largely from the same population (undergraduate psychology students), it is paramount that the field of school psychology investigates how certain alterable factors impact students' choice of professional psychology specialty and how these variables impact the academic choice process.

Hence, within the present study I will investigate relationship between learning experiences and academic choice intention. More specifically, the purpose of this study is to examine whether advanced (i.e., junior and senior) undergraduate psychology students' learning

experiences are predictive of the strength of their intention for applying to a school psychology graduate program and if self-efficacy and outcome expectations mediate this relationship. Specific learning experiences that will be investigated within this study is perceived knowledge of psychology type, exposure to psychology type, and perception of commitment to diversity within psychology type. These constructs were selected for inclusion in this study as a result of an extensive literature review and due to these constructs likely being alterable through recruitment related interventions.

Research questions

In the current section the research questions will be outlined, followed by the corresponding hypothesis for each question. Furthermore, due to the large number of research questions within this dissertation, the research questions will be organized into two studies. The overall goal of the first study is to identify whether there is a significant difference in advanced undergraduate psychology students' learning experience for school psychology when compared to counseling or clinical psychology. In contrast, within the second study, the relationship between learning experiences, self- efficacy, outcome expectations, and choice intentions for school psychology will be explored.

Study 1. Are advanced undergraduate psychology students' learning experiences (i.e., exposure, knowledge, and perception of diversity) regarding school psychology significantly different than for counseling or clinical psychology?

Research question 1. Do advanced undergraduate psychology students have significantly less exposure to school psychology than to counseling or clinical psychology?

Hypothesis: Advanced undergraduate psychology students will have significantly less exposure to school psychology than to counseling or clinical psychology (Graves & Brown Wright, 2009; Haselhuhn & Clopton, 2008).

Research question 1a. Is there a significant difference in the exposure to school, clinical, and counseling psychology between racial/ethnic minority and non-minority undergraduates?

Hypothesis: Racial/ethnic minority undergraduates in psychology will have significantly less exposure to school psychology than to counseling or clinical psychology than non-minority undergrads (Graves & Brown Wright, 2009; Haselhuhn & Clopton, 2008).

Research question 2. Do advanced undergraduate psychology students have significantly less knowledge regarding school psychology than for counseling or clinical psychology?

Hypothesis: Advanced undergraduate psychology students will have significantly less knowledge regarding school psychology than for counseling or clinical psychology (Graves & Brown Wright, 2009; Haselhuhn & Clopton, 2008).

Research question 2a. Is there a significant difference in knowledge about school, clinical, and counseling psychology between racial/ethnic minority and non-minority undergraduates?

Hypothesis: Racial/ethnic minority undergraduates in psychology will have significantly less knowledge regarding school psychology than for counseling or clinical psychology than non-minority undergrads (Graves & Brown Wright, 2009; Haselhuhn & Clopton, 2008).

Research question 3. Do advanced undergraduate psychology students have significantly different perceptions of commitment to diversity within school psychology, when compared to counseling and clinical psychology programs?

Hypothesis: Advanced undergraduate psychology students will perceive different degree of commitment to diversity in school psychology, counseling and clinical psychology (CEMRRAT, 1997; Fiegner, 2009; NSF, 2011).

Research question 3a. Is there a significant difference in perceptions of commitment to diversity in school, clinical, and counseling psychology between racial/ethnic minority and non-minority undergraduates?

Hypothesis: Racial/ethnic minority undergraduates in psychology will perceive different degree commitment to diversity in school psychology, counseling and clinical psychology than non-minority undergraduates (CEMRRAT, 1997; Fiegner, 2009; NSF, 2011).

Study 2. Do learning experiences (i.e., knowledge, exposure to knowledge, perception of openness to diversity) regarding school psychology predict the strength of choice intention for school psychology for advanced undergraduate psychology students?

Research question 1. Does exposure predict advanced undergraduate psychology students' choice intention for school psychology in minority and non-minority students? Is this relationship mediated by self-efficacy and outcome expectations?

Hypotheses: Advanced undergraduate psychology students' exposure to school psychology will predict choice intentions for school psychology in minority and non-minority

students and this relationship will be mediated by both self–efficacy and outcome expectations (Graves & Brown Wright, 2009; Haselhuhn & Clopton, 2008; Lent, Brown, & Hackett, 1993).

Research question 2. Does the amount of knowledge predict advanced undergraduate psychology students’ choice intention for school psychology in minority and non-minority students? Is this relationship mediated by self-efficacy and outcome expectations?

Hypotheses: Undergraduate psychology students’ who report having more knowledge about school psychology will have stronger choice intentions for school psychology in minority and non-minority students and this relationship will be mediated by both self–efficacy and outcome expectations (Graves & Brown Wright, 2009; Lent, Brown, & Hackett, 1993; Stark-Wroblewski, Wiggins, & Ryan; 2006).

Research question 3. Does the perception of commitment to diversity predict undergraduate psychology students’ choice intention for school psychology in minority and non-minority students? Is this relationship mediated by self-efficacy and outcome expectations?

Hypotheses: Undergraduate psychology students’ perception of the field’s commitment to diversity will predict their choice intention of school psychology in minority and non-minority students and this relationship will be mediated by self-efficacy and outcome expectations.

Chapter Three: Methodology

Pilot study

There are no established measures that directly assessed the pertinent constructs (e.g., knowledge, exposure, diversity, self-efficacy, etc.) for school psychology, counseling psychology, and clinical psychology; therefore, all measures used in this study had to be created or modified. The following measures were developed and/or modified for this study: 1) Knowledge Assessment of Applied Professions in Psychology (KAAPP), 2) Perception of Diversity within Applied Professions in Psychology (PDAPP), 3) Sources of Knowledge of Applied Professions in Professional Psychology (SKAPP), 4) Self-Efficacy, 5) Outcome Expectations, and 6) Choice intention.

To assess the validity and reliability of the scales, a pilot study was conducted. For the pilot study, all of the scales were created and disseminated via Qualtrics. The Qualtrics link to the surveys was sent out by listserv to all undergraduate psychology students at an urban, Midwestern university. At the end of the survey, participants were asked how they would improve the measure and if there were questions that they found confusing. Based on the results of this pilot study, some minor wordings were changed in order to improve the survey. Results from the pilot study are presented next.

Knowledge. The knowledge domain was assessed through the use of the Knowledge Assessment of Applied Professions in Psychology (KAAPP) scale (see Appendix B). The purpose of this scale was to assess participants' perceived knowledge of clinical, counseling, and school psychology through the use of five-point Likert scale questions, ranging from *can't*

describe the field to can describe the field in great detail. The author created this scale by examining the recruitment material of school psychology, counseling psychology, and clinical psychology accrediting agencies and identifying common themes within the recruitment information. There is one set of questions for each of the three fields of professional psychology. An example of a question found within this scale is, “please tell me how well you think you can accurately describe the following characteristics of the profession of school psychology... where they work”. The scale was scored by adding the value of each question for each psychology specialty (i.e., school, clinical, and counseling), with scores possibly ranging from 0 to 25 for each professional psychology type. Higher scores indicate a higher level of perceived knowledge about that specialty. Hence, study participants could receive a score ranging from 0 to 25 for each of the three psychological specialties examined within this study (i.e., school, clinical, and counseling psychology).

Due to this assessment tool being created for the current study, the KAAPP was validated before being used in the study. As part of the validation process, one trainer from each of the three subfields was asked to examine the scale items and assess whether they were representative of their field of study. These content experts reviewed the scale and reported how well they believed the questions represent their field of study. Recommendations were requested from each trainer on how to improve the scale items. No recommendations were made. In addition, 75 undergraduate psychology students completed the KAAPP in order to evaluate internal reliability of the scale using Cronbach Alpha. The KAAPP was found to have good internal reliability with $\alpha = .86$ for School, $\alpha = .92$ for Counseling, and $\alpha = .96$ for Clinical psychology.

Perception of commitment to diversity. Studies have shown that the diversity of the students and faculty in a graduate program is significantly correlated with increased minority recruitment. It is believed that this correlation between increased minority representation within faculty and student body and increased diversity recruitment is due to prospective students perceiving programs with high diversity as being more accepting of diversity. Therefore, students' perception of the diversity within the psychological specialty was assessed through the modification of Roberts-Clarke's (2004) *commitment to diversity* subscale. This scale was created to assess minority employees' perception of their organization's diversity climate. Roberts-Clarke (2004) found the *commitment to diversity scale* to have a Cronbach alpha of .83 and appropriate factor loadings. For the current study, the scale was modified by deleting a question that did not apply to the graduate school environment and by changing question stems to better reflect the programs of professional psychology that is being assessed. For example, a question from Roberts-Clarke's (2004) original scale was *my organization is committed to promoting a diverse workforce*, this was adapted to *clinical psychology graduate programs are committed to promoting a diverse training environment*. The modified scale is comprised of five, 5-point Likert scale questions per field of professional psychology (i.e., clinical, counseling, & school), for a total of 15 questions (see Appendix C for scale). Hence, study participants could receive a score ranging from 0 to 25 for each of the three psychological specialties examined within this study (i.e., school, clinical, and counseling psychology).

Seventy undergraduate psychology students piloted this scale and internal reliability was assessed using Cronbach Alpha. The internal reliability for this group of scales were found to be excellent with $\alpha = .92$ for School, $\alpha = .91$ for Counseling, and $\alpha = .93$ for Clinical psychology.

Exposure to psychology specialties. Research has shown that psychology undergraduate students have less exposure to sources of information regarding school psychology than other types of professional psychology. Social cognitive career theory holds that a lack of learning experiences regarding school psychology may impact undergraduate students' choice of school psychology through its influence on self-efficacy and outcome expectations. Exposure to sources of information regarding psychology specialty was measured through the SKAPP (see Appendix D), which was created by modifying Graves and Brown Wright (2009) *Sources of information used to learn about psychology disciplines* subscale. Graves and Brown Wright (2009) scale had undergraduate students endorse the sources of information they used to receive information about various psychology types.

In creating the SKAPP, Graves and Brown Wright's sources of information were condensed and students were asked to rate how much information they received about a specific psychology type (i.e., school psychology, counseling psychology, and clinical psychology) from professional organizations, professors/advisors, personal contact with practitioners, textbook, etc. An example of a question found within the SKAPP is, "how much information did you receive about school psychology from... professors/advisors." The SKAPP consists of 24, 6-point Likert scale questions divided into three sections (i.e., clinical, counseling, & school). In each section, there are eight questions representing the possible sources of information for each of the three types of professional psychology (see Appendix D for scale). Hence, study participants could receive a score ranging from 0 to 48 for each of the three psychological specialties examined within this study (i.e., school, clinical, and counseling psychology).

Approximately 65 undergraduate psychology students piloted this measure and internal reliability was assessed using Cronbach Alpha. The internal reliability for this group of scales were found to be good with $\alpha = .75$ for School, $\alpha = .81$ for Counseling, and $\alpha = .73$ for Clinical psychology.

Self-efficacy. Self-efficacy from the SCCT perspective represents a set of dynamic beliefs that are context specific. According to Lent and Brown (2006) self-efficacy measures are used to assess a person's perceived ability to succeed in a specific task, within a specific domain. The self-efficacy scale used for this study is a modified version of Lent et al.'s (2008) self-efficacy measure. Lent et al. (2008) found their self-efficacy scale to have good internal reliability, with coefficient alphas of .89 and .90 on subsequent administrations. The self-efficacy scale used in the current study consists of four, five point Likert scale questions (see Appendix E for scale), with higher scores indicating stronger self-efficacy for achieving academic milestones for school psychology. An example of a question contained within this scale is, "if right now you were in a school psychology graduate program, how confident are you that you could maintain a B average?" Possible answers range from *no confidence at all* to *complete confidence*. All questions within the self-efficacy scales pertained solely to school psychology graduate programs. Hence, a participant's self-efficacy score could range from 0 to 20 for the domain of school psychology.

Sixty-four undergraduate psychology students piloted this measure and internal reliability was assessed using Cronbach Alpha. The internal reliability for this measure were found to be good with $\alpha = .80$.

Outcome expectations. Outcome expectations are the expected outcomes of performing specific tasks. They can be measured by presenting a set of statements that contain positive outcomes (Lent, 2006). The present outcome expectations scale was slightly modified from Lent et al. (2008) scale to better reflect the current domain of measure. The changes made to Lent et al.'s (2008) measure were restricted to making minor changes to the survey's question stems. Lent et al. reported a coefficient alpha of .90 for their instrument. The outcome expectations scale that was used in this study contains ten, 5-point, Likert scale questions (see Appendix F), with higher scores indicating more positive outcome expectations. This measure was used to assess participants' outcome expectations for graduating with a degree in school psychology. An example of a question that is found within this scale is, "graduating with a degree in school psychology will likely allow me to receive a good job offer". Possible responses range from *strongly disagree* to *strongly agree*. All questions within the outcome expectations scale pertained solely to school psychology graduate programs. Hence, a participant's outcome expectation score could range from 0 to 50 for the domain of school psychology.

Sixty-six undergraduate psychology students piloted this measure and internal reliability was assessed using Cronbach Alpha. The internal reliability for this measure were found to be good with $\alpha = .83$.

Choice Intention. The choice intention scale was created for this study. It is a five question, 7-point Likert scale. This scale measures students' perception of how likely they are to complete certain important components for admission to a school psychology graduate program (see Appendix G for example). Sixty-five undergraduate psychology students piloted this measure and internal reliability was assessed using Cronbach Alpha. The internal reliability for

this measure were found to be excellent with $\alpha = .96$. Due to pilot study data suggesting good internal reliability for all of the scales piloted, no major changes were made to the scales and the recruitment phase of the main study was commenced.

Recruitment

The target recruitment goal for the study was 1,890 undergraduate psychology students, representing approximately 63 universities. Study participants were recruited from randomly selected universities through the use of cluster sampling methodology by geographic region (see Table 1). The use of this sampling technique allowed for a more nationally representative sample of psychology undergraduate students to be attained, while minimizing the number of resources needed to complete the study (Groves et al., 2009). This process consisted of identifying universities/colleges with undergraduate psychology programs within the four geographic regions (i.e. Midwest, South, West, and Northeast) through the use of *US NEWS* college ranking database. A similar methodology was used by Messer, Griggs, and Jackson (1999) in their examination of undergraduate psychology students' degree options and academic requirements. Once all programs within each region were identified, 5% of programs within each region were randomly selected by listing programs in alphabetical order and using a random number generator to select schools. Only schools with undergraduate psychology programs were included in the study for recruitment. If a school did not have an undergraduate psychology program at their university, that school was crossed off and the next school on the list was selected. Subsequently, a representative from each randomly selected psychology programs was contacted by email and asked to take part in the study. All selected program representatives were asked to send the electronic survey over their listserves. They were given one week to respond.

In case of no response, a second attempt was made. If no response was received upon the second attempt or the representative refused to forward the study to their undergraduate psychology students, the program was scratched from the list and a new school was selected from the representative cluster and that program's representative was contacted for inclusion in the study.

Upon completing the initial recruitment effort, data was checked for representativeness of minority group. Attempts were made to over-represent minority undergraduate students by targeting Historically Black Colleges and Universities (HBCU's) into the study. A second and third recruitment effort following similar methodology was made in order to increase the representativeness of both minority and non-minority undergraduate psychology students.

In order to encourage participation, participants were informed that upon completion of the data collection portion of the study, they would receive information regarding the different specialties of professional psychology. Due to an initial difficulty with participant recruitment, a raffle was included as incentive for participation. This raffle consisted of one of four \$50 Amazon gift cards.

Table 1

Projected Cluster Sampling Data

| <u>Region</u> | <u>University/colleges with undergraduate psychology programs</u> | <u>5%</u> |
|---------------|---|-------------|
| North | 346 | 17.3 = 17 |
| South | 325 | 16.25 = 16 |
| Midwest | 346 | 17.3 = 17 |
| East | 252 | 12.6 = 13 |
| TOTAL | 1,269 | 63 Programs |

Participants

Undergraduate psychology students were recruited to take part in this study. Because the purpose of this study was to understand undergraduate psychology students' choice intentions and factors impacting these choice intentions, only undergraduate students with junior and senior standings (i.e., advanced undergraduate students) were included in the study. Advanced undergraduate students were the focus of this study due to these students being temporally closer to the moment when they have to take action upon their choice intention and are therefore, more similar than non-advanced undergraduate psychology students to our target population.

Upon completion of the recruitment phase, the sample totaled 1,130 participants, which included freshmen, sophomore, junior, and senior undergraduate psychology students. After dropping freshmen and sophomore students from the sample, the total sample was 782 advanced undergraduate psychology students (see Table 2 & 3). Of the advanced undergraduate psychology students, 25% self-identified as belonging to a racial/ethnic minority group. The

mean age for this group was 22.6 and 83.2% self-identified as a female. When examining racial/ethnic minorities by minority group, the most prevalent minority group included in this study was Hispanics, which is an ethnic minority identity (i.e., 65 participants; 8.3%) (see Table 4). The most frequent racial minority self-identification was African American, with 59 participants (7.6%), the second most frequent was Multi-Racial minorities (6.4%) and the least most common was racial minority was Native Americans, with only 6 participants (.8%) in the study.

Table 2

Total Sample by Academic Standing

| <u>Academic Standing</u> | <u>n</u> | <u>Percent</u> |
|--------------------------|----------|----------------|
| Freshmen | 130 | 11.5 |
| Sophomore | 218 | 19.3 |
| Junior | 335 | 29.6 |
| Senior | 447 | 39.6 |

Table 3

Demographic Data for Junior and Senior Sample

| <u>Academic Standing</u> | <u>n</u> | <u>Percent</u> |
|---------------------------|-------------|----------------|
| Junior | 335 | 42.8 |
| Senior | 447 | 57.2 |
| <u>Gender</u> | <u>n</u> | <u>Percent</u> |
| Male | 123 | 15.8 |
| Female | 649 | 83.2 |
| None-identified | 8 | 1 |
| <u>Age (Mean)</u> | <u>Mode</u> | <u>Range</u> |
| 22.66 | 21 | 39 (18-57) |
| <u>Ethnicity/Race</u> | <u>n</u> | <u>Percent</u> |
| Ethnic/Racial Minority | 195 | 25 |
| Non- Minority | 584 | 75 |

Table 4

Racial /Ethnic Representation

| <u>Hispanic/Latino</u> | <u>n</u> | <u>Percent</u> |
|----------------------------|----------|----------------|
| Yes | 65 | 8.3 |
| No | 714 | 91.7 |
| <u>Racial Identity</u> | <u>n</u> | <u>Percent</u> |
| White | 604 | 77.5 |
| African- American/Black | 59 | 7.6 |
| Asian/Pacific Islander | 34 | 4.4 |
| Native American | 6 | 0.8 |
| Multi-Racial | 50 | 6.4 |
| Other | 26 | 3 |

Furthermore, when examining the representation of advanced psychology undergraduate psychology students by region of the United States (see Table 5); most of the participants were from the Northern region of the United States, representing 33.6% of study participants. Midwest was the second most represented region with 31.2% of study participants attending a university/college within that region. The least most represented region within the sample was the South region with only 11.5% of participants attending a southern university/college.

Table 5

Participants by Region

| <u>Region</u> | <u>n</u> | <u>Percent</u> |
|---------------|----------|----------------|
| North | 256 | 33.6 |
| Midwest | 238 | 31.2 |
| South | 88 | 11.5 |
| West | 181 | 23.7 |

Instrumentation

Due to the scales being created or modified for the current study, each scale was assessed for internal reliability.

Knowledge scale. Seven-hundred-fifty-eight advanced undergraduate psychology students completed the school psychology subscale, while 761 completed the counseling psychology subscale, and 756 completed the clinical psychology subscale. Internal reliability was assessed using Cronbach Alpha. The KAAPP was found to have very good internal reliability with $\alpha = .91$ for School, $\alpha = .95$ for Counseling, and $\alpha = .96$ for Clinical psychology.

Perception of diversity scale. Six-hundred-ninety-five advanced undergraduate psychology students completed the school psychology diversity subscale, while 698 completed the counseling psychology subscale, and 696 completed the clinical scale. Internal reliability was assessed using Cronbach Alpha. The internal reliability for this group of scales were found to be good with $\alpha = .88$ for School, $\alpha = .90$ for Counseling, and $\alpha = .91$ for Clinical psychology.

Exposure scale. Six-hundred-sixty-six advanced undergraduate psychology students completed the school psychology subscale, while 670 completed the counseling psychology subscale, and 666 completed clinical psychology subscale. Internal reliability was assessed using Cronbach Alpha. The internal reliability for this group of scales were found to be good with $\alpha = .84$ for School, $\alpha = .85$ for Counseling, and $\alpha = .85$ for Clinical psychology.

Self-Efficacy scale. Six-hundred-forty-five advanced undergraduate psychology students completed this measure and internal reliability was assessed using Cronbach Alpha. The internal reliability for this measure were found to be good with $\alpha = .83$.

Outcome expectations scale. Six-hundred-fifty-eight advanced undergraduate psychology students took this measure and internal reliability was assessed using Cronbach Alpha. The internal reliability for this measure were found to be good with $\alpha = .88$.

Choice intentions. Six-hundred-sixty-nine advanced undergraduate psychology students took this measure and internal reliability was assessed using Cronbach Alpha. The internal reliability for this measure were found to be very good with $\alpha = .96$.

Procedures

Survey distribution. The survey was created and distributed using Qualtrics' survey creation and online distribution software. This software allows for the creation and distribution of surveys in an efficient manner. Faculty representatives from undergraduate psychology programs, identified through random cluster sampling, were contacted by email and asked to participate in the study. Program representative who agreed to take part in the study were asked to send out the link to the electronic survey by email. Representatives had one week to respond to initial email. In case of no response, a second attempt was made to reach the representative. If no response was received or the representative refused to forward the survey link to their students than the program was scratched from the list. A second and third wave of recruitment efforts was conducted. These recruitment waves mirrored the initial recruitment wave; however, they targeted undergraduate programs that had not been selected during the previous recruitment waves. In addition, one recruitment wave was conducted that targeted solely HBCU's.

After receiving a forwarded recruitment email for their psychology representative, psychology undergraduate students had to open the email. Within the email there was a message describing the study and the benefits of participating in the study. Undergraduate psychology students' who wanted to take part in the study, clicked on an anonymous survey link. This survey link directed them to the consent page. After reading the consent page, if students still wanted to participate in the study, they were to click on the Next icon and the study commenced.

Data Analysis

Upon completion of the recruitment phase of the study, study data was automatically coded by Qualtrics software and saved into SPSS format. SPSS version 20 was used for this study. The study data was checked for outliers and representativeness by running frequency tables. Cases that appeared to have more than 60% information missing across all variables were excluded from the study. The original study sample had 1,354 participants. However, a portion of these cases were almost entirely blank and were an artifact of potential participants opening the survey link and exiting out of the survey without answering any questions or only a few questions. Using the criterion of 60%, the study sample was reduced from 1354 participants to 1130 participants. Descriptives (See Table 3) and correlation tables were run to identify trends in the data and possible violation of assumptions that might be encountered when conducting assumption checking for each analysis (Field, 2009).

Due to the size of the dissertation, this study was divided into two studies, study 1 and study 2. The purpose of Study 1 was to examine whether there was a difference between undergraduate psychology students' learning experiences for the three subspecialties of professional psychology. The purpose of Study 2 was to examine whether increased learning experiences for school psychology predicted choice intentions for school psychology and if this relationship was mediated by self-efficacy and outcome expectations. To increase clarity, the more specific data analysis techniques for each study as well as the results of those analyses is presented in Chapter 4.

Chapter Four

Results: Study One

Research Questions

The purpose of study one was to examine whether there was a difference between: a) advanced (i.e., junior and senior) undergraduate psychology students' learning experiences (i.e., exposure, knowledge, and perception of diversity) for school psychology, counseling psychology, and clinical psychology and b) advanced minority and non-minority undergraduate psychology students' learning experiences of these fields.

Research question 1a. Do advanced undergraduate psychology students have significantly less exposure to school psychology than to counseling or clinical psychology?

Research question 1b. Is there a significant difference in minority and non-minority students regarding exposure to clinical, counseling, and school psychology?

To answer research questions 1a and 1b, a Mixed Design ANOVA was used. The between subject factor for this design is minority versus non-minority and the within subject factor is exposure to professional psychology specialties as measured by the Exposure scale. Assumptions that were checked for this analysis were Normal Distribution, Homogeneity of Variances, and Sphericity (Field, 2009).

Research question 2a. Do undergraduate psychology students have significantly less knowledge regarding school psychology than for counseling or clinical psychology?

Research question 2b. Is there a significant difference in minority and non-minority students' knowledge regarding clinical, counseling, and school psychology?

To answer research question 2a and 2b, a Mixed Design ANOVA was used. The between subject factor for this design is minority versus non-minority status and the within subject factor is knowledge of professional psychology specialties as measured by the Knowledge scale.

Assumptions that were checked for this analysis were Normal Distribution, Homogeneity of Variances, and Sphericity

Research question 3a. Do undergraduate psychology students have significantly different perceptions of commitment to diversity within school psychology, when compared to counseling and clinical psychology programs?

Research question 3b. Is there a significant difference in minority and non-minority students' perception of commitment to diversity of clinical, counseling, and school psychology programs?

To answer research question 3a and 3b, a Mixed Design ANOVA was used. The between subject factor for this design is minority versus non-minority status and the within subject factor is perception of commitment to diversity as measured by the diversity scale. Assumptions that were checked for this analysis were Normal Distribution, Homogeneity of Variances, and Sphericity.

Study 1 Results

Within study 1, I examined whether there was a significant difference in advanced (i.e., juniors and seniors) undergraduate psychology students' learning experiences (i.e., exposure, knowledge, and perception of diversity) for the different types of professional psychology and if there was a difference between advanced minority and non-minority undergraduate psychology students' learning experiences in these fields.

Descriptives

Knowledge. The knowledge scale (KAAPP) is a 5 point Likert scale that includes three subscales, one for each professional psychology type. Mean scores and standard deviations for all scales were calculated. The results showed that the average level of knowledge for school psychology, clinical psychology, and counseling psychology were 3.35, 3.76, and 3.86, respectively. As can be seen in Table 6, participants' level of knowledge of school psychology was lower than their knowledge of clinical or counseling psychology. A similar pattern was found when comparing minority to non-minority students (Table 7).

Exposure. The exposure scale (SKAPP) is a 7 point Likert scale that includes three subscales, one for each professional psychology type. Mean scores and standard deviations for all scales were calculated. The results showed that the average level of exposure for school psychology, clinical psychology, and counseling psychology were 2.31, 2.96, and 2.99, respectively. As can be seen in Table 6, participants' level of exposure to school psychology was lower than their exposure to clinical or counseling psychology. A similar pattern was found when comparing minority to non-minority students (Table 7).

Perceptions of diversity. The diversity scale (PDAP) is a 5 point Likert scale that includes three subscales, one for each professional psychology type. Mean scores and standard deviations for all scales were calculated. The results showed that the average level of perception of commitment to diversity for school psychology, clinical psychology, and counseling psychology were 3.77, 3.80, and 3.76, respectively. As can be seen in Table 6, participants' level of perception of commitment to diversity was lowest for clinical psychology and highest for counseling psychology. Advanced undergraduate psychology students' perception of school psychology training program's commitment to diversity score was found to be between counseling and clinical psychology's score. A similar pattern was found when comparing minority to non-minority students (Table 7).

Table 6
All Students Scale Scores

| | N | Mean | Std. Deviation |
|----------------------|-----|------|-------------------|
| School Knowledge | 758 | 3.35 | .94 |
| Counseling Knowledge | 761 | 3.86 | .88 |
| Clinical Knowledge | 756 | 3.76 | .99 |
| School Diversity | 695 | 3.77 | .60 |
| Counseling Diversity | 698 | 3.80 | .64 |
| Clinical Diversity | 696 | 3.76 | .67 |
| School Exposure | 666 | 2.31 | .92 |
| Counseling Exposure | 670 | 2.96 | 1.06 |
| Clinical Exposure | 666 | 2.99 | 1.06 |

Table 7
Scale Scores by Minority Status

| | Non-Minority | | | Minority | | |
|----------------------|--------------|------|----------------|----------|------|----------------|
| | N | Mean | Std. Deviation | N | Mean | Std. Deviation |
| School Knowledge | 567 | 3.39 | 0.93 | 188 | 3.24 | 0.96 |
| Counseling Knowledge | 569 | 3.88 | 0.88 | 189 | 3.78 | 0.88 |
| Clinical Knowledge | 565 | 3.77 | 0.99 | 188 | 3.7 | 1.00 |
| School Diversity | 523 | 3.8 | 0.61 | 170 | 3.7 | 0.58 |
| Counseling Diversity | 525 | 3.8 | 0.63 | 171 | 3.73 | 0.67 |
| Clinical Diversity | 524 | 3.78 | 0.68 | 170 | 3.68 | 0.65 |
| School Exposure | 505 | 2.3 | 0.90 | 159 | 2.32 | 0.98 |
| Counseling Exposure | 507 | 2.96 | 1.06 | 161 | 2.95 | 1.07 |
| Clinical Exposure | 506 | 3 | 1.04 | 158 | 2.97 | 1.12 |

Correlations. All correlations between scale scores for knowledge scales, exposure scales, and diversity scales were significant at the .01 level (see Table 8, 9, and 10, respectively). Furthermore, all correlations were positive, which signifies that as one of the domains of learning experiences (i.e., knowledge, exposure, and diversity) increased for a specific professional

psychology type, then the same domain of learning experience tended to increase for another professional psychology type. For example, the more knowledge an advanced undergraduate psychology student has about school psychology the more knowledge that student is likely to have about counseling or clinical psychology. For the Knowledge domain, the strongest correlation was between counseling and clinical knowledge and the weakest was between school and clinical knowledge (see Table 8).

Table 8

Correlations for Knowledge Scales

| | | School Knowledge | Counseling Knowledge | Clinical Knowledge |
|-------------------------|------------------------|---------------------|-------------------------|-----------------------|
| School Knowledge | Pearson Correlation | 1 | .50** | .36** |
| Counseling Knowledge | Pearson Correlation | .50** | 1 | .57** |
| Clinical Knowledge | Pearson Correlation | .36** | .57** | 1 |

** . Correlation is significant at the .01 level (2-tailed)

In regard to the domain of exposure, the strongest correlation was also between counseling and clinical psychology and the weakest correlation was between school and clinical psychology (see Table 9).

Table 9

Correlations for Exposure Scales

| | | School Exposure | Counseling Exposure | Clinical Exposure |
|------------------------|------------------------|--------------------|------------------------|----------------------|
| School Exposure | Pearson Correlation | 1 | .64** | .51** |
| Counseling Exposure | Pearson Correlation | .64** | 1 | .70** |
| Clinical Exposure | Pearson Correlation | .51** | .70** | 1 |

** . Correlation is significant at the .01 level (2-tailed)

Lastly, in regard to the domain of commitment to diversity, the strongest correlation was between counseling and clinical psychology and the weakest correlation was also between school and clinical psychology (see Table 10). See Appendix H for complete correlation table.

Table 10

Correlations for Diversity Scales

| | | School Diversity | Counseling Diversity | Clinical Diversity |
|-------------------------|------------------------|---------------------|-------------------------|-----------------------|
| School Diversity | Pearson Correlation | 1 | .72** | .67** |
| Counseling Diversity | Pearson Correlation | .72** | 1 | .77** |
| Clinical Diversity | Pearson Correlation | .67** | .77** | 1 |

** . Correlation is significant at the .01 level (2-tailed)

Study One

Is there a significant difference in advanced (i.e., juniors and seniors) undergraduate psychology students' learning experiences (i.e., exposure, knowledge, and perception of diversity) for the different types of professional psychology and if there was a difference between advanced minority and non-minority undergraduate psychology students' learning experiences in these fields.

Assumptions. A mixed-design ANOVA was used to answer whether participants significantly differed in their learning experiences across school, counseling, and clinical psychology. Before conducting this analysis, the assumptions of Normal Distribution, Homogeneity of Variances, and Sphericity were tested. To test for the assumption of Normal Distribution a visual inspection of probability-probability (PP) plots was conducted for each measure included in this study (Maxwell & Delaney, 2004). An inspection of PP – plots revealed that the expected z scores of most measures used in this study were graphically similar to the expected z-scores, which support the assumption of normal distribution. However, there was a small 'S'-shaped deviation from the expected z-scores for the choice intention scale. Due to ANOVA's being generally robust against the violation of this assumption (Maxwell & Delaney, 2004, p. 112), it is not believed this slight violation would have a negative impact on the findings.

Subsequently, the assumption of homogeneity of variance was assessed through the use of Levene's test. This test is used to examine if variances of two different groups are equal. A significant finding indicates that the variances of the two samples examined are not homogenous and this assumption has been violated (Field, 2009). Examining the measures by way of

Levene's test did not reveal any significant results at the .05 level, which suggests that the assumption of homogeneity of variance has not been violated.

Due to mixed design methodology being used for study 1, and Sphericity being of particular concern when using repeated measure methodology, the assumption of Sphericity was examined by way of Mauchly's test. An analysis of Sphericity, using Mauchly's test, for all three research questions within study 1, revealed that there was indeed a violation of Sphericity. This violation of Sphericity was corrected for by way of Greenhouse-Geisser correction (Field, 2009). Greenhouse-Geisser's correction was used over Huynh-Feldt correction, due to the Greenhouse-Geisser correction being the more conservative of the two corrections (Field, 2009; Maxwell & Delaney, 2004). Due to the assumption of Sphericity being violated, F scores are reported using Greenhouse-Geisser correction for the within subject analysis. Furthermore, all effects are reported at $p < .05$, unless otherwise noted.

Research question 1a. Do advanced undergraduate psychology students have significantly less exposure to school psychology than to counseling or clinical psychology?

Research question 1b. Is there a significant difference between minority and non-minority students in their exposure to professional psychology types?

The dependent variable for this analysis was exposure and the within subject variables were school psychology, counseling psychology, and clinical psychology. The between subject variable was minority versus non-minority. For the exposure scale, higher scores meant that participants had more exposure to that professional psychology specialty.

In regards to the between subject main effect (e.g., minority versus non-minority), no significant main effect was found $F(1, 638) = .028, p = .867$ (see Table 11). In regard to whether

there is a significant difference between advanced undergraduate psychology students' exposure to school, counseling, and clinical psychology, a significant main effect was found $F(1.913, 1225.918) = 249.398, P < .001$ (see Table 12). Due to a significant main effect being found for the within subject factor, a planned contrast of school psychology versus counseling psychology and school psychology versus clinical psychology were conducted. Due to a plan contrast being conducted, the alpha level was adjusted using the Bonferroni method to $\alpha = .025$. This planned contrast revealed that there is a significant difference between advance undergraduate psychology students' level of exposure to school psychology, when compared to counseling psychology $F(1, 641) = 374.928 P < .001, \eta_p^2 = .369$ and clinical psychology $F(1, 641) = 327.590 P < .001, \eta_p^2 = .338$ (see Table 13). Hence, taking into consideration our significant findings, the effect sizes, and the mean scores for exposure to school psychology, exposure to counseling psychology, and exposure to clinical psychology (Table 14); it can be concluded that undergraduate psychology students have significantly less exposure to school psychology than to counseling or clinical psychology, and that the magnitudes of these differences in exposure are large. Furthermore, the effect sizes reported for the planned comparisons suggest that 37% of the variance between school and counseling and 34% of the variance between school and clinical is explained by students' exposure to those fields.

Table 11
Tests of Between-Subjects Effects for Exposure

| | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|-----------------|-------------------------|-----|-------------|------|------|---------------------|
| Minority Status | .021 | 1 | .021 | .028 | .867 | .000 |
| Error | 487.299 | 638 | .764 | | | |

Table 12
Tests of Within-Subjects Effects for Exposure

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|-------------------------------|-------------------------|------|-------------|---------|------|---------------------|
| Exposure (Greenhouse-Geisser) | 137.092 | 2 | 71.697 | 172.303 | .000 | .21 |
| Error (Greenhouse-Geisser) | 507.622 | 1220 | .416 | | | |

Table 13
Tests of Within-Subjects Contrasts for Exposure

| Exposure | Exposure | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|----------|---------------------|-------------------------|-----|-------------|---------|------|---------------------|
| Exposure | Level 2 vs. Level 1 | 195.352 | 1 | 195.352 | 262.340 | .000 | .29 |
| | Level 3 vs. Level 1 | 215.433 | 1 | 215.433 | 223.912 | 0 | 0.26 |
| Error | Level 2 vs. Level 1 | 475.09 | 638 | 0.745 | | | |
| | Level 3 vs. Level 1 | 613.84 | 638 | 0.962 | | | |

Table 14

All Students Mean Scores for Exposure

| | Mean | Std. Deviation | N |
|------------------------|------|-------------------|-----|
| School Exposure | 2.30 | .92 | 642 |
| Counseling Exposure | 2.96 | 1.06 | 642 |
| Clinical Exposure | 3.00 | 1.05 | 642 |

Item level analysis of exposure scale. Further analysis of participants' responses to exposure scale revealed that for all three fields of professional psychology, the top two sources of exposure to those fields were Professors/Advisors and Coursework (see Table 15, 16, & 17). A visual analysis of the mean score for Professors/Advisors and Coursework identified a large difference in mean scores of these two items between the three fields of professional psychology. Due to these two sources of information representing academic sources of information within the exposure scale, they were combined to create the academic sources of information subscale and were further analyzed through a Mixed Design ANOVA. For this post-hoc analysis the between subject factor was minority status and the within subject factor was psychology type. The dependent variable was academic sources of information.

Table 15
*All Students School Psychology Exposure Scale: Ranking
 by Most Exposure*

| Ranking | Source of Exposure | N | Mean | Std. Deviation |
|---------|---|-----|------|----------------|
| 1 | Professors / Advisors | 689 | 2.98 | 1.39 |
| 2 | Coursework | 688 | 2.96 | 1.41 |
| 3 | The media | 688 | 2.56 | 1.35 |
| 4 | Personal contact with school psychologist | 689 | 2.20 | 1.47 |
| 5 | Professional organization | 690 | 2.06 | 1.25 |
| 6 | Family | 690 | 2.01 | 1.37 |
| 7 | Recruitment material | 689 | 1.91 | 1.25 |
| 8 | Other | 672 | 1.85 | 1.32 |

Table 16
*All Students Counseling Psychology Exposure Scale:
 Ranking by Most Exposure*

| Ranking | Source of Exposure | N | Mean | Std. Deviation |
|---------|---|-----|------|----------------|
| 1 | Professors / Advisors | 688 | 3.99 | 1.39 |
| 2 | Course work | 688 | 3.93 | 1.43 |
| 3 | The media | 687 | 3.22 | 1.45 |
| 4 | Personal contact with counseling psychologist | 688 | 3.16 | 1.80 |
| 5 | Professional organization | 689 | 2.81 | 1.56 |
| 6 | Family | 688 | 2.32 | 1.51 |
| 7 | Recruitment material | 687 | 2.21 | 1.48 |
| 8 | Other | 677 | 2.02 | 1.50 |

Table 17
*All Students Clinical Psychology Exposure Scale:
 Ranking by Most Exposure*

| Ranking | Source of Exposure | N | Mean | Std. Deviation |
|---------|---|-----|------|----------------|
| 1 | Professors / Advisors | 690 | 4.22 | 1.37 |
| 2 | Coursework | 686 | 4.09 | 1.38 |
| 3 | Personal contact with clinical psychologist | 689 | 3.21 | 1.79 |
| 4 | The media | 689 | 3.07 | 1.49 |
| 5 | Professional organization | 690 | 3.02 | 1.69 |
| 6 | Recruitment material | 690 | 2.28 | 1.51 |
| 7 | Family | 687 | 2.13 | 1.42 |
| 8 | Other | 675 | 2.00 | 1.51 |

A post-hoc analysis of academic sources of information found that there was no significant difference for the between subject factor, $F(1, 677) = .062$, NS (see Table 18), which means there were not significant differences between minority and non-minority students in their sources of information. However, a significant main effect was found for the within subject factor of academic sources of information, $F(1.88, 1276.09) = 339.803$ $P < .001$ (Table 19), which means there were significant differences in advanced undergraduate psychology students' academic sources of information about clinical, counseling, and school psychology.

Table 18

Tests of Between-Subjects Effects Academic Sources of Information

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|--------------------|-------------------------------|-----|----------------|------|------|---------------------------|
| Minority Status | .217 | 1 | .217 | .062 | .804 | .000 |
| Error | 2367.849 | 677 | 3.498 | | | |

Table 19

Tests of Within-Subjects Effects Academic Sources of Information

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|-------------------------------|----------|----------------|---------|------|---------------------------|
| Academic Source (Greenhouse- Geisser) | 554.341 | 1.877 | 295.397 | 339.803 | .000 | .33 |
| Error (Greenhouse- Geisser) | 1109.326 | 1276.085 | .869 | | | |

In order to examine which professional psychology type advanced undergraduate psychology students' had most academic exposure to, a planned comparison was conducted (see Table 20). A significant difference was found for school versus counseling psychology $F(1, 680) = 447.484, P < .001, \eta_p^2 = .397$ and school versus clinical psychology $F(1, 680) = 472.711, P < .001, \eta_p^2 = .410$. Taking into account that the mean scores for academic sources of information (see Table 21) are 2.97 (school psychology), 3.96 (counseling psychology), and 4.16 (clinical psychology), it suggests that advanced undergraduate psychology students receive less information from their professors and coursework regarding school psychology than for counseling or clinical psychology, and that the magnitudes of these differences are large.

Furthermore, the effect sizes reported within this section suggest that 40% of the variance between school and counseling and 41% of the variance between school and clinical is explained by students' academic exposure to those fields.

Table 20
Tests of Within-Subjects Contrasts Academic Sources of Information

| Source | | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|--------------------|------------------------|-------------------------------|-----|----------------|---------|------|---------------------------|
| Academic Source | Couns vs. School | 672.030 | 1 | 672.030 | 447.484 | .000 | .397 |
| | Clinical vs. School | 964.626 | 1 | 964.626 | 472.711 | .000 | .410 |
| Error | Couns vs. School | 1021.220 | 680 | 1.502 | | | |
| | Clinical vs. School | 1387.624 | 680 | 2.041 | | | |

Table 21
*Descriptive Statistics
Academic Sources of Information*

| | Mean | Std. Deviation | N |
|--------------------------|------|-------------------|-----|
| School | 2.97 | 1.30 | 681 |
| Psychology Counseling | 3.96 | 1.32 | 681 |
| Psychology Clinical | 4.16 | 1.29 | 681 |

In addition to the academic sources of information, an important source of information to examine when investigating diversity recruitment is exposure through organizational recruitment efforts (i.e., professional organizations and recruitment materials, see Table 15, 16 and 17). A visual analysis of the mean scores of exposure through professional organizations and recruitment materials identified a large difference in mean scores between the three fields of professional psychology. Due to these two sources of information representing possible

organizational efforts in recruitment practices, they were combined to create the organizational sources of information subscale and were further analyzed through a Mixed Design ANOVA. For this post-hoc analysis the between subject factor was minority status and the within subject factor was psychology type. The dependent variable was organizational sources of information.

A post-hoc analysis of organizational sources of information found that there was no significant difference for the between subject factor, $F(1, 682) = 1.583, P = .209$ (see Table 22). However, a significant main effect was found for the within subject factor of organizational sources of information, $F(1.75, 1194.31) = 126.14, P < .001$ (Table 23).

Table 22

Tests of Between-Subjects Effects Organizational Sources of Information

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|--------------------|-------------------------------|-----|----------------|-------|------|---------------------------|
| Minority Status | 1.985 | 1 | 1.985 | 1.583 | .209 | .002 |
| Error | 855.286 | 682 | 1.254 | | | |

Table 23

Tests of Within-Subjects Effects Organizational Sources of Information

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|--|-------------------------------|----------|----------------|---------|------|---------------------------|
| Organizational Source (Greenhouse- Geisser) | 136.640 | 1.751 | 78.027 | 126.138 | .000 | .156 |
| Error (Greenhouse- Geisser) | 738.780 | 1194.313 | .619 | | | |

In order to examine which professional psychology type advanced undergraduate psychology students' had most organizational exposure to, a planned comparison was conducted

(see Table 24). A significant difference was found for school versus counseling psychology $F(1, 682) = 147.43, P < .001, \eta_p^2 = .178$ and school versus clinical psychology $F(1, 682) = 168.47, P < .001, \eta_p^2 = .198$. Taking into account that the mean scores for organizational sources of information (see Table 25) are 1.99 (school psychology), 2.50 (counseling psychology), and 2.64 (clinical psychology), it suggests that advanced undergraduate psychology students receive less information from recruitment material and professional organizations regarding school psychology than for counseling or clinical psychology, and that the magnitudes of these differences are moderate. Furthermore, the effect sizes reported within this section suggests that 17.8% of the variance between school and counseling and 19.8% of the variance between school and clinical is explained by students' exposure to those fields by way of organizational sources of information.

Table 24
Tests of Within-Subjects Contrasts Organizational Sources of Information

| Source | | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|-----------------------|---------------------|-------------------------|-----|-------------|---------|------|---------------------|
| Organizational Source | Couns vs. School | 156.203 | 1 | 156.203 | 147.432 | .000 | .178 |
| | Clinical vs. School | 243.972 | 1 | 243.972 | 168.472 | .000 | .198 |
| Error | Couns vs. School | 722.573 | 682 | 1.059 | | | |
| | Clinical vs. School | 987.637 | 682 | 1.448 | | | |

Table 25
Descriptive Statistics
Organizational Sources of Information

| | Mean | Std. Deviation | N |
|-----------------------|------|-------------------|-----|
| School Psychology | 1.98 | 1.09 | 684 |
| Counseling Psychology | 2.50 | 1.30 | 684 |
| Clinical Psychology | 2.64 | 1.40 | 684 |

Research question 2a. Do advanced undergraduate psychology students have significantly less knowledge of school psychology than of counseling or clinical psychology?

Research question 2b. Is there a significant difference between minority and non-minority students' knowledge of professional psychology types?

The dependent variable for this analysis was knowledge and the within subject variables were school psychology, counseling psychology, and clinical psychology. The between subject variable was minority versus non-minority. Due to the assumption of sphericity being violated, F scores are reported using Greenhouse-Geisser correction for the within subject analysis. Furthermore, all effects are reported at $p < .05$, unless otherwise noted.

In regards to the between subject main effect (e.g., minority versus non-minority) no significant main effect was found $F(1, 743) = 2.637$ (see Table 26).

Table 26
Tests of Between-Subjects Effects for Knowledge

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|-----------------|-------------------------------|-----|----------------|-----------|-------|---------------------------|
| Intercept | 7382.022 | 1 | 7382.022 | 13012.866 | 0.000 | .946 |
| Minority Status | 1.496 | 1 | 1.496 | 2.637 | .105 | .004 |
| Error | 421.494 | 743 | .567 | | | |

In regard to whether there is a significant difference between advanced undergraduate psychology students' knowledge of school, counseling, and clinical psychology, a significant main effect was found $F(1.843, 1369.001) = 90.885, P < .001$ (see Table 27) .

Table 27
Tests of Within-Subjects Effects for Knowledge

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---------------------------------------|----------------------------------|-------|----------------|--------|------|---------------------------|
| Knowledge (Greenhouse- Geisser) | 84.542 | 1.843 | 45.883 | 90.885 | .000 | .109 |
| Error (Greenhouse- Geisser) | 691.145 | 1369 | .505 | | | |

Due to a significant main effect being found for the within subject factor, a planned contrast of school psychology versus counseling psychology and school psychology versus clinical psychology were conducted. Due to a plan contrast being conducted, the alpha level was adjusted using the Bonferroni method to $\alpha = .025$. This planned contrast revealed that there is a significant difference between advance undergraduate psychology students' level of knowledge

of school psychology, when compared to counseling psychology $F(1, 743) = 178.221$ $P < .001$, $\eta_p^2 = .193$ and clinical psychology $F(1, 743) = 84.414$ $P < .001$, $\eta_p^2 = .102$ (see Table 28).

Table 28
Tests of Within-Subjects Contrasts for Knowledge

| | | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|-----------|---------------------|-------------------------|-----|-------------|---------|------|---------------------|
| Knowledge | Couns vs. School | 147.972 | 1 | 147.972 | 178.221 | .000 | .193 |
| | Clinical vs. School | 101.230 | 1 | 101.230 | 84.414 | .000 | 0.102 |
| Error | Couns vs. School | 616.895 | 743 | 0.83 | | | |
| | Clinical vs. School | 891.006 | 743 | 1.199 | | | |

Hence, the significant findings, the effect sizes, and the mean knowledge scores 3.36 (school psychology), 3.86 (counseling psychology), and 3.76 (clinical psychology) (Table 29), strongly suggests that advanced undergraduate psychology students have significantly less knowledge of school psychology than of counseling or clinical psychology, and that the magnitudes of these differences in knowledge are moderate in size. Furthermore, the effect sizes reported within this section suggest that 19% of the variance between school and counseling and 10% of the variance between school and clinical is explained by students' knowledge of those fields.

Table 29

Knowledge Scale Mean Scores

| | Mean | Std. Deviation | N |
|-------------------------|------|-------------------|-----|
| School Knowledge | 3.36 | .940 | 748 |
| Counseling Knowledge | 3.86 | .88 | 748 |
| Clinic al Knowledge | 3.76 | .99 | 748 |

Item level analysis of knowledge scale. Further analysis of participants' responses to knowledge scale revealed that for counseling and clinical psychology, the area of professional knowledge that students perceived themselves as knowing the most about is the importance of the field (4.05 and 3.92, respectively); however, knowing the importance of the field ranked as number two for the field of school psychology (3.55), while knowing who they worked with was ranked as number one (see Table 30, 31, and 32). Interestingly, for all three professions, advanced undergraduate psychology student endorsed having the least amount of knowledge about the professions' training requirements.

Table 30
All Students School Psychology Knowledge Scale Item Level Analysis

| Rank | | N | Mean | Std. Deviation |
|------|------------------------------------|-----|------|----------------|
| 1 | Who are their clients | 763 | 3.56 | 1.1 |
| 2 | The importance of their profession | 762 | 3.55 | 1.14 |
| 3 | Where they work | 763 | 3.52 | 1.06 |
| 4 | What they do | 759 | 3.31 | 1.01 |
| 5 | Training requirement. | 763 | 2.83 | 1.11 |

Table 31
All Students Counseling Psychology Knowledge Scale Item Level Analysis

| Rank | | N | Mean | Std. Deviation |
|------|------------------------------------|-----|------|----------------|
| 1 | The importance of their profession | 762 | 4.05 | .92 |
| 2 | What they do | 762 | 3.89 | .94 |
| 3 | Who are their clients | 763 | 3.88 | .96 |
| 4 | Where they work | 763 | 3.86 | .93 |
| 5 | Training requirement | 763 | 3.59 | 1.09 |

Table 32
All Students Clinical Psychology Knowledge Scale Item Level Analysis

| Rank | | N | Mean | Std. Deviation |
|------|------------------------------------|-----|------|----------------|
| 1 | The importance of their profession | 761 | 3.92 | 1.02 |
| 2 | Where they work | 761 | 3.75 | 1.02 |
| 3 | Who are their clients | 761 | 3.75 | 1.07 |
| 4 | What they do | 759 | 3.74 | 1.07 |
| 5 | Training requirement. | 761 | 3.61 | 1.16 |

Research question 3a. Do advanced undergraduate psychology students have significantly different perception of commitment to diversity within school psychology, when compared to counseling or clinical psychology?

Research question 3b. Is there a significant difference between minority and non-minority students' in their perceptions of training programs commitment to diversity?

The dependent variable for this analysis was perception of commitment to diversity and the within subject variables were school psychology, counseling psychology, and clinical psychology. The between subject variable was minority versus non-minority. Due to the assumption of sphericity being violated, F scores are reported using Greenhouse-Geisser correction for the within subject analysis. Furthermore, all effects are reported at $p < .05$, unless otherwise noted.

In regards to the between subject main effect (e.g., minority versus non-minority), no significant main effect was found $F(1, 673) = 2.88, P > .05$ (Table 33). In regard to whether there is a significant difference between advanced undergraduate psychology students' perceptions of commitment of diversity within school, counseling, and clinical psychology, a significant difference was not found $F(1.924, 1,295) = 2.194, P > .05$ (see Table 34). Due to a significant main effect not being found for the within subject factor, no further analysis was conducted.

Table 33
Tests of Between-Subjects Effects for Diversity

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|-----------------|-------------------------------|-----|----------------|-----------|-------|---------------------------|
| Intercept | 7137.276 | 1 | 7137.276 | 21680.266 | 0.000 | .970 |
| Minority Status | .948 | 1 | .948 | 2.880 | .090 | .004 |
| Error | 221.556 | 673 | .329 | | | |

Table 34
Tests of Within-Subjects Effects for Diversity

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---------------------------------------|-------------------------------|-------|----------------|-------|------|---------------------------|
| Diversity (Greenhouse- Geisser) | 0.509 | 1.924 | 0.264 | 2.194 | .114 | .003 |
| Error (Greenhouse- Geisser) | 155.989 | 1295 | .120 | | | |

Hence, taking into consideration these non-significant findings, it can be concluded that there is no significant difference between undergraduate psychology students' perception of school psychology, counseling psychology, and clinical psychology programs' commitment to diversity. An item level visual inspection of each scale items mean score also supports the lack

of significant difference (see Table 35, 36, and 37). For example, the most highly endorsed item for all three scales is, “Program will address cultural issues when appropriate,” with a mean score of 3.94 for school psychology, 3.95 for counseling, and 3.88 for clinical psychology. Furthermore, the ranking order for the items are identical when comparing school psychology versus clinical psychology, with only slight variations in ranking for clinical psychology. It is worth noting that for all three professional psychology type the least endorsed item is, “program is committed to recruiting qualified minority graduate students”.

Table 35

All Students School Psychology Diversity Item Level Analysis

| Rank | | N | Mean | Std. Deviation |
|------|--|-----|------|-------------------|
| 1 | Will address cultural issues when appropriate | 704 | 3.94 | 0.70 |
| 2 | Value multicultural competency | 703 | 3.86 | 0.75 |
| 3 | Will provide training in multiculturalism | 703 | 3.79 | 0.77 |
| 4 | Are committed to promoting a diverse training environment | 703 | 3.73 | 0.71 |
| 5 | Are committed to recruiting qualified minority graduate students | 702 | 3.55 | 0.75 |

Table 36

All Students Counseling Psychology Diversity Item Level Analysis

| Rank | | N | Mean | Std. Deviation |
|------|--|-----|------|-------------------|
| 1 | Will address cultural issues when appropriate | 704 | 3.95 | 0.72 |
| 2 | Value multicultural competency | 702 | 3.85 | 0.79 |
| 3 | Will provide training in multiculturalism | 701 | 3.83 | 0.77 |
| 4 | Are committed to promoting a diverse training environment | 704 | 3.82 | 0.73 |
| 5 | Are committed to recruiting qualified minority graduate students | 703 | 3.56 | 0.77 |

Table 37

All Students Clinical Psychology Diversity Item Level Analysis

| Rank | | N | Mean | Std. Deviation |
|------|--|-----|------|-------------------|
| 1 | Will address cultural issues when appropriate | 706 | 3.88 | 0.76 |
| 2 | Are committed to promoting a diverse training environment | 705 | 3.84 | 0.76 |
| 3 | Value multicultural competency | 704 | 3.80 | 0.80 |
| 4 | Will provide training in multiculturalism | 700 | 3.75 | 0.80 |
| 5 | Are committed to recruiting qualified minority graduate students | 705 | 3.55 | 0.79 |

Results: Study Two

Research Questions

In study two, the relationship between learning experiences (i.e., knowledge, exposure, and perception of diversity) regarding school psychology and students' choice intention for school psychology was examined. Furthermore, a mediation analysis was conducted in order to ascertain whether self-efficacy for achieving academic milestones in school psychology and outcome expectations for graduating with a degree in school psychology mediated this relationship. For the following set of research questions, minority and non-minority undergraduate psychology students will be aggregated into one sample (e.g., undergraduate psychology student). Minority and non-minorities were combined into one sample for the second study due to the first study not finding a significant difference between minority and non-minority students learning experiences for school psychology.

Research question 1. Does the amount of exposure to school psychology predict the strength of advanced undergraduate psychology students' choice intention for school psychology? Is this relationship mediated by self-efficacy and outcome expectations?

Research question 2. Does the amount of knowledge predict the strength of undergraduate psychology students' choice intention for school psychology? Is this relationship mediated by self-efficacy and outcome expectations?

Research question 3. Does the strength of perception of commitment to diversity predict the strength of undergraduate psychology students' choice intention for school psychology? Is this relationship mediated by self-efficacy and outcome expectations?

For all three research questions, a simple regression between the independent variable and dependent variable was first run. If the relationship was significant, then Baron and Kenney's (1986) mediation analysis was conducted. Baron and Kenny (1986) identify mediation as a third psychological variable that helps to explain how an external variable impacts an internal factor. The most common test of mediation is Baron and Kenney's (1986) analysis. Baron and Kenny state that in order to test mediation the following steps should be followed: 1) Test for a significant relationship between the mediator and predictor, 2) test for a significant relationship between predictor and dependent variable, and 3) run a regression between the dependent variable and the predictor and mediator.

Based on the three previous steps identified by Baron and Kenny's (1986) mediation analysis, a mediation is present when; a) the relationship between mediator and predictor in step 1 is significant and in the intended direction, b) the relationship between predictor and dependent variable in step 2 is significant in the intended direction, c) the relationship between mediator and outcome variable is significant and in the intended direction, and d) the effect of the predictor and outcome variable is less in step 2 than in step three. Furthermore, Baron and Kenny differentiated between full and partial mediation. According to Baron and Kenny (1986) full mediation occurs when the inclusion of the mediating variable causes the relationship between the independent and dependent variable to drop to zero. In contrast, a partial mediation occurs when the inclusion of the mediating variable decreases the relationship between the independent and dependent variable, but this relationship is still significant (Baron & Kenny, 1986).

Assumptions

Due to the research questions within this study relying on multiple regression, the assumptions that were checked for were: normality of residuals, correct specification of form, multicollinearity, homoscedasticity, and independent errors. Normality of residuals was checked through a visual inspection of histograms and normal probability plots. Correct specification of form was checked by a visual inspection of variables' residuals. Multicollinearity was checked through an analysis of the variance inflation factor (VIF). Homoscedasticity was assessed through a visual inspection of residual scatter plots for each independent variable. The assumption of independence of errors was checked by running the Durbin-Watson test.

For the assumption of normality of residuals, a visual inspection of histograms and normal probability plots revealed a slight deviation from normality. However, due to these deviations not being large and regressions being robust against violations of the assumption of normality of residuals, a transformation was not conducted (Cohen, Cohen, West, & Aiken, 2003, p. 120). In regard to the assumption of correct specification of form, a visual analysis of scatterplots (i.e., standardized residuals versus standardized predicted values) representing the relationship between each dependent and independent variables examined within this study revealed that all relationships followed a generally linear form, and thus, met the assumption of correct specification of form.

In regard to multicollinearity, multicollinearity was assessed through an analysis of VIF. The VIF for individual predictors analyzed within the study was less than 10. However, the average VIF value for the predictors was slightly over 1, which suggests that multicollinearity

may be a problem in the study (Field, 2009, p. 224). However, multicollinearity should not be an issue due to each independent variable being run in a separate regression equation.

In regard to the assumption of homoscedasticity, homoscedasticity was assessed through a visual inspection of residual scatter plots for each independent variable. The visual inspection of scatter plots did not reveal any funnel formations within the graphs. Therefore, it was concluded that the assumption homoscedasticity was met (Cohen, Cohen, West, & Aiken, 2009, p.131). Lastly, the assumption of independence of errors was assessed by conducting the Durbin-Watson test on each regression run within the study. All Durbin-Watson tests were found to be very close to 2.00, which suggest that the independence of errors assumption has held (Cohen, Cohen, West, & Aiken, 2009, p. 136).

Research question 1. Does exposure predicts the strength of advanced undergraduate psychology students' choice intention for school psychology? Is this relationship mediated by self-efficacy and outcome expectations?

Results. A regression analysis between exposure to school psychology and choice intentions for school psychology was conducted. This analysis revealed that the degree of undergraduate psychology students' exposure to school psychology significantly predicted choice intention for school psychology. Specifically, degree of exposure explained 14% of the variance in their choice intention for school psychology, $\beta = .376$, $F(1, 643) = 106.2$, $P < .001$.

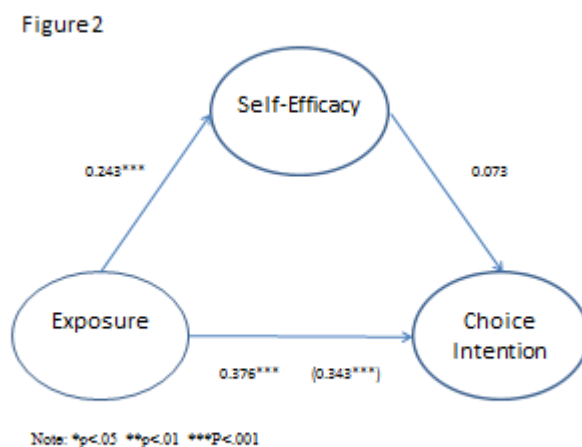
Exposure and self-efficacy. A mediation analysis for self-efficacy was conducted. Table 38 presents the results from Baron and Kenny's mediation analysis. Furthermore, Figure 1 depicts standardized regression coefficients and the pathways tested within this mediation model.

These analyses suggest that there is a significant relationship between; a) self-efficacy and exposure and b) exposure and choice intentions. Furthermore, a decrease in the relationship between exposure and choice intention was evidenced when controlling for self-efficacy. The result of this mediation analysis suggests that the relationship between exposure to school psychology and choice intention for school psychology is partially mediated by self-efficacy. This conclusion was reached due to the standardized regression coefficient between exposure and choice intentions decreasing after controlling for self-efficacy. A decrease in the standardized regression coefficient between the independent and dependent variable, after controlling for the mediator, is one of the main conditions for mediation (Baron & Kenny, 1986). It is important to note, that partial mediation differentiates from full mediation due to the mediator in partial mediation not fully explaining the relationship between the predictor and outcome variable (i.e., there continues to be a significant relationship between predictor and outcome variable when controlling for the mediator).

Table 38
Self-efficacy as Mediator in Exposure and Choice Intention Regression

| | | <u>B</u> | <u>SE B</u> | <u>β</u> | <u>R square</u> |
|-------------------------|---------------|----------|-------------|----------|-----------------|
| Step 1 | | | | | |
| DV: Self- efficacy | Constant | 2.884 | 0.087 | | |
| | Exposure | 0.222 | 0.036 | 0.243*** | 0.059 |
| Step 2 | | | | | |
| DV: Choice Intention | Constant | 1.895 | 0.194 | | |
| | Exposure | 0.804 | 0.078 | 0.376*** | 0.142 |
| Step 3 | | | | | |
| DV: Choice Intention | Constant | 1.424 | 0.334 | | |
| | Exposure | 0.752 | 0.085 | 0.343*** | |
| | Self-efficacy | 0.175 | 0.092 | 0.073 | 0.135 |

Note: *p<.05 **p<.01 ***p<.001



Exposure and outcome expectations. A mediation analysis for outcome expectations was conducted. Table 39 presents the results from Baron and Kenny's mediation analysis; furthermore, Figure 2 depicts standardized regression coefficients and the pathways tested within this mediation model. These analyses suggest that there is a; a) significant relationship between exposure and outcome expectations, b) a significant relationship between exposure and choice intentions, and c) a significant decrease in the relationship between exposure and choice intention when controlling for outcome expectations. The result of this mediation analysis suggests that the relationship between exposure to school psychology and choice intention for school psychology was partially mediated by outcome expectations. This conclusion was reached due to the standardized regression coefficient between exposure and choice intentions decreasing after controlling for outcome expectations. A decrease in the standardized regression coefficient between the independent and dependent variable, after controlling for the mediator, is

one of the main conditions for mediation (Baron & Kenny, 1986). In addition, all other of Baron and Kenny's (1986) conditions for mediation were met. It is important to note, that partial mediation differentiates from full mediation due to the mediator in partial mediation not fully explaining the relationship between the predictor and outcome variable (i.e., there continues to be a significant relationship between predictor and outcome variable when controlling for the mediator).

Table 39
Outcome exp as Mediator in Exposure and Choice Intention Regression

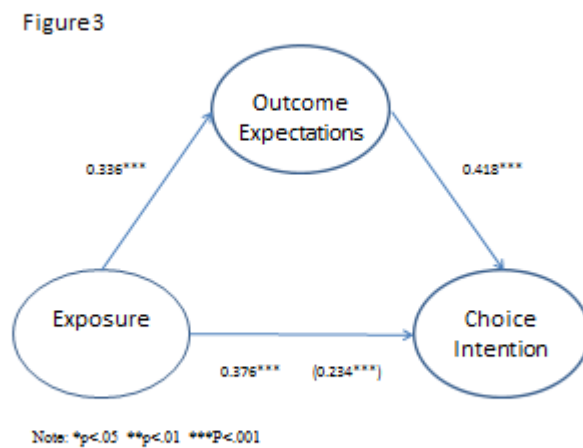
| | | <u>B</u> | <u>SE B</u> | <u>β</u> | <u>R square</u> |
|--------------------------|-------------|----------|-------------|----------|-----------------|
| Step 1 | | | | | |
| DV: Outcome Expectations | Constant | 3.157 | 0.061 | | |
| | Exposure | 0.222 | 0.025 | 0.336*** | 0.113 |
| Step 2 | | | | | |
| DV: Choice Intention | Constant | 1.895 | 0.194 | | |
| | Exposure | 0.804 | 0.078 | 0.376*** | 0.142 |
| Step 3 | | | | | |
| DV: Choice Intention | Constant | 2.362 | 0.405 | | |
| | Exposure | 0.501 | 0.076 | 0.234*** | |
| | Outcome-Exp | 1.353 | 0.115 | 0.418*** | 0.294 |

Note:

*p<.05

**p<.01

***p<.001



Research question 2. Does the amount of knowledge predict the strength of advanced undergraduate psychology students' choice intention for school psychology? Is this relationship mediated by self-efficacy and outcome expectations?

Results. A regression analysis between knowledge of school psychology and choice intentions for school psychology was conducted. This analysis revealed that the degree of undergraduate psychology students' knowledge of school psychology explained 3.5% of the variance in their choice intention for school psychology ($\beta = .187$, $F(1, 663) = 24.151$, $P < .001$).

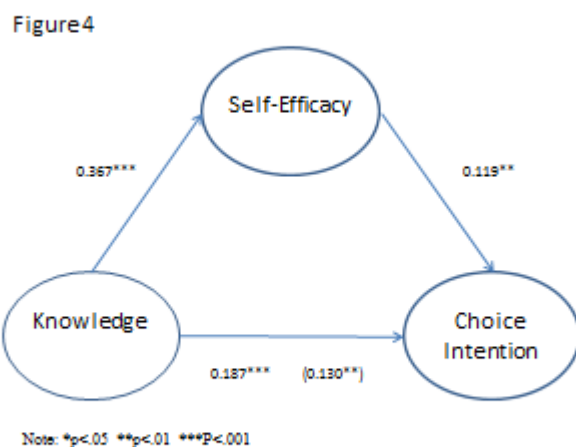
Knowledge and self-efficacy. A mediator analysis for self-efficacy was conducted. Table 40 presents the results from Baron and Kenny's mediation analysis; furthermore, Figure 3 depicts standardized regression coefficients and the pathways tested within this mediation model. These analyses suggest that there is a; a) significant relationship between self-efficacy and knowledge

and b) significant relationship between knowledge and choice intentions. Furthermore, a decrease in the relationship between knowledge and choice intention was evidenced when controlling for self-efficacy. The result of this mediation analysis suggests that the relationship between knowledge of school psychology and choice intention for school psychology is partially mediated by self-efficacy. This conclusion was reached due to the standardized regression coefficient between knowledge and choice intentions decreasing after controlling for self-efficacy. A decrease in the standardized regression coefficient between the independent and dependent variable, after controlling for the mediator, is one of the main conditions for mediation (Baron & Kenny, 1986).

Table 40
Self-efficacy as Mediator in Knowledge and Choice Intention Regression

| | | <i>B</i> | <i>SE B</i> | β | <i>R square</i> |
|----------------------|---------------|----------|-------------|----------|-----------------|
| Step 1 | | | | | |
| DV: Self-Efficacy | Constant | 2.3 | 0.113 | | |
| | Knowledge | 0.323 | 0.032 | 0.367*** | 0.134 |
| Step 2 | | | | | |
| DV: Choice Intention | Constant | 2.439 | 0.282 | | |
| | Knowledge | 0.397 | 0.081 | 0.187*** | 0.035 |
| Step 3 | | | | | |
| DV: Choice Intention | Constant | 1.858 | 0.366 | | |
| | Knowledge | 0.273 | 0.088 | 0.13** | |
| | Self-efficacy | 0.286 | 0.1 | 0.119** | 0.042 |

Note: * $p < .05$ ** $p < .01$ *** $p < .001$

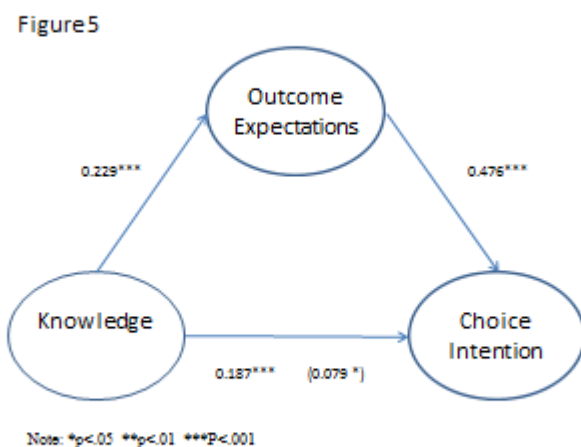


Knowledge and outcome expectations. A mediation analysis for outcome expectations was conducted. Table 41 presents the results from Baron and Kenny's mediation analysis; furthermore, Figure 4 depicts standardized regression coefficients and the pathways tested within this mediation model. These analyses suggest that there is a; a) significant relationship between knowledge and outcome expectations, b) a significant relationship between knowledge and choice intentions, and c) a significant decrease in the relationship between knowledge and choice intention when controlling for outcome expectations. The result of this mediation analysis suggests that the relationship between knowledge of school psychology and choice intention for school psychology was partially mediated by outcome expectations. This conclusion was reached due to the standardized regression coefficient between knowledge and choice intentions decreasing after controlling for outcome expectations. A decrease in the standardized regression coefficient between the independent and dependent variable, after controlling for the mediator, is

one of the main conditions for mediation (Baron & Kenny, 1986). In addition, all other of Baron and Kenny's (1986) conditions for mediation were met. It is important to note, that partial mediation differentiates from full mediation due to the mediator in partial mediation not fully explaining the relationship between the predictor and outcome variable (i.e., there continues to be a significant relationship between predictor and outcome variable when controlling for the mediator).

Table 41
Outcome Exp as Mediator in Knowledge and Choice Intention Regression

| | | | <u>B</u> | <u>SE B</u> | <u>β</u> | <u>R</u> <u>square</u> |
|-------------------------|-------------|-----------|----------|-------------|----------|---------------------------|
| - | - | - | | | | |
| Step 1 | | | | | | |
| DV: Outcome-Expectation | Constant | | 3.165 | 0.087 | | |
| | Knowledge | | 0.15 | 0.025 | 0.229*** | 0.053 |
| Step 2 | | | | | | |
| DV: Choice Intention | Constant | | 2.439 | 0.282 | | |
| | Knowledge | | 0.397 | 0.081 | 0.187*** | 0.035 |
| Step 3 | | | | | | |
| DV: Choice Intention | Constant | | 2.459 | 0.439 | | |
| | Knowledge | | 0.167 | 0.074 | 0.079* | |
| | Outcome-exp | | 1.547 | 0.113 | 0.476*** | 0.25 |
| Note: *p<.05 | **p<.01 | ***p<.001 | | | | |



Research question 3. Does the perception of commitment to diversity predict the strength of undergraduate psychology students' choice intention for school psychology? Is this relationship mediated by self-efficacy and outcome expectations?

Results. A regression analysis between commitment to diversity and choice intentions for school psychology was conducted. This analysis revealed that the degree of undergraduate psychology students' perception of school psychology's commitment to diversity explained 2% of the variance in their choice intention for school psychology ($\beta = .142$, $F(1, 655) = 13.410$, $P < .001$).

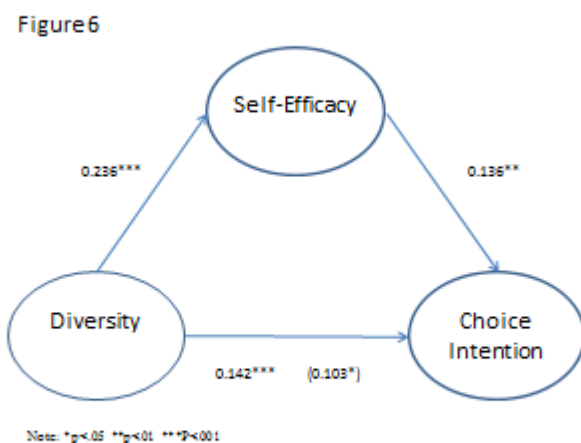
Diversity and Self-efficacy. A mediation analysis for self-efficacy was conducted. Table 42 presents the results from Baron and Kenny's mediation analysis; furthermore, Figure 5 depicts standardized regression coefficients and the pathways tested within this mediation model.

These analyses suggest that there is a; a) significant relationship between self-efficacy and diversity, and b) significant relationship between diversity and choice intentions. Furthermore, a decrease in the relationship between diversity and choice intention was evidenced when controlling for self-efficacy. The result of this mediation analysis suggests that the relationship between perception of school psychology's commitment to diversity and choice intention for school psychology is partially mediated by self-efficacy. This conclusion was reached due to the standardized regression coefficient between diversity and choice intention decreasing after controlling for self-efficacy. A decrease in the standardized regression coefficient between the independent and dependent variable, after controlling for the mediator, is one of the main conditions for mediation (Baron & Kenny, 1986). It is important to note, that partial mediation differentiates from full mediation due to the mediator in partial mediation not fully explaining the relationship between the predictor and outcome variable (i.e., there continues to be a significant relationship between predictor and outcome variable when controlling for the mediator).

Table 42
Self-efficacy as Mediator in Diversity and Choice Intention Regression

| | | <u>B</u> | <u>SE B</u> | <u>β</u> | <u>R square</u> |
|----------------------|---------------|----------|-------------|----------|-----------------|
| Step 1 | | | | | |
| DV: Self-Efficacy | Constant | 2.159 | 0.204 | | |
| | Diversity | 0.325 | 0.053 | 0.236*** | 0.056 |
| Step 2 | | | | | |
| DV: Choice Intention | Constant | 1.997 | 0.488 | | |
| | Diversity | 0.467 | 0.127 | 0.142*** | 0.02 |
| Step 3 | | | | | |
| DV: Choice Intention | Constant | 1.343 | 0.537 | | |
| | Diversity | 0.34 | 0.133 | 0.103* | |
| | Self-efficacy | 0.327 | 0.096 | 0.136** | 0.036 |

Note: *p<.05 **p<.01 ***p<.001



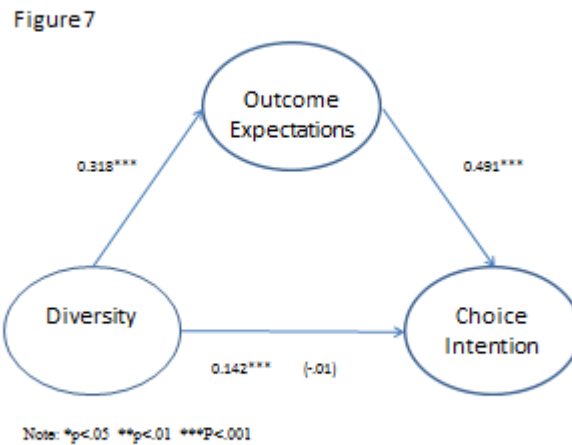
Diversity and outcome expectations. A mediation analysis for outcome expectations was conducted. Table 43 presents the results from Baron and Kenny's mediation analysis; furthermore, Figure 6 depicts standardized regression coefficients and the pathways tested within this mediation model. These analyses suggest that there is a) a significant relationship between diversity and outcome expectations, b) a significant relationship between diversity and choice intentions, and c) a significant decrease in the relationship between diversity and choice intention when controlling for outcome expectations. The result of this mediation analysis suggests that the relationship between perception of school psychology's commitment to diversity and choice intention for school psychology was completely mediated by outcome expectations. This conclusion was reached due to the standardized regression coefficient between diversity and choice intentions decreasing after controlling for outcome expectations. A decrease in the standardized regression coefficient between the independent and dependent variable, after

controlling for the mediator, is one of the main conditions for mediation (Baron & Kenny, 1986). In addition, all other of Baron and Kenny's (1986) conditions for mediation were met. It is important to note that complete mediation differentiates from partial mediation due to the mediator in complete mediation fully explaining the relationship between the predictor and outcome variable (i.e., no significant relationship between predictor and outcome variable when controlling for the mediator).

Table 43
Outcome Exp as Mediator in Diversity and Choice Intention Regression

| | | <i>B</i> | <i>SE B</i> | β | <i>R square</i> |
|-------------------------|-------------|----------|-------------|----------|-----------------|
| Step 1 | | | | | |
| DV: Outcome-Expectation | Constant | 2.452 | 0.145 | | |
| | Diversity | 0.322 | 0.038 | 0.318*** | 0.101 |
| Step 2 | | | | | |
| DV: Choice Intention | Constant | 1.997 | 0.488 | | |
| | Diversity | 0.467 | 0.127 | 0.142*** | 0.035 |
| Step 3 | | | | | |
| | Constant | - | 1.973 | 0.523 | |
| DV: Choice Intention | Diversity | - | 0.033 | 0.12 | -0.01 |
| | Outcome-exp | 1.598 | 0.118 | 0.491*** | 0.238 |

Note: * $p < .05$ ** $p < .01$ *** $p < .001$



Follow-up Analysis

In order to ascertain the combined contribution of both predictor and mediating variables on choice intention, a hierarchical multiple regression analysis was conducted. For this analysis, knowledge, exposure, and diversity variables for school psychology were entered in model 1. While self-efficacy for achieving academic milestones and outcome expectations for graduating with a degree in school psychology was entered in model two. As is evidenced in Table 43, both model 1 and model 2 were found to significantly predict advanced undergraduate psychology students' choice intentions for school psychology at $P < .0001$.

Table 43
Significance of Models

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1 | Regression | 292.04 | 3 | 97.35 | 28.50 | .000 ^b |
| | Residual | 2025.38 | 593 | 3.41 | | |
| | Total | 2317.42 | 596 | | | |
| 2 | Regression | 667.60 | 5 | 133.52 | 47.83 | .000 ^c |
| | Residual | 1649.83 | 591 | 2.79 | | |
| | Total | 2317.42 | 596 | | | |

a. Dependent Variable: Total_Intention

b. Predictors: (Constant), Total_School_Know, Total_SchoolDiv, Total_SchoolExposure

c. Predictors: (Constant), Total_School_Know, Total_SchoolDiv, Total_SchoolExposure, Total_Selfefficacy, Total_OutcomeExp

Moreover, the R^2 of model 1 was .126 ($P < .0001$). This signifies that knowledge, exposure, and perception of diversity regarding school psychology explained 12.6% of the variability in advanced undergraduate psychology students' choice intentions for school psychology. Furthermore, the addition of self-efficacy and outcome expectations into model two significantly increased in the amount of explained variance (Sig F Change $P < .0001$, R^2 change .162). This signifies that the inclusion of both learning experience variables and mediator variables explains 28.8% of the variability in undergraduate psychology students' choice intentions for entering a school psychology program. The addition of self-efficacy and outcome expectations increase the amount of variance explained in model 1 by 16.2% (see Table 44).

Table 44
Explanatory Contribution of Models

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | Change Statistics | | | |
|-------|-------------------|----------|-------------------|----------------------------|-----------------|-------------------|-----|-----|---------------|
| | | | | | | F Change | df1 | df2 | Sig. F Change |
| 1 | .355 ^a | .126 | .122 | 1.85 | .126 | 28.50 | 3 | 593 | .000 |
| 2 | .537 ^b | .288 | .282 | 1.67 | .162 | 67.27 | 2 | 591 | .000 |

a. Predictors: (Constant), Total School Know, Total School Div, Total School Exposure

b. Predictors: (Constant), Total School Know, Total School Div, Total School Exposure, Total Self-efficacy, Total Outcome Exp

An examination of each coefficient's contribution to model 1's ability to predict the outcome variable (i.e., choice intention) revealed that exposure was the only variable to significantly contribute to the model (β of .351, $P < .0001$, see Table 45). This signifies that when taking into account the shared variance of all three learning experience variables, only exposure continued to significantly contribute to model 1. Furthermore, this analysis found that when exposure to school psychology increases by one standard deviation, choice intention increases by .351 standard deviation, given that knowledge and perception of diversity are held constant.

In regard to model 2, an examination of each coefficient's contribution to model 2's ability to predict the outcome variable (i.e., choice intention) revealed that exposure ($\beta = .248$, $P < .0001$) and outcome-expectations ($\beta = .434$, $P < .0001$), were the only variable to significantly contribute to the model (see Table 45). This signifies that when taking into account the shared variance of all three learning experience variables and two mediating variables, only exposure and outcome-expectations continued to significantly contribute to model 2. Furthermore, this analysis found that; a) when exposure to school psychology increases by one standard deviation,

choice intention increases by .248 standard deviation, given that all other variables in model two are held constant, and b) when outcome expectations for school psychology increases by one standard deviation, choice intention increases by .434 standard deviation, given that all other variables in model 2 are held constant.

Table 45
Model Coefficients

| Model | | B | SE B | β | t | Sig. |
|-------|-----------------------|--------|------|---------|--------|------|
| 1 | (Constant) | 1.596 | .497 | | 3.213 | .001 |
| | Total School Div | .146 | .138 | .044 | 1.059 | .290 |
| | Total School Exposure | .778 | .098 | .351 | 7.932 | .000 |
| | Total School Know | -.053 | .095 | -.025 | -.553 | .580 |
| 2 | (Constant) | -1.775 | .545 | | -3.256 | .001 |
| | Total School Div | -.185 | .128 | -.056 | -1.441 | .150 |
| | Total School Exposure | .550 | .091 | .248 | 6.052 | .000 |
| | Total School Know | -.093 | .089 | -.044 | -1.044 | .297 |
| | Total Self-efficacy | .040 | .091 | .017 | .445 | .657 |
| | Total Outcome Exp | 1.403 | .124 | .434 | 11.344 | .000 |
| | | | | | | |

a. Dependent Variable: Total Intention

Chapter 5: Discussion

Racial/ethnic minorities are underrepresented within school psychology. An increase representation of minorities within school psychology would benefit our clients through increased; a) propensity of ethnic match between client and practitioner, b) cultural competency of providers, and c) pool of applicants in order to meet current and future human resource needs. Within the current study alterable factors that were theorized to impact advanced undergraduate psychology students' choice intentions for school psychology using Lent, Brown, and Hackett's (1994) social cognitive career theory were examined. These factors were exposure, knowledge, and perception of commitment to diversity and all fell within the learning experience component of the SCCT model, which is theorized to impact choice intention through self-efficacy and outcome expectations.

Due to the size of this dissertation, it was divided into two studies. In the first study, the difference in advanced undergraduate psychology students' learning experiences for the three main types of professional psychology types (i.e., school psychology, clinical psychology, and counseling psychology) were examined. In contrast, within the second study, I examined whether increased learning experiences for school psychology predicted increased choice intentions for school psychology and if the relationships between these learning experiences and choice intentions were mediated by self-efficacy of achieving academic milestones and outcome expectations for graduating from a school psychology training program.

Study 1

In the first study it was found that advanced undergraduate psychology students have significantly less exposure and knowledge of school psychology than they do for clinical or counseling psychology, which supported the hypotheses. Furthermore, an item level analysis found that within the exposure scale, the sources of information most highly endorsed were academic sources of information (i.e., professors/advisors and coursework). These sources of information were the top two sources of information across all three psychology types. A follow-up analysis of academic sources of information also found that undergraduate psychology students had significantly less academic exposure to school psychology than to the other fields' of professional psychology. Due to the role that professional psychology programs can potentially play in impacting diversity recruitment, organizational sources of information was also further investigated. Organizational sources of information was conceptualized within the present study as sources information that were related to professional psychology programs recruitment efforts and were represented by undergraduate psychology students' exposure through recruitment material and professional organizations such as APA, NASP, etc. An analysis of organizational exposure found that advanced undergraduate psychology students had significantly less organizational exposure to school psychology, than to counseling or clinical psychology.

However, not all domains of learning experiences were found to be significantly different between professional psychology types. A significant difference was not found for advanced undergraduate psychology students' perception of graduate programs' commitment to diversity. Upon further reflection, the lack of significant difference in advanced undergraduate

psychology students' perception of commitment to diversity between the different fields of professional psychology is not surprising. As the item level analysis of the exposure scale evidenced, a large portion of students' exposure to the various professional psychology types come from academic sources (i.e., coursework, and professors/advisors). Hence, it is likely that little coursework during undergraduate psychology training pertains to each fields' acceptance or commitment to diversity. This lack of exposure to information regarding training program's commitment to diversity might explain the non-significant findings. Moreover, it could also be true that there is no significant difference between professional psychology types' acceptance of diversity and that the current findings reflect the actual state of the field of professional psychology.

Interestingly, none of the analysis run within our study found any significant difference between minority and non-minority undergraduate psychology students' learning experiences for professional psychology types. This lack of significant finding could be due to both minority and non-minority students taking part in similar learning experiences regarding the various fields of professional psychology or it could also be an artifact of the small number of minorities included in the study.

Study 2

In study two it was found that knowledge, exposure, and commitment to diversity in school psychology was significantly related to students' choice intentions for school psychology. Furthermore, through the use of Baron and Kenny's (1986) mediator analysis it was found that: 1) the relationship between exposure and choice intention was only partially mediated by self-efficacy and outcome expectations; 2) the relationship between knowledge and choice intention

partially mediated by self-efficacy and outcome expectations; and 3) the relationship between knowledge and choice intention was partially mediated by self-efficacy and fully mediated by outcome expectations.

Self-efficacy's small mediatory role, between choice intention and learning experiences, was surprising, especially due to the number of studies that have supported the role of self-efficacy in predicting future behaviors (Bandura 1986, 1997; Campbell & Hackett, 1986; Dawes, Horan, & Hackett, 2000; Shuab & Tokar, 2005; William & Subich, 2006). This small mediation could possibly be due to the temporal distance between the time study participants completed the self-efficacy scale and the time where choice intention action will take place. This temporal distance between learning experiences and the time where choice intention action would take could weaken the relationship. It is quite possible that if a longitudinal methodology would have been used in the current study (.e.g., measuring learning experiences during the Junior year and self-efficacy and choice intention immediately before graduate applications were due), the mediating role of self-efficacy would have become more apparent. Nevertheless, the impact of time on self-efficacy represents an area with a dearth of research, future studies should examine how the temporal distance between self-efficacy's and choice action impacts the relationship between self-efficacy and choice intention.

However, another possible explanation for the small mediatory role of self-efficacy could be the domain measured within the self-efficacy scale. Within the present study, advanced undergraduate psychology students' self-efficacy for achieving academic milestones in school psychology was assessed, while advanced undergraduate psychology students outcome expectations for graduating with a degree in school psychology was assessed for the outcome

expectation scale. It is possible that if the self-efficacy measure would have focused on another domain of measure (e.g., graduating from school psychology program), instead of achieving academic milestones, the relationship between self-efficacy and choice intentions would have been stronger, which could have strengthened self-efficacy's mediation of learning experiences and choice intentions. The relationship between the domain of measure and self-efficacy's predictive ability of choice intention represents an area of potential research.

In regard to outcome expectations, outcome expectations for graduating from a school psychology program were found to play mediating role between learning experiences and choice intentions for school psychology. In the present study, positive outcome expectations for school psychology was found to be highly correlated with choice intention for school psychology and mediated the relationship between learning experiences and choice intention. This finding has important implications for diversity recruitment practices within school psychology.

Implications

The findings from this study strongly suggest that, in general, advanced undergraduate psychology students (i.e., minority and non-minority) have more learning experiences concerning counseling and clinical psychology than for school psychology. Furthermore, it was found that increased learning experiences for school psychology was significantly related to increased choice intentions for school psychology, which was mediated by student's self-efficacy for achieving academic milestones and outcome expectations for attaining a graduate degree in school psychology. Interestingly, students' racial/ethnic self-identification did not seem to impact their learning experiences or the relationship between learning experience and choice

intentions. These findings have significant implications for diversity recruitment practices within school psychology.

The fact that in the present study, a significant difference between minority and non-minority advanced undergraduate psychology students' learning experiences was not found is promising. This signifies that all students are having similar learning experiences regarding school psychology, regardless of their racial/ethnic self-identification. Therefore, based on this finding, it is presumable that one way to increase the number of minorities within school psychology is through the use of recruitment interventions that target learning experiences and outcome expectations for school psychology. An additional boon of this type of intervention is that it would presumably make an impact not just on minority undergraduate students, but rather on all advanced undergraduate students, regardless of their racial ethnic identification.

Based on these results, it is strongly suggested that leaders within school psychology seek to increase undergraduate psychology students' learning experiences for school psychology, with a particular emphasize on students' academic exposure to the field and outcome expectations for graduating with a degree in school psychology. This recruitment intervention could be carried out through in-person or media presentations given in undergraduate psychology classes and/or by pressuring publishers of undergraduate psychology textbooks to increase the presentation of school psychology within their textbooks. Undergraduate psychology students must be exposed to the positive outcomes related to becoming a school psychologist in order for there to be a significant increase in the minority representation within school psychology. These purposeful diversity recruitment efforts have the potential of increasing the overall pool of applicants, thus allowing for graduate psychology programs to increase the diversity of the field.

This increased diversity could have a positive impact on the likelihood of; a) client-practitioner ethnic match, b) cross-cultural interaction within graduate training programs, and c) meeting current and future human resource needs.

Examples of Recruitment Interventions

In order to increase the number of minorities within the profession of school psychology it would be beneficial if professional organizations (e.g. NASP or local organizations) send school psychology representatives to college/universities, with high minority psychology programs, in order to speak to students regarding the field of school psychology and the benefits of becoming a school psychologist. Furthermore, alliances could be established within the local school systems in order for undergraduate psychology students to shadow school psychologists practicing within the field. These interventions would provide undergraduate psychology students with increased exposure to the field, while hopefully demonstrating to them the positive outcomes associated with graduating with a degree in school psychology.

Limitations

Some of the limitations of the current study were a lack of a truly nationally represented sample. Due to difficulties with meeting the recruitment goal from the southern region, universities from the southern region of the United States were underrepresented. The lack of representation of students from this region could have a negative impact on the generalizability of study findings to undergraduate psychology students who attend southern universities.

Another limitation of this study is the inability to over-represent minorities. As part of the recruitment process, I attempted to over-represent minorities by having a recruitment phase that

only targeted HBCU's. Unfortunately, this recruitment phase was no as successful as hoped. This difficulty with including an adequate number of HBCU's was likely due to the number of recruitment efforts that target HBCU's for inclusion in online studies. A faculty from an HBCU that was contacted as part of this survey, rejected to take part in the study, due to the overwhelming number of recruitment offers that they reportedly receive. The difficulty with recruiting a greater number of advanced undergraduate psychology students who self-identified as minorities lead to the grouping of all minorities into one homogenous group, which potentially negatively impacted the results of this study and did not allow for an analysis by ethnic grouping to be conducted.

In addition, another limitation of the present study is the domain of measure of the self-efficacy, outcome expectation, and choice intention. In this study, all three scales measured a slightly different domain which could have impact the results. Future studies should examine if self-efficacy for achieving academic milestones in graduate school and outcome expectations for graduating with a degree in school psychology are the appropriate domain of measures when assessing choice intention for entering a graduate psychology program.

Lastly, due to this study being correlational, no causation could be made. Therefore, due to the methodology used within this study, it is impossible to know if learning experiences and outcome expectations impacted choice intentions, if choice intentions impacted learning experiences and outcome expectations, or if they were all impacted by unaccounted factor(s). Future research should use more rigorous methodology in order to better identify the causal relationship between learning experiences and choice intentions.

Future Directions

In order to impact the diversity of school psychology, studies with improved methodology, such as longitudinal and intervention studies, should be conducted. The use of improved methodology would provide additional evidence for the role of learning experiences and outcome expectations in impacting undergraduate psychology students' choice intentions for school psychology and hopefully identifying a causal link between the aforementioned factors. Furthermore, longitudinal studies that assess learning experiences, self-efficacy, outcome expectations, choice intentions, and choice actions, across various time points should be conducted in order to better extrapolate the roles of the various factors impacting minority recruitment, from a SCCT framework. Lastly, studies should be conducted that focus on specific minority groups in order to identify how specific minority groups are impacted by the various learning experiences and its relationship with choice intention.

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Appendix A

ID# _____

Please fill in the circle that best corresponds to your situation.

1. How old are you? _____

2. What university/college do you attend? _____

3. What is your gender?

Male Female Other: _____

4. Are you Hispanic or Latino?

Yes No Don't Know

How do you *most* identify yourself?

White African-American/Black Asian/pacific islander Native American
 Multi-Racial Other: _____

5. What is your current academic standing?

Freshmen Sophomore Junior Senior Other: _____

6. Are you a psychology major?

Yes No Undecided

7. Which of the following best describes your overall GPA?

- 3.75 - 4.0
- 3.50 - 3.74
- 3.25-3.49
- 3.00 - 3.24
- 2.50 - 3.00
- 2.00 - 2.50
- Below 2.00

8. Which of the following best describes your GPA within psychology?

- 3.75 - 4.0
- 3.50 - 3.74
- 3.25-3.49
- 3.00 - 3.24
- 2.50 - 3.00
- 2.00 - 2.50
- Below 2.00

Appendix B

Knowledge Assessment of Applied Professions in Psychology

Please tell me how well you think you can accurately describe the following characteristics of the profession of *School Psychology*.

1) *Where they work...*

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

2) *Training requirement...*

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

3) *What they do...*

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

4) *Who are their clients...*

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

5) The importance of their profession...

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|--------------------------|--------------------------|----------------------------|--------------------------------|---------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

Please tell me how well you think you can accurately describe the following characteristics of the profession of **Clinical Psychology**.

6) Where they work...

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|--------------------------|--------------------------|----------------------------|--------------------------------|---------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

7) Training requirement...

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|--------------------------|--------------------------|----------------------------|--------------------------------|---------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

8) What they do...

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|--------------------------|--------------------------|----------------------------|--------------------------------|---------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

9) Who are their clients...

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

10) The importance of their profession...

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

Please tell me how well you think you can accurately describe the following characteristics of the profession of ***Clinical Psychology***.

11) Where they work...

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

12) Training requirement...

| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------------|
| 1..... | 2..... | 3..... | 4..... | 5..... |

13) What they do...

| | | | | |
|--------------------------|--------------------------|----------------------------|--------------------------------|---------------------------------|
| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
| 1..... | 2..... | 3..... | 4..... | 5..... |

14) Who are their clients...

| | | | | |
|--------------------------|--------------------------|----------------------------|--------------------------------|---------------------------------|
| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
| 1..... | 2..... | 3..... | 4..... | 5..... |

15) The importance of their profession...

| | | | | |
|--------------------------|--------------------------|----------------------------|--------------------------------|---------------------------------|
| Can't describe at all | Can describe a little | Can describe in general | Can describe in some detail | Can describe in great detail |
| 1..... | 2..... | 3..... | 4..... | 5..... |

Appendix C

Perception of Diversity within Applied Professions in Psychology

Please answer the following questions regarding your **perception** of each type of psychology. Using the 5 point Likert scale below, please circle the answer that you believe best answer the question.

The following questions are about *clinical psychology*

1) Clinical psychology graduate programs are committed to promoting a diverse training environment.

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5 |

2) Clinical psychology graduate programs will address cultural issues when appropriate

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5 |

3) Clinical psychology graduate programs will provide training in multiculturalism

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5 |

4) Clinical psychology graduate programs value multicultural competency

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5 |

5) Clinical psychology graduate programs are committed to recruiting qualified minority graduate students.

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

The following questions are about *counseling psychology*

6) Counseling psychology graduate programs are committed to promoting a diverse training environment.

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

7) Counseling psychology graduate programs will address cultural issues when appropriate

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

8) Counseling psychology graduate programs will provide training in multiculturalism

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

9) Counseling psychology graduate programs value multicultural competency

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

10) Counseling psychology graduate programs are committed to recruiting qualified minority graduate students.

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

The following questions are about *school psychology*

11) School psychology graduate programs are committed to promoting a diverse training environment.

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

12) School psychology graduate programs will address cultural issues when appropriate

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

13) School psychology graduate programs will provide training in multiculturalism

| | | | | |
|----------------------|----------|------------------------------|--------|----------------|
| Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

14) School psychology graduate programs value multicultural competency

Strongly Disagree Disagree Neither Agree or Disagree Agree Strongly Agree

1.....2.....3.....4.....5

15) School psychology graduate programs are committed to recruiting qualified minority graduate students.

Strongly Disagree Disagree Neither Agree or Disagree Agree Strongly Agree

1.....2.....3.....4.....5

PDAPP scales

| | | | |
|---|--|---|--|
| Perception of Commitment to Diversity | <u>Clinical Psychology</u> (Q 1-5) | <u>Counseling Psychology</u> (Q 6-10) | <u>School Psychology</u> (Q 11-15) |
|---|--|---|--|

Appendix D

Sources of Knowledge of Applied Professions in Psychology

General Instructions: The following questions ask how much information you received about Clinical, Counseling, and School Psychology from the following sources of information.

Please answer these questions using the following scale

None Very little A Little Some A lot A great deal

1.....2.....3.....5.....6.....7

Clinical psychology

How much information did you receive about **Clinical Psychology** from...

1. Professional organizations (e.g. APA, NASP, ACA, etc.)
2. Professors/Advisors
3. Personal contact with clinical psychologist.
4. Course work
5. The media (e.g., Television, Internet, Radio, Non-academic books, etc.)___
6. Family.....
7. Recruitment material
8. Other

Please answer these questions using the following scale

None Very little A Little Some A lot A great deal

1.....2.....3.....5.....6.....7

Counseling psychology

How much information did you receive about **Counseling Psychology** from...

9. Professional organizations (e.g. APA, NASP, ACA, etc.)
10. Professors/Advisors
11. Personal contact with counseling psychologist.....
12. Course work
13. The media (e.g., Television, Internet, Radio, Non-academic books, etc.)___
14. Family.....
15. Recruitment material
16. Other

Please answer these questions using the following scale

None Very little A Little Some A lot A great deal

1.....2.....3.....5.....6.....7

School psychology

How much information did you receive about **School Psychology** from...

17. Professional organizations (e.g. APA, NASP, ACA, etc.)

18. Professors/Advisors

19. Personal contact with school psychologist.

20. Course work

21. The media (e.g., Television, Internet, Radio, Non-academic books, etc.)___

22. Family.....

23. Recruitment material

24. Other

SKAPP

Clinical Knowledge

Total number endorsed (Q 1-8)

Counseling Knowledge

Total number endorsed (Q 9-16)

School Knowledge

Total number endorsed (Q 17-24)

Appendix F

Positive outcomes of earning a degree in school psychology

Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements.

Graduating with a degree in **SCHOOL PSYCHOLOGY** will likely allow me to:

a. **...receive a good job offer.**

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

b. **...earn an attractive salary.**

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

c. **...get respect from other people.**

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

d. **...do work that I would find satisfying.**

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

e. ...increase my sense of self-worth

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

f. ...have a career that is valued by my family

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

g. ...do work that can “make a difference” in people’s lives

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

h. ...go into a field with high employment demand

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

i. ...do exciting work.

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

j. ... have the right type and amount of contact with other people (i.e., "right" for me)

| | | | | |
|----------|----------|-------------------|----------|----------|
| Strongly | Somewhat | Neither | Somewhat | Strongly |
| Disagree | Disagree | Agree or Disagree | Agree | Agree |
| 1..... | 2..... | 3..... | 4..... | 5..... |

Appendix G

Choice Intention for school psychology

Using the scales below, and thinking about the near future, how likely are you to...

| Very unlikely | Unlikely | Somewhat unlikely | Undecided | Somewhat likely | Likely | Very likely |
|---------------|----------|----------------------|-----------|--------------------|--------|-------------|
| 1..... | 2..... | 3..... | 4..... | 5..... | 6..... | 7..... |

1...research online about different school psychology programs _____

2...visit in person school psychology graduate programs _____

3 ...talk to school psychologists about their psychological specialty and training _____

4...apply for admission to school psychology graduate programs _____

5...if selected, interview at a school psychology graduate program _____

Appendix H

Pears on Correlations Across all Variables

| | School Know | Coun Know | Clinic Know | School Diversity | Coun Diversity | Clinic Diversity | School Exposure | Coun Exposure | Clinic Exposure | Self-Efficacy | Outcome Exp | Choice Int |
|------------------|-------------|-----------|-------------|------------------|----------------|------------------|-----------------|---------------|-----------------|---------------|-------------|------------|
| School Knowledge | 1 | .502** | .358** | .372** | .266** | .240** | .473** | .324** | .257** | .367** | .229** | .187** |
| Coun Knowledge | .502** | 1 | .572** | .268** | .335** | .253** | .282** | .527** | .370** | .248** | .123** | .084* |
| Clinic Knowledge | .358** | .572** | 1 | .147** | .213** | .274** | .135** | .285** | .543** | .209** | .020 | -.014 |
| School Diversity | .372** | .268** | .147** | 1 | .715** | .665** | .264** | .254** | .207** | .236** | .318** | .142** |
| Coun Diversity | .266** | .335** | .213** | .715** | 1 | .773** | .211** | .365** | .305** | .144** | .250** | .086* |
| Clinic Diversity | .240** | .255** | .274** | .665** | .773** | 1 | .181** | .264** | .326** | .107** | .249** | .114 |
| School Exposure | .473** | .282** | .135** | .264** | .211** | .181** | 1 | .636** | .508** | .243** | .336** | .376** |
| Coun Exposure | .324** | .527** | .285** | .543** | .370** | .264** | .636** | 1 | .701** | .143** | .224** | .249** |
| Clinic Exposure | .257** | .370** | .543** | .207** | .305** | .326** | .508** | .701** | 1 | .161** | .137** | .142** |
| Self-efficacy | .367** | .248** | .209** | .236** | .144** | .107** | .243** | .143** | .161** | 1 | .271** | .163** |
| Outcome Exp | .229** | .123** | .020 | .318** | .250** | .249** | .336** | .224** | .137** | .271** | 1 | .491** |
| Choice Int | .187** | .084* | -.014 | .142** | .086* | .114** | .376** | .249** | .142** | .163** | .491** | 1 |

Note. * p<.05 level (2-tailed). ** p<.01 level (2-tailed).

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Language Proficiency

Bilingual - English/Spanish (Native)

Education

- | | |
|-----------|---|
| 2010-2014 | University of Wisconsin-Milwaukee Educational Psychology-school psychology concentration, Ph.D. program American Psychological Association Accredited |
| 2008-2010 | University of Wisconsin-Milwaukee School Psychology, Masters of Science National Association of School Psychology Accredited |
| 2002-2008 | University of Louisville, Louisville KY Bachelor of Arts in Psychology (Honors) with a minor in Spanish |

Academic Awards

- | | |
|-----------|---|
| 2010-2013 | Advanced Opportunity Program Fellowship - recipient |
| 2010-2011 | Singer Scholarship - recipient |
| 2008-2010 | Chancellor Scholarship - recipient |

Research Experience

- | | |
|--------------|--|
| 2012-Present | The Impact of Learning Experiences on Undergraduates' Choice of Professional Psychology Specialty: A Social Cognitive Career Theory Approach <i>Dissertation</i> <ul style="list-style-type: none"> ▪ Advisor: Dr. Markeda Newell, Ph.D. ▪ Examining the impact of psychology undergraduate students' learning experiences on their choice of professional psychology specialty ▪ Data will be gathered from a national sample of undergraduate psychology students ▪ Minority populations will be targeted within the study ▪ Study will lead to more efficient diversity recruitment efforts ▪ Proposal successfully defended on 2012 |
|--------------|--|

- 2012-2013 McNair Scholar Outcome Study
Group Member
- Faculty: Dr. Nadya Fouad, Ph.D.
 - Study measures the effectiveness of the McNair program using an SCCT model
 - Involved in conceptualization of study
 - Study is in the early stages
- 2011-2013 Dr. Nadya Fouad's Career Research Group
Group Member
- Faculty: Dr. Nadya Fouad, Ph.D.
 - Assisted in the conceptualization of various studies
 - Analyzed data
 - Reviewed pertinent literature regarding studies
 - Consulted with fellow group members and faculty on proper methodology and study conceptualization
- 2011-2013 Impact of Parental Stress and Child Disability Status on Parent and Teacher Ratings
Co-Project Leader
- Faculty: Dr. Kyongboon Kwon, Ph.D.
 - Study investigates the impact of child disability status on informants' ratings of child behaviors.
 - Assisted in the conceptualization of the study.
 - Conducted literature review
 - Analyzed the data
 - In final stages of writing manuscript
 - Manuscript will be submitted for possible publication in November 2012
- 2011-2013 Risk and Protective Factors in Southeast Asian College Students Research Group
Project Director
- Faculty: Dr. Susie Lamborn, Ph.D.
 - Assisted in study conceptualization
 - Facilitated the selection of scales for inclusion in study
 - Responsible for IRB application and subsequent amendments to IRB
 - Coordinated participant recruitment efforts
 - In charge of survey creation - paper and electronic version
 - Will be responsible for data analysis and presentation of findings

- 2011-2013 African American Parenting Practices
Data Manager
- Faculty: Dr. Susie Lamborn, Ph.D.
 - Assisted in study conceptualization
 - In charge of statistical analysis
 - Reliability coder
 - Organized and created graphic representation of data
 - Co-authored proposal for presentation at conference
- 2011-2012 Southeast Asian Parenting Practices
Data Manager
- Faculty: Dr. Susie Lamborn, Ph.D.
 - Assisted in study conceptualization
 - In charge of statistical analysis
 - Reliability coder
 - Co-authored proposal for presentation
 - Organized and created graphic representation of data
 - Manuscript based on this study was accepted for publication
- 2010-2012 Multicultural Competency within School Psychology Journals
Project Director
- Faculty: Dr. Markeda Newell, Ph.D.
 - Conducting content analysis of leading journal for multicultural competency
 - Conceptualized study
 - Analyzed and coded data
 - Recruited individuals for reliability coding
 - Presented data at regional conference and national conferences
- 2009-2010 Multicultural School Psychology Research Group
Group Member
- Faculty: Dr. Markeda Newell, Ph.D.
 - Conducted a summer long literature review on multicultural literature
 - Collected and coded data
- Fall-2009 Emerge - A Headstart Early Intervention Literacy Program
Project Assistant
- Faculty: Dr. Karen Stoiber, Ph.D.
 - Administered assessments of early Spanish and English literacy
 - Collected data
 - Directly responsible for assuring children at a local Headstart had access to age appropriate books in order to increase exposure to literature at home

- 2008-2009 Using Computer-Simulation to Evaluate Multicultural Competence among Pre-Service School Psychologists: An Analysis of Problem-Solving Consultation in a Racially Diverse Context
Project Assistant
- Faculty: Dr. Markeda Newell, Ph.D.
 - Received and responded to participants' simulated consultations
 - Collected data from respondents
- 2006-2008 Short-Term Longitudinal Variance within Nursing Home Population
Honor's Thesis
- Faculty: Dr. Benjamin Mast, Ph.D., Dr. Suzanne Meeks, Ph.D.
 - Completed HIPA and IRB training (2006)
 - Conducted literature search for thesis
 - Developed proposal to investigate the short-term longitudinal variance within the Mini-Mental State Examination (MMSE)
 - Collected and analyzed data from local nursing home
 - Completed and successfully defended thesis
- 2006 Organizational Culture, Social Interaction, Staff-Resident Relationships, and Quality of Life among Nursing Home Residents
- Faculty: Dr. Suzanne Meeks, Ph.D.
 - Collected data from nursing home residents via interviews that included mental status, depressive symptoms, resident-staff relationships, and quality of life
- 2006 The Relationships among Activity, Depression, and Quality of Life in Adult Day Centers
- Faculty: Dr. Suzanne Meeks, Ph.D.
 - Conducted observations of adult day center clients, recording affect and engagement in activities
 - Coded data

Teaching Experience

- 2012 - 2013 Educational Psychology 325 - Practice of Classroom Assessment
Associate Instructor
- Established course on the proper creation and use of assessments within the classroom
 - Created Syllabus for the course
 - Instructed undergraduate students and assessed students' progress through the creation and use of multiple assessments
 - Used multi-didactic presentation strategies
 - Integrated innovative technology throughout course such as "Clickers"

- Summer 2012 Educational Psychology 330 - Introduction to Learning and Development
Associate Instructor
- Established course on the proper creation and use of quality assessment
 - Created Syllabus for the course
 - Instructed undergraduate students who were aspiring to become teachers
 - Assessed students' progress through the creation and use of multiple assessments
 - Used multi-didactic presentation strategies
- Spring 2012 Educational Psychology 752 - Pediatric Psychopathology (co-facilitator)
Co-facilitator
- Faculty: Dr. Markeda Newell, Ph.D.
 - Instructed several class sessions
 - Researched and Created lectures on pediatric psychopathology
 - Focused on the etiology, social history, and classification of the disorders
 - Emphasized upcoming diagnostic changes in DSM-V
 - Delineated important cultural considerations when diagnosing
- Fall 2011 Educational Psychology 732 - Cognitive Behavioral Intervention Strategies in Education
Guest Lecturer
- Researched and created lecture regarding multicultural counseling
 - Taught class focusing on key components of multicultural competency
 - Used case conceptualization in order to help students build skills
- Spring 2011 Educational Psychology 952 - Pediatric Psychology in Urban Settings
Guest Lecturer
- Created lecture for class
 - Taught class on multicultural consultation
 - Focused on the importance of diversity when working with stakeholders
 - Demonstrated how to follow evidenced based practices while modifying services to suit clients' individual needs
 - Created group activities in order for students to demonstrate understanding
- Fall 2010 Educational Psychology 330 - Introduction to Learning and Development
Guest Lecturer
- Created lecture concerning instructional techniques
 - Taught class focusing on students' internalization of the concepts
 - Students demonstrated application of concepts through group work

- 2002-2005 Nielson Media Research
Senior Bilingual Training Assistant
- Helped to train over 800 employees a year
 - Assisted in the training of both new hires and veteran interviewers
 - Co-led numerous classes ranging from new hire to research specific topics
 - Supervised trainees both on the calling floor and in the classroom
 - Responsible for administrative details
 - Immediate point of contact for matters pertaining to non-English respondents

Professional practice

- 2013 – Present Milwaukee Public School Bilingual School Psychologist
School Psychologist
- Lead school psychologist at bilingual K3-8th grade school
 - School psychologist on bilingual – district-wide evaluation team
 - Conducted a large number of Spanish and English assessments
 - Building Coordinator for initial special education referrals and 504's
 - Helped implement violence prevention initiative in EBD/MRP classroom
 - Fostered system change through initial implementation of RTI/PBIS in school
 - Assisted in training school staff on new SLD criteria
 - Served as representative of Local Educational Agency at IEP meetings
 - Carried constant caseload of individual therapy cases
 - Performed behavioral and academic interventions
 - Wrote numerous assessment reports that were presented at IEP meetings
 - Consulted with parents, teachers, and students
 - Worked with community agency to improve children's functioning
 - Provided training to school staff on suicide prevention
 - Conducted student risk assessments
 - Helped to establish and implement tier 2 and tier 3 interventions
 - Assisted in improving tier 1 implementation
 - Worked tirelessly to improve the moral of school staff
 - Translated and interpreted for non-bilingual staff
 - Analyzed data for RTI and PBIS initiative
 - Collaborated with school staff and evaluation team members

2011-2013

Family Options Counseling (Wauwatosa, WI)

Clinical Intern

- Conducted individual therapy and carried a caseload of up to six ongoing clients simultaneously
- Led and co-facilitated groups that included multiple social skills, anger management, sexual assault prevention, and a relapse prevention groups
- Performed psychological assessments, some of which were court ordered
- Conducted intake assessments on clients
- Had frequent contact with clients' guardians, parole officers, teachers, social workers, and other important stakeholders, either by phone or face to face
- Presented case reports at monthly staff meetings
- Attended clients' team meetings providing critical information regarding clients' progress and made recommendations as to how to improve their level of functioning across environments
- Wrote documents that were used in court due to clients' previous criminal convictions and ongoing legal issues
- Responsible for creating and maintaining clients' paper work
- Point of contact for translation and interpretation for Spanish clients and their families

2010-2011

Violence Prevention Team - Milwaukee Public Schools (Milwaukee, WI)

Practicum Student

- Actively engaged in training of MPS staff in the implementation of various system wide anti-violence and bullying prevention interventions
- Assisted teachers in the implementation of interventions through the provision of resources, technical assistance, and the occasional implementation of the intervention
- Collected pre and post data on the effectiveness of interventions
- Co-facilitated group-building/problem-solving exercises with MPS youth
- Led peer mediation training with elementary age youth
- Responsible for the evaluation of outcome data through statistical analysis and the presentation of data to stakeholders within the school system and community
- Advocated for the continued implementation of interventions during time of district-wide budget crises and restructuring

- 2009-2010 Bilingual School Psychologist - Milwaukee Public Schools (Milwaukee, WI)
Practicum Student
- Administered and evaluated assessment batteries in Spanish and English
 - Worked with grades ranging from K4 through 12 at three different schools within a highly racially/ethnically diverse urban school district
 - Performed individual therapy, group therapy, and assessment in English and Spanish
 - Treated clients experiencing a vast array of psychological issues, including depression, suicidal idealization, cutting, gender identity issues, etc.
 - Led various boys groups focusing on anger management and social skills in both Spanish and English
 - Implemented academic interventions to treat various academic issues
 - Used functional behavioral assessment in order to meet clients' behavioral needs
 - Worked with parents, teachers, and students in a collaborative nature in order to increase students' academic and behavioral well-being
 - Utilized evidence based interventions and monitored progress for effectiveness
 - Responsible for the administration of psychoeducational assessments and the presentation of findings in front of IEP committees
 - Provided consultation services to teachers in order to equip them with strategies to meet their students' needs
- Summer 2008 Centerstone Behavioral Health Center - Summer Therapy Program
Behavioral Health Technician
- Worked with elementary age outpatient youth during summer break in a therapeutic environment
 - Led group therapy and assisted in the implementation of various behavioral interventions and was in charge of behavioral management
 - Increased positive interactions between group members through positive reinforcement and the instruction of conflict resolution skills
 - Facilitated the development of youth's pro-social behaviors and skills through the creation of activities that helped clients practice their use of social skills
 - Provided a safe environment for at-risk children during summer months when they would be at high risk for relapse

Military Experience

- 2002-2008 Kentucky Army National Guard (Fort Knox, KY)
Non-Commissioned Officer – E5 (Iraq War 2006-2007)
- Responsible for soldiers' physical and emotional well-being in time of war
 - Provided security for one of Iraq's most dangerous Main Supply Routes
 - Over-watched combat operations
 - First line of defense in case of attack
 - In charge of platoon's physical fitness program and vehicle dispatch
 - Sergeant of the Guard – Directly in charge of the personnel manning an Entry Control Point (ECP), inspecting vehicles for bombs, insurgents, and contraband
 - Responsible for the well-being of Iraqi army soldiers
 - Awarded numerous awards for service
 - Designated as the 207th Maintenance Company's solder of the year in 2005

Other Work Experience

- 2012 Pearson Publishing Company
Paid Reviewer
- Reviewed proposal for assessment textbook
 - Made recommendations on how to improve text
- 2009-2010 Information Technology and Analysis – University of Wisconsin-Milwaukee
 Graduate School
- Project Assistant*
- Experience with sophisticated data management and analysis tools
 - Computed and analyzed data for all graduate programs at UWM
 - Composed weekly reports that were distributed throughout the university
 - Created five-year evaluation reports for graduate programs
 - Collaborated with university administrators in a professional environment

- 2008 Americana Community Center, Louisville, Kentucky
Tutor/Mentor
- Provided educational support to adolescent Somali war refugees
 - Helped to establish social support for young war refugees through mentoring
 - Assisted refugees in their adaptation to a new culture
 - Mitigated issues associated with cross-cultural exchange
 - Assisted with school work while encouraging the pursuit of post-secondary education
- 2008 Kentucky “Every 1 Reads” Program, Jefferson County Public Schools, Louisville, Kentucky
Tutor
- Tutored underserved populations in reading
 - Created a sense of self-efficacy in young urban children through mastery of basic reading skills
 - Presented self as a positive role model and created crucial relationships with at-risk students
 - Worked with elementary age individuals

Publications

Schwehr, E., **Bocanegra**, J. O., Kwon, K., & Sheridan, S. (In Press, 2014). Impact of children’s identified disability status on parent and teacher behavioral ratings. *Contemporary School Psychology*.

Lamborn, S. D., Nguyen, J., & **Bocanegra, J.** (2013). Hmong American adolescents’ perceptions of mothers’ parenting practices: Support, Authority, and Intergenerational Agreement. *Asian American Journal of Psychology*, 4, 1, 50-60.

Bocanegra, J. (2012, June). Overcoming the gap between diversity recruitment and practice. *Communique*, 40.

Bocanegra, J. Gubi, A., & Hernandez, M. (2011, Summer). Unpacking diversity recruitment: Thinking beyond phenotypic parity. *From Science to Practice*, 26-29.

Professional Presentations

Bocanegra, J. (Accepted, 2014). Psychology students’ learning experiences: Implications for minority recruitment in school psychology. Poster presentation. To be presented at APA 2014 convention, Washington, DC.

- Lamborn, S. D., **Bocanegra, J.**, & Nguyen, J. (2013). Hmong American adolescents' perceptions of mothers' parenting practices: Support, authority, and cultural dissonance. Presented at Biennial Meetings of the Society for Research in Child Development, Seattle, WA.
- Bocanegra, J.**, Gubi, A., Peterson, J., & Newell, M. (2012). The development of racial/ethnic minority research within school psychology journals: From beginnings to present. Poster presentation. Presented at APA 2012 convention, Orlando, FL.
- Bocanegra, J.** & Newell, M. (2012). An analysis of multicultural competency within School Psychology Quarterly assessment articles form 1992-2008. Poster presentation. Presented at APA 2012 convention, Orlando, FL.
- Bocanegra, J.** & Newell, M. (2012). An analysis of multicultural competency within School Psychology Review assessment articles form 1992-2008. Poster presentation. Presented at WSPA 2012 spring convention, La Crosse, WI.
- Schwehr, E., **Bocanegra, J.**, Kwon, K., & Sheridan, S. (2012). Impact of child disability status and parental stress on parental and teacher behavior ratings. Presented at WSPA 2012 spring convention, La Crosse, WI.
- Hernandez, M., **Bocanegra, J.**, Van Grinsven, L., & Callan, G. (2012). Examining the state of diversity research: NASP 2010 and 2011 diversity related presentations. Poster presentation. Presented at NASP 2012 convention, Philadelphia, PA.
- Bocanegra, J.**, Petersen, J., Callan, G., & Gubi, A. (2010, May). Preliminary findings: An overview of racial/ethnic minority research in school psychology. Presented at the University of Wisconsin-Milwaukee Multi-Cultural Research Forum, Milwaukee, WI.
- Bocanegra, J.**, (2008, April) Service Learning in the Community. Poster presentation. Presented at University of Louisville University-Wide Undergraduate Research Day, Louisville, KY.

Grant Writing/Monetary Awards

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| 2013 | School of Education Research Award Recipient – Awarded monies to fund dissertation and dissemination of findings at professional conference |
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- 2011-2012 Successfully wrote grants for various student organizations. Monies were awarded for students' travel allowance for the American Psychological Association, the National Association of School Psychologists, Wisconsin School Psychologists Association, and the American Educational Researcher Association conventions.
- 2009-2010 Successfully wrote grants for student organization. Monies were awarded for students travel allowance for the National Association of School Psychologists conference.

Professional Leadership Experiences

- 2012-2014 **Founding Member** - Educational Psychology Student Association (Officer)
- 2012-2013 **Committee Member** - Chancellor's Advisory Committee on Mental Health
- 2012-2013 **Sub-committee Member** - Chancellor's Advisory Subcommittee on Veteran's Mental Health
- 2011-2012 **UWM Representative** - Student Affiliate of School Psychology (APA, Div 16)
- 2011-2012 **President** - School Psychology Student Association (SPSA)
- 2009-2011 **Co-President** - Multicultural Graduate Student Alliance
- 2009-2011 **Co - President** - Multicultural School Psychology Association
- 2009-2010 **Treasurer** - School Psychology Student Association (SPSA)
- 2006-2006 **Treasurer** - University of Louisville's Spanish Club
- 2005-2006 **Vice-President** - Psychological Honor Society (Psi Chi, Louisville Chapter)

Technical Competency

Business analytic software SAS
 Business analytic software Hyperion
 Statistical software SPSS
 Microsoft Excel
 Microsoft Word
 Microsoft PowerPoint

Academic Associations

- 2011-Present Student Affiliate of School Psychology (APA, Div 16)
- 2010-Present American Psychological Association (APA)
- 2009-2013 Wisconsin School Psychology Association (WSPA)
- 2008-Present National Association of School Psychologists (NASP)
- 2008-Present School Psychology Student Association (SPSA)
- 2005-2008 Kentucky Psychological Association (KPA)
- 2005-2008 Psychological Honor Society (Psi Chi)

References

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