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Examining Interdisciplinary Education and Collaboration in Higher Education

by

Sarah Migas Collins

A Banded Dissertation in Partial Fulfillment

Of the Requirements for the Degree

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Examining Interdisciplinary Education and Collaboration in Higher Education

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Abstract

This banded dissertation contains three related products examining interdisciplinary education and collaboration in higher education, and discussing implications for research, curriculum development, and social work. Specifically, it addresses the role of interdisciplinary education in social work programs, and examines students' perceptions of interdisciplinary education and collaboration. Bronstein's Model of Interdisciplinary Collaboration serves as a framework to guide this banded dissertation.

The first product is a conceptual analysis examining the need for social workers to develop interdisciplinary skillsets. It discusses the extent to which interdisciplinary skill-building curricula exists in baccalaureate social work programs, offers an explanation about the barriers that stifle the integration of interdisciplinary curricula, and provides insights on how to overcome these barriers. The article then explores ways to expand interdisciplinary skill-building opportunities in undergraduate social work programs.

The second product presents mixed method research that examines students' perceptions of interdisciplinary education and collaboration from an interdisciplinary minor in Child Advocacy Studies. The Interdisciplinary Education Perception Scale (IEPS) was used to measure students' perceptions. The study also examines students' understanding of the term *interdisciplinary*. While students indicated high levels of agreement that interdisciplinary collaboration is important, and there were few statistically significant differences among majors with moderate differences, they were not familiar with the term *interdisciplinary*.

The third product of this banded dissertation is a summary of an interactive poster presentation entitled "The Perceptions of Child Advocacy Studies Students (CAST) on Interdisciplinary Education and Collaboration," presented on August 28, 2017, at the 21st

International Summit on Violence Abuse and Trauma. The presentation highlighted findings from a mixed methods study that suggested that while Child Advocacy students predominantly agree that interdisciplinary collaboration is important, they do not understand the term *interdisciplinary*.

This banded dissertation supports the argument that interdisciplinary education and collaboration are critical pieces of higher education. Students acknowledge the importance of interdisciplinary skills, but it is clear that more can be done, especially in undergraduate social work programs, to ensure that students are being taught interdisciplinary skills. Further research examining how faculty members integrate interdisciplinary education and assess interdisciplinary skills of their students in undergraduate social work programs should be pursued.

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Examining Interdisciplinary Education and Collaboration in Higher Education

While the terms *multidisciplinary* and *interdisciplinary* are often used synonymously, they are actually quite different, especially for the purpose of this banded dissertation. *Multidisciplinary* generally refers to teams of people working in parallel (Jessup, 2007), while members of *interdisciplinary* teams integrate their disciplines and collaborate with one another (Jessup, 2007; Pullen-Sansfacon & Ward, 2014). These differences are important to note, because the increasing complexity of our society requires interdisciplinary interventions. According to Bronstein (2003), "Trends in social problems and professional practice make it virtually impossible to serve clients without collaborating with professionals from various disciplines" (p. 297). While interdisciplinary collaboration is integral to excellent care, many schools still do not offer opportunities for students to learn important concepts that are integral to interdisciplinary team success. (Leiba & Leonard, 2003).

This banded dissertation explores the role of interdisciplinary education and collaboration in higher education. Interdisciplinary education "occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (World Health Organization [WHO], 2010, pg, 7). Specifically, it addresses the role of interdisciplinary education in undergraduate social work programs, and examines Child Advocacy Studies (CAST) students' perceptions and understanding of interdisciplinary education and collaboration. Bronstein's Model of Interdisciplinary Collaboration (2003) serves as a framework to guide this banded dissertation. This model clearly articulates strategies to enhance effective interdisciplinary collaboration and to reduce barriers that inhibit effective interdisciplinary collaboration.

Based on the literature, there are many obstacles to achieving interdisciplinary collaboration. For example, negative perceptions and attitudes about interdisciplinary collaboration impact effective collaboration (Tunstall-Pedoe, Rink, & Hilton, 2003). Additionally, Watkin et al. (2008) stated that a "lack of knowledge of others' roles, perceived differences in status and expertise, and negative stereotypes" are also reasons why effective interdisciplinary teamwork and collaboration can be difficult to achieve (p. 151). Effective interdisciplinary team collaboration can be enhanced; interdisciplinary teams, for example, can learn to create new goals and reflect on the process (Bronstein, 2003). It is critical that undergraduate students—specifically, social work students—are prepared to work on interdisciplinary teams and to understand these key concepts related to interdisciplinary team function (Bronstein, Mizrahi, Korazim-Kőrösy, McPhee, 2010).

The 2015 Council on Social Work Education Educational Policy and Accreditation Standards (EPAS) recognizes the importance of interdisciplinary education and collaboration, and calls on schools of social work to prepare students to work on interdisciplinary teams (Council on Social Work Education [CSWE], 2015). Unfortunately, there is a limited consensus about how and where interdisciplinary skills are taught within social work programs (Bronstein, et al., 2010), leaving a great deal to the discretion of the individual programs. Omitting curriculum about interdisciplinary collaboration can leave social work students at a loss when placed on interdisciplinary teams post-graduation. According to Schaefer and Larkin (2015), if social work education neglects to implement interdisciplinary learning opportunities, students may not be able to use the common language used by students from other majors who have participated in these opportunities. All students should leave school with an understanding of

how to best work on an interdisciplinary team. Preparing students affords students an opportunity to tackle complex social issues.

Interdisciplinary collaboration is essential when addressing complicated social issues, and well-designed interdisciplinary education prepares students to work on interdisciplinary teams. This banded dissertation examines student attitudes toward and understanding of interdisciplinary education and collaboration, and calls on institutions of higher education—especially social work programs—to be more intentional about integrating interdisciplinary education opportunities in the curriculum. Specifically, it suggests that programs would benefit by adopting Bronstein's Model of Interdisciplinary Collaboration as a guide when developing curriculum, as it introduces key concepts related to interdisciplinary collaboration.

Conceptual Framework

Bronstein's Model of Interdisciplinary Collaboration is integral to this banded dissertation because it identifies barriers to effective interdisciplinary collaboration and recommends techniques for enhancing interdisciplinary collaboration. This model can guide best practices for curriculum development within institutions of higher education, both in interdisciplinary programs and in social work programs. Interdisciplinary curriculum implementation is imperative because graduates often work on interdisciplinary teams post-graduation, yet their undergraduate education may not equip them with the skills necessary to work on these teams.

To begin, it is important to have an understanding of how interdisciplinary collaboration is defined. The World Health Organization (2010) states that collaborative practice happens when "workers from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality of care" (pg, 7). Bronstein's Model of

Interdisciplinary Collaboration seeks to achieve this goal. The model "consists of five components that contribute to effective interdisciplinary collaboration between social workers and other professionals: interdependence, newly created professional activities, flexibility, collective ownership of goals, and reflection on process (Bronstein, 2003, p. 297). Additionally, Bronstein also explains what helps or hinders this process, acknowledging "professional role, structural characteristics, personal characteristics, and a history of collaboration" as factors that influence the process (p. 302).

Bronstein lists five things that can positively affect interdisciplinary team collaboration, beginning with *interdependence*. Interdependence occurs when professionals acknowledge that they need the entire team to accomplish the established goal (Bronstein, 2003). This first step to achieving interdisciplinary collaboration is particularly important because it requires professionals to acknowledge that they are not alone capable of achieving what can be achieved when working on a collaborative team. Next, Bronstein (2003) points to the importance of *newly created professional activities,* including programming and services that are made available because of the collaboration, and would not be possible if individuals from different professions were working alone. Bronstein (2003) also highlights the importance of *flexibility*, with professionals on interdisciplinary teams being called on to compromise and be inventive in order to achieve their goals. Rigid professional boundaries can impede interdisciplinary collaboration, and it is important for professionals to understand how and when to stretch their professional boundary in order to accomplish a task. Next is the *collective ownership of goals*, which requires team members to work together to establish a shared goal and determine how, as a team, the goal will be reached (Bronstein, 2003). When professionals establish new goals, and goals that cannot be achieved by one member or one profession, the stage is set for interdisciplinary

collaboration to occur because all members must work together to achieve the goals. Lastly, Bronstein (2003) believes that *reflection on the process* is critical to interdisciplinary collaboration, and that it occurs when team members take the time to consider the process and think about how it could be improved (Bronstein, 2003).

All of these are factors that contribute to effective interdisciplinary collaboration. Growth can occur when professionals have had time to reflect and consider the process. Not all interdisciplinary teams function well, and without reflection there may be limited opportunities for growth. Time to reflect may only be possible if professionals work in environments that encourage and support interdisciplinary collaboration; without agency support, professionals may never have the opportunity to reflect, which can be a barrier to effective interdisciplinary collaboration.

Next, Bronstein notes that many things can positively or negatively influence the process of interdisciplinary collaboration, arguing that the presence of some elements will enhance interdisciplinary collaboration, while the absence of certain elements will produce potential barriers to this collaboration (Bronstein, 2003). First, Bronstein (2003) believes that *structural characteristics* can enhance or inhibit interdisciplinary collaboration. Administrative support and an organization's attitudes toward and beliefs about interdisciplinary work, for example, are vital to successful interdisciplinary collaboration are. Without these, as mentioned above, professionals may not be given time to reflect and to improve the process of interdisciplinary collaboration. Bronstein (2003) also notes the importance of *professional role*, noting that it is critical that professionals have a clear understanding of their role as well as their scope of their practice. Without an understanding of their role and the roles of others, team members may be lost trying to understand individual responsibilities, which may impact whether a sense of

interdependence can be established. Also important in this process are *personal characteristics,* which can influence the ways in which people interact with others on a team and the quality of relationships they form (Bronstein, 2003). Lastly, Bronstein (2003) discusses the importance of a *history of collaboration*, referring to one's prior experience working on interdisciplinary teams and whether that experience is perceived as positive, negative, or neutral. All of these factors can either help or hinder the process of interdisciplinary collaboration.

Bronstein's Model of Interdisciplinary Collaboration is incredibly important because it can be used to shape interdisciplinary curriculum in social work programs. It can inform students about what it takes to work collaboratively, and assist them in more clearly understanding what influences can impact the process of interdisciplinary collaboration (Bronstein, et al. 2010). Teachers can use this model to develop lectures, class activities, assignments, and group projects. It provides educators with a clear guide on what concepts need to be covered and provides a language to explain the process. Bronstein's Model of Interdisciplinary Collaboration is critical to understanding the elements of effective interdisciplinary collaboration, and provides insights that can serve to guide curriculum development in institutions of higher education.

Summary of Banded Dissertation Products

This banded dissertation attempts to answer the following questions: 1) what are the attitudes and perceptions of Child Advocacy Studies (CAST) students on interdisciplinary education and collaboration; 2) are there differences between majors in student perceptions of interdisciplinary education and collaboration; 3) what are social work programs doing to prepare students to work on interdisciplinary teams?

This banded dissertation includes three related products, each examining the topic of interdisciplinary education. The first product, entitled "Social Work and Interdisciplinary Education," is a conceptual article, discussing literature related to the role of social workers on interdisciplinary teams, the need to integrate interdisciplinary concepts in social work curriculum, and how schools of social work can begin to enhance interdisciplinary content. It is evident, after a review of the literature, that there is a lack of uniformity when integrating interdisciplinary concepts, as well as a lack of clarity on which concepts to integrate and where course content should be integrated.

The second product is a mixed methods research examining attitudes and perceptions of Child Advocacy (CAST) minors. The Interdisciplinary Education Perception (IEPS) scale was used to determine the attitudes and perceptions of CAST students toward interdisciplinary education and collaboration. While there were few statistically significant results, students were in agreement with many of the statements indicating that they believe interdisciplinary collaboration is important. Additionally, students were asked what the term *interdisciplinary* means; it was clear from their responses that many students were uncertain about this term. The study sought to understand how students from an interdisciplinary minor, including social work students, perceive interdisciplinary collaboration and how they understand the term *interdisciplinary*.

The third and final product of this banded dissertation is a summary of a poster presentation given at an international, peer-reviewed conference. Entitled "The Perceptions of Child Advocacy Studies Students (CAST) on Interdisciplinary Education and Collaboration," the interactive presentation was given on August 28, 2017, at the 21st International Summit on Violence Abuse and Trauma. This yearly conference was selected because it hosts educators and

administrators who are involved in Child Advocacy Studies programs around the country. The presentation included the research findings from the second product of this banded dissertation.

Discussion

Schools of social work do not consistently offer students opportunities to learn interdisciplinary skills. There are many ways in which schools provide training in these skills, with some offering a very comprehensive curriculum, some not offering anything, and some scratching the surface. Scratching the surface, or providing only minimal offering in interdisciplinary education, can be limiting, because people may believe that they are offering what is necessary to prepare students to work on interdisciplinary teams. For example, schools may discuss the importance of interdisciplinary collaboration in classes or even assume that if students are in field placements with students from other majors that they are acquiring interdisciplinary skills, but this is not enough (Bronstein et al., 2010). Additionally, some schools may think that they are teaching students interdisciplinary skills because they offer an interdisciplinary minor, program, class or learning opportunity. In reality, however, they really just providing course content to students from many disciplines, not teaching specific interdisciplinary skills (Leiba & Leonard, 2003).

Based on the reviewed literature, it is clear that both interdisciplinary education and collaboration are essential (Schmidt, Gilbert, Brandt & Weinstein, 2013; Khalili, Orchard, Laschinger & Farah, 2013; Garcia, Mizrahi & Bayne-Smith, 2010; Bronstein, Mizrahi, Korazim-Jorosy, McPhee, 2010), and that interdisciplinary education is a necessary first step to achieving interdisciplinary collaboration (World Health Organization, 2010). This research indicated that students in the CAST program—an interdisciplinary minor intended to prepare students to work on interdisciplinary teams in child welfare—were not familiar with a basic concept related to

interdisciplinary collaboration, the term *interdisciplinary*. This applies not only to the CAST minor, but to social work programs as a whole, because almost one-third of the students who participated were social work students. The inability to describe the term *interdisciplinary* indicates that students are unfamiliar or only partially familiar with a key concept related to interdisciplinary collaboration and that both the CAST minor and social work programs may not be explicitly teaching interdisciplinary concepts. This research and others supports the idea that social work programs could offer more robust curriculum around interdisciplinary concepts (Bronstein, 2003; Brostein, Mizrahi, Korazim-Kőrösy & McPhee, 2010).

Implications for Social Work Education

The banded dissertation highlights implications for social work education. Based on its findings, social work students need more explicit content related to interdisciplinary concepts. The 2015 Educational Policy and Accreditation Standards calls for schools of social work to integrate concepts related to interdisciplinary collaboration in the curriculum (CSWE, 2015). It is imperative that social work programs take an extensive look at how and where concepts about interdisciplinary collaboration are integrated in the curriculum.

Based on the literature, it is important that schools of social work use well-researched tools to support the integration of interdisciplinary concepts. Bronstein et al. (2010) argues that schools need to integrate interdisciplinary skill-building opportunities in social work education. Students should learn how to talk about collaborative experiences, and this requires intentional learning activities designed to facilitate the process (Bronstein et al., 2010). Understanding what causes barriers to effective interdisciplinary collaboration and what strengthens interdisciplinary collaboration is necessary as well (Bronstein et al., 2010). Bronstein's Model of Interdisciplinary Collaboration and the Interprofessional Education Collaborative's core

competencies can support the comprehensive development of interdisciplinary curriculum in social work programs.

The Interprofessional Education Collaborative (2016) identified four competencies (pg. 10):

- Work with individuals of other professions to maintain a climate of mutual respect and shared values (Values/Ethics for Interprofessional Practice)
- Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health populations (Roles/Responsibilities)
- Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease (Interprofessional Communication)
- Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable (Teams and Teamwork)

To assure that students are learning the appropriate skills, schools of social work that create and implement interdisciplinary courses should consider using the above-referenced core competencies to design course objectives specifically addressing interdisciplinary team practice skills.

Implications for Future Research

This banded dissertation reveals several areas of research related to interdisciplinary education and collaboration in higher education that could be pursued further. Currently, there are no clear and consistent ways of integrating interdisciplinary content in social work programs (Berg-Weger & Schneider, 1998). In fact, there is only a limited amount of research addressing how interdisciplinary skills are taught in social work programs (Bronstein et al., 2010). It would benefit students if social work and CAST programs strategically determined when and how to integrate the topic of interdisciplinary collaboration, and if more research was conducted on this integration.

Additionally, interviews with faculty members about where, how, and whether they integrate concepts related to interdisciplinary collaboration would be incredibly informative. Understanding how educators teach concepts related to interdisciplinary collaboration and which concepts they teach would further the body of research about how interdisciplinary concepts are integrated in social work and CAST programs. Additionally, research could further examine educators' level of understanding of key concepts related to interdisciplinary collaboration, as well as their knowledge of Bronstein's Model of Interdisciplinary Collaboration and the Interprofessional Education Collaborative's core competencies for interprofessional collaborative practice.

Learning outcomes are critical to designing and shaping class. The interdisciplinary competencies were created by the Interprofessional Education Collaborative (IPEC) to guide interprofessional collaboration (IPEC, 2016)could be used to develop courses to integrate interdisciplinary concepts. Further research could determine how many CAST and social work courses have learning outcomes addressing interdisciplinary knowledge and skills, and further

examine whether the learning objectives integrate language from the IPEC competencies for interprofessional collaborative practice.

This banded dissertation explores how social work programs can use Bronstein's Model of Interdisciplinary Collaboration to create a curriculum that cultivates interdisciplinary skills, and suggests that while students recognized the importance of interdisciplinary education and collaboration, they were not familiar with key concepts related to interdisciplinary collaboration. Both students in the CAST minor and social work students could benefit from an explicit curriculum that integrates interdisciplinary concepts and established competencies.

Interdisciplinary education is a necessary first step to achieving interdisciplinary collaboration. Institutions of higher education can better prepare students to enter the workforce, and join interdisciplinary teams, by preparing them with the knowledge and skills necessary to participate successfully on interdisciplinary teams. It would benefit students if programs examined if and how they are preparing students to participate on these teams. Bronstein's Model of Interdisciplinary Collaboration and the Interprofessional Education Collaborative core competencies can be used to design curriculum to support the acquisition of interdisciplinary team skills.

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Social Work and Interdisciplinary Education

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Abstract

Professionals from varying disciplines work collaboratively to serve clients. Although collaboration and interdisciplinary teamwork are essential, existing barriers can prohibit teams from working together effectively and efficiently. Interdisciplinary education can prepare students to work on interdisciplinary teams by educating them about key concepts related to interdisciplinary collaboration. This conceptual article will establish why it is critical that social work programs incorporate interdisciplinary education, the extent to which interdisciplinary education exists in baccalaureate social work programs, the barriers that stifle interdisciplinary education, and ways to overcome them and enhance interdisciplinary education opportunities in schools of social work. Bronstein's Model of Interdisciplinary Collaboration (BMIC) will be used as a framework (Bronstein, 2003).

Keywords: interdisciplinary, collaboration, social work

Social Work and Interdisciplinary Education

Many professions work together collaboratively because social problems have become more complex (Korazim-Kőrösy, Mizrahi, Bayne-Smith, & Garcia, 2014), but this is not a new concept. Interdisciplinary collaboration has been discussed for decades—some would argue for a century—and it is essential to addressing complicated issues (Schmidt, Gilbert, Brandt & Weinsein, 2013). The need for interdisciplinary collaboration is clear, and without quality interdisciplinary collaboration, communities cannot be properly served. In fact, according to Tataw (2011), a lack of interdisciplinary teamwork has contributed to breakdowns in the health care system. Interdisciplinary collaboration improves the utilization of health services (Tataw, Bazargan & James, 2011) and improves outcomes (World Health Organization [WHO], 2010). Despite the fact that professionals have valued, practiced, and understand the value of interdisciplinary collaboration, barriers still exist that inhibit effect interdisciplinary collaboration (Bronstein, 2003; Bridges, Davidson, Odegard, Maki & Tomkowiak, 2011). Barriers that become obstacles to interdisciplinary collaboration are incredibly problematic because they can prevent optimal health outcomes (World Health Organization [WHO], 2010). Fortunately, interdisciplinary education can prevent barriers from occurring and enhance effective interdisciplinary collaboration by teaching undergraduate students—specifically, undergraduate social work students—key concepts related to interdisciplinary collaboration (Bronstein, 2003; Bronstein et al., 2010; Bridges et al., 2011; Leiba & Leonard, 2003; Schmidt et al., 2013; Schaefer & Larkin, 2015; WHO, 2010; Reeves, Perrier, Freeth & Zwarenstein, 2013).

This conceptual article will discuss why it is critical that social work programs incorporate interdisciplinary education, the extent to which interdisciplinary education exists in baccalaureate social work programs, the barriers that stifle interdisciplinary education, and ways

to overcome them and to enhance interdisciplinary education opportunities in schools of social work. Bronstein's Model of Interdisciplinary Collaboration will be used to discuss elements of and barriers to interdisciplinary collaboration. These will also be used to discuss how social work programs can use the model to design interdisciplinary education opportunities for social work students. Without the intentional integration of interdisciplinary education opportunities in social work programs, social work students may not be equipped to participate on interdisciplinary teams post-graduation.

Social work students may not be equipped with skillsets that best prepare them to effectively work on interdisciplinary teams. Many social work programs indicate that they offer interdisciplinary opportunities, but it is important to understand how interdisciplinary concepts are integrated in the curriculum, what concepts are integrated, and which resources are used to guide the design of interdisciplinary education opportunities. Based on the 2015 Educational Policy and Accreditation Standards (EPAS), schools of social work are mandated to include interdisciplinary concepts in their curriculum (Council on Social Work Education [CSWE], 2015). Schools of social work do not have a choice about whether to implement these concepts, but can choose which concepts are given focus and how they are implemented.

Based on research conducted by Bronstein, Mizrahi, Korazim-Kőrösy, and McPhee (2010), this implementation varies. Some schools reported that interdisciplinary collaboration existed within the university and between the university and the community, and that an interdisciplinary education was provided for social work students (Bronstein et al., 2010). For some schools, interdisciplinary education included participating in an interdisciplinary field experience, but Bronstein et al. (2003) argued that simply experiencing collaboration is not enough. Some schools noted that they felt research and macro-level courses were the best

classes in which discuss interdisciplinary collaboration (Bronstein, et al., 2010). Clearly, interdisciplinary education is not implemented consistently among social work programs, and there is no "best practice" approach to integrating these critical concepts. Students need to participate in interdisciplinary education in order to be prepared to serve on interdisciplinary teams. These teams are critical to solving problems, and it is vital that they function effectively. Interdisciplinary education is a necessary step to ensuring interdisciplinary collaboration (WHO, 2010).

Conceptual Framework

Bronstein's Model of Interdisciplinary Collaboration will be used here as a guide to examine interdisciplinary teamwork (Bronstein, 2003) and to identify themes and organize the information. This model includes components intended to enhance interdisciplinary collaboration: interdependence, newly created professional activities, flexibility, collective ownership of goals, and reflection on process (Bronstein, 2003, p. 297). Additionally, Bronstein explains that key elements that can help or hinder this process: "professional role, structural characteristics, personal characteristics, and a history of collaboration" (Bronstein, 2003, p. 302). Understanding these concepts can prepare students to work on interdisciplinary teams. These components will be discussed further, as they can be used to assist social work educators in designing interdisciplinary education opportunities in social work education.

Literature Review

Interdisciplinary Terms

Interdisciplinary teamwork is critical to solving the increasingly complicated issues that many face today. Scholars and practitioners often use terminology to discuss teams that work together, and use different terminology to discuss the process (Pullen-Sansfacon & Ward, 2014;

Bronstein, 2003). This can be problematic because the terms are quite different, and interdisciplinary work is a complex process.

A term often used synonymously with *interdisciplinary* is *multidisciplinary*. A multidisciplinary team works side-by-side rather than together, while interdisciplinary teams integrate the disciplines and collaborate together (Pullen-Sansfacon &Ward, 2014; Jessup, 2007). Although some of these differences may seem minor, they are not. Working collaboratively, versus in parallel, can dramatically change team dynamics; interdisciplinary teamwork is more complex and sometimes more difficult than working on other types of teams, and collaboration can be a challenge.

Interdisciplinary Education and Collaboration

The goals of interdisciplinary teams are to collaborate, establish mutual goals (WHO, 2010; Bronstein, 2003; Schaefer & Larkin, 2015), share accountability (Schaefer & Larkin, 2015), and more holistically serve communities (Bassoff, 1979). The World Health Organization (2010) states that collaborative practice happens when "workers from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality of care (pg, 7). There is consensus among many scholars that interdisciplinary education promotes, enhances, and provides students with the necessary skills to achieve interdisciplinary collaboration (Bronstein et al, 2010; WHO, 2010; Schaefer & Larkin, 2015; Bridges et al., 2011; Cooner, 2011). Not only is interdisciplinary education a "good" idea, but it is absolutely a necessary step to ensure that students function competently on an interdisciplinary team (WHO, 2010). Unfortunately, interdisciplinary education does not always offer robust opportunities for learning, even though it is the first step to achieving interdisciplinary collaboration.

Barriers to Interdisciplinary Education

Despite the known benefits of interdisciplinary education, there are barriers that stifle interdisciplinary education: lack of leadership, lack of knowledge about how to teach interdisciplinary course content, and differences between disciplines. When these go unaddressed, interdisciplinary programs in institutions of higher education—and more specifically, in schools of social work—may remain stagnant or be nonexistent.

Lack of leadership. Because there are issues that only committed leaders can take the time to overcome, the lack of leader or a champion can prevent a program from ever taking off. For example, interdisciplinary education often has a hard time finding space and coordinating schedules in order to establish classes between the disciplines (Leiba & Leonard, 2003; Ross & Southgate, 2000). Without a leader, it can by impossible to find space, schedule classes (Ross & Southgate, 2000), and overcome structural barriers (Handron, Diamond & Zlotnik, 2001). Additionally, it can be difficult to plan strategically (Leiba & Leonard, 2003) because it is a complex process (WHO, 2010). Lastly, without a leader, it may be difficult to establish institutional policies that support interdisciplinary education and ensure funding (WHO, 2010; Ross & Southgate, 2000).

Lack of knowledge. Not all educators know how to teach interdisciplinary education (Leiba & Leonard, 2003). The lack of knowledge can be intimidating and scare educators away from participating in, supporting, and developing interdisciplinary education (WHO, 2010; Ross & Southgate, 2000; Leiba & Leonard, 2003). Not only do educators lack knowledge about how to teach interdisciplinary education, but they may lack knowledge about other disciplines, including commonly used terminology and the various codes of ethics (Ross & Southgate, 2000; Leiba & Leonard, 2003).

Differences between disciplines. Differences between disciplines can provide barriers to interdisciplinary education. Departmental rivalries(Handron et al., 2001) and different funding streams (Ross & Southgate, 2000; Leiba & Leonard, 2003), as well as unique cultures within disciplines and stereotypes about other disciplines (Handron et al., 2001) can all become barriers to establishing interdisciplinary education.

Although these barriers seem difficult to overcome, it is important that they be addressed by institutions of higher education because the benefits to successful interdisciplinary collaboration are significant. Cooner (2011) specifically calls on schools of social work and declares they have a "duty to teach interdisciplinary skills: Skills and knowledge that are going to enable students to work collaboratively and practice competently on an interdisciplinary team" (pg. 313) because social workers commonly work on interdisciplinary teams (Bronstein, 2003).

Social Work in Interdisciplinary Work

Social workers work on interdisciplinary teams in many contexts: in health care settings, on hospice teams, in schools (Bronstein, 2003; Bronstein et al., 2010), in palliative care (Supiano & Berry, 2013), and in geriatric health care (Howe, Hyer, Mellor, Lindeman & Luotak, 2008). Additionally, some social workers have created unique opportunities for interdisciplinary collaboration. For example, Gilbert (2014) highlights work between the fields of social work and engineering. Some social workers have teamed up with lawyers to work on issues of domestic violence (Forgey & Colarossl, 2003), whiel others are part of interdisciplinary teams working on child welfare and health issues (White, Cornely & Gately, 1978). Due to the demand for social workers on interdisciplinary teams, the 2015 Educational Policy and Accreditation Standards EPAS states that social workers are to value interdisciplinary teamwork and recognize the benefits of interdisciplinary teamwork (CSWE, 2015). The standards call on schools of

social work to integrate interdisciplinary curricula. There is a great deal of opportunity to do this, and thus to enhance students' ability to perform competently on interdisciplinary teams.

Interdisciplinary Skill Building in Social Work Education

Social work programs are mandated to ensure that their students are prepared with the knowledge and skills necessary to perform competently on interdisciplinary teams (Cooner, 2011). Unfortunately, there is not an established, uniform way to integrate interdisciplinary curriculum in social work programs, and it is left to the programs themselves to establish the specific ways in which this content is offered. Bronstein et al., (2010) found that most schools of social work (75%) thought that research courses were the best place to integrate content on interdisciplinary collaboration, followed by policy, macro practice, and other electives (Bronstein, et al., 2010). Respondents also noted that students received exposure to interdisciplinary opportunities while in field placements. While it is excellent that schools are discussing interdisciplinary collaboration, it is important to consider the quality of the opportunities students are receiving. Simply offering interdisciplinary education without serious reflection about how to best deliver it can be troublesome.

The kind of integration discussed by Bronstein et al. (2010) may not provide students with the skills necessary to perform competently on an interdisciplinary team; it may, however, help students understand the value of interdisciplinary teams, depending on which concepts are introduced. Additionally, it seems that there is an assumption that if student participate in field experience, they will acquire interdisciplinary skillsets. Bronstein et al. (2010) clearly states that this is not the case; students need course content that works in conjunction with field experience to provide them with the words necessary to articulate their experiences on interdisciplinary teams. Additionally, courses could further knowledge and assist them in understanding key

concepts related to interdisciplinary collaboration—for instance, the barriers that get in the way of interdisciplinary collaboration and the elements that enhance interdisciplinary collaboration (Bronstein et al., 2010). In order to overcome barriers to interdisciplinary teamwork, it is necessary to provide students with formal learning opportunities in addition to fieldwork.

There is clearly a need for the strategic integration of interdisciplinary education in social work programs. Schools of social work can rely on research and established core competencies to create curriculum that is sure to advance their students' ability to perform on interdisciplinary teams. Bronstein's Model of Interdisciplinary Collaboration can be used to assist schools of social work in developing curriculum that better prepares students to work on these teams (Bronstein, 2003). Additionally, the Interprofessional Education Collaborative's core competencies can support the comprehensive development of interdisciplinary curriculum in social work programs (Interprofessionl Education Collaborative [IPEC], 2016).

Interdisciplinary Skills

Schools of social work can make their interdisciplinary skill-building opportunities more robust. According to Garcia et al. (2010), a curriculum readies students to work on interdisciplinary teams involves combining "knowledge, skills, values, practices, and attributes" (p. 188). A curriculum should offer ample opportunity to collaborate and to be creative and interactive (Garcia et al., 2010) with students from other disciplines. Garcia et al. (2010) reinforce that this curriculum should include time to work collaboratively in the classroom and include discussion and instructor participation.

Pullen-Sansfacon and Ward (2014) argue that students need to learn micro skills in order to function well on an interdisciplinary team. Bronstein's Model of Interdisciplinary Collaboration provides an excellent framework for understanding what makes or breaks

interdisciplinary team collaboration. The model "consists of five components that contribute to effective interdisciplinary collaboration between social workers and other professionals: interdependence, newly created professional activities, flexibility, collective ownership of goals, and reflection on process" (Bronstein, 2003, p. 297). Bronstein also explains factors that help or hinder this process, acknowledging "professional role, structural characteristics, personal characteristics, and a history of collaboration" (Bronstein, 2003, p. 302). Understanding Bronstein's Model of Interdisciplinary Collaboration will prepare students to more effectively work on interdisciplinary teams.

Social workers must also be prepared to facilitate groups, examine roles, and address conflict (Pullen-Sansfacon &Ward, 2014; Bronstein, 2003), and courses need to involve self-reflection so that students can understand their own biases (Garcia et al., 2010; Bronstein, 2003). It would benefit students if courses could nurture a sense of humor, patience, and humility (Garcia, Mizrahi, Bayne-Smith, 2010), because personal characteristics can affect interdisciplinary collaboration (Bronsetin, 2003). Working on relationship building skills, including creating a climate of trust and openness, is also very important (Garcia, Mizrahi, Bayne-Smith, 2010; Bronstein, 2003). Lastly, a strong sense of professional role is very important (Garcia, Mizrahi, Bayne-Smith, 2010; Bronstein, 2003). There are many ways in which these elements of interdisciplinary collaboration can be integrated in interdisciplinary education in social work curriculum.

Discussion

It is clear that interdisciplinary teams are critical to tackling issues that plague many communities and populations. Social workers have a role on interdisciplinary teams in many systems and practice settings, such as hospitals and schools. It is integral that schools of social

work offer students an opportunity to learn skills that will prepare them to work effectively on interdisciplinary teams. In fact, it can be argued that if it is understood that interdisciplinary teams positively impact communities and clients, then schools of social work have an ethical obligation to intentionally prepare students to work on these teams. Although schools of social work prepare students with many micro-level skills, packaging interdisciplinary skills in a coherent way within a class will help students understand how to use these skills while working on an interdisciplinary team.

Implications for Higher Education

Social work programs implement interdisciplinary education in many ways, but using Bronstein's Model of Interdisciplinary Collaboration could help schools guide curriculum, provide consistency, and prepare student to work on interdisciplinary teams. A course description is provided below that uses this model.

Developing a mandatory, interdisciplinary course that allows social work students to work with students from other disciplines would be ideal. Using Bronstein's Model of Interdisciplinary Collaboration and the Interprofessional Education Collaborative's core competencies to design the course and to create learning objectives is preferred. The competencies provided by the Interprofessional Education Collaborative (2016, pg. 10) are as follows:

- Work with individuals of other professions to maintain a climate of mutual respect and shared values (Values/Ethics for Interprofessional Practice)
- Use the knowledge of one's own role and those of other professions to appropriately assess ad address the health care needs of patients and to promote and advance the health populations (Roles/Responsibilities)

- Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease (Interprofessional Communication)
- Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, delver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable (Teams and Teamwork)

Looking at case studies with an interdisciplinary lens. Students from social work, nursing, criminal justice, education, psychology, and sociology will be invited to enroll in this course. The course begins by discussing the history and importance of interdisciplinary teams, and examining the contexts in which these teams work. After establishing an understanding of the value and relevance of these teams, students will practice working through case studies on interdisciplinary teams. The case studies will require them to work in "practice settings" such as hospitals, schools, the criminal justice system, and the child welfare system. Students will work on several case studies throughout the semester, collaborating with students from different disciplines, ideally 4-5 to a team, and will integrate Bronstein's Model of Interdisciplinary Collaboration (Bronstein, 2003). Students will try to achieve interdependence, newly created activities, flexibility, a collective ownership of goals, and reflection (Bronstein, 2003). The first goal will be to establish interdependence (Bronstein, 2003).

Interdependence. Students will begin by exploring their own roles, including ethics and values, and will learn about the roles, ethics, and values of the other professionals on the team. Students will then work through the case studies, take turns in different roles, and discuss the

benefits of each other's contributions (Bronstein, 2003). They will discuss the value of each other's opinions, and the merits of working together on the cases rather than alone (Bronstein, 2003).

Newly created professional activities. Next, students will work on establishing newly created goals (Bronstein, 2003). Students will work on their case study and establish goals that could not have been established if any of them were working independently (Bronstein, 2003). Through this exercise, they will learn the benefit of each professions' contribution. Again, students will be asked to discuss how the outcome was different because the professions worked together rather than alone.

Flexibility. While working on a case study, students will be asked to "blur roles" (Bronstein, 2003, p. 301). They will work on compromising when professions may have opposing views (Bronstein, 2003). They will be asked to determine how they can support each other in each scenario, practice problem solving and conflict resolution skills, and respond creatively to the issues that present themselves in the case studies (Bronstein, 2003). Students will be asked to look at needs of the situation, family, and client (Bronstein, 2003). This will highlight the need for flexibility when adhering to their professional roles. Student will discuss this process with their team.

Collective ownership of goals. While working on an interdisciplinary team and examining a case study, students will be asked to definte, design, develop and achieve shared goals (Bronstein, 2003. Students will learn how to establish goals and create an action plan while on a team, and will be responsible for their contribution (Bronstein, 2003). Students will have to work through opposing views using conflict resolution skills (Bronstein, 2003).

Reflection. Students will submit a report incorporating feedback from each member, reflecting on each part of the process, and detailing how the process could have been strengthened (Bronstein, 2003).

Implementing obstacles. Because interdisciplinary teams face obstacles, students will be given "obstacle cards" while working through a case study. The first will be an obstacle that Bronstein considers a structural characteristic: students will be faced with a common barrier of working in an organization that may not be allocating resources in a way that supports interdisciplinary collaboration (Bronstein, 2003). Students will work together to determine how to advocate for themselves. Students will also receive "personality cards" throughout the case study. Students will have to take on a personal characteristic that is "difficult," and will be asked to practice being assertive and working through the difficulty. Students will also be asked to note the personal characteristics of their teammates that helped the process. Lastly, students will be asked to reflect on other experiences of collaboration and examine how these experiences could be impacting their ability to function on their current team.

This course will help students understand the key elements of interdisciplinary collaboration and how they can be strengthened, and give them practice in working through common obstacles that stifle interdisciplinary collaboration. Ultimately, this course will prepare students to work competently on interdisciplinary teams.

Implications for Future Research

Future research could examine the extent to which an interdisciplinary course that uses Bronstein's Model of Interdisciplinary Collaboration can teach students effective elements of interdisciplinary collaboration and show them barriers to effective interdisciplinary education. A

pre- and post-test could be given to students prior to the start of the class and upon its completion.

Additional research could examine how barriers to interdisciplinary education have been overcome. Educators who have championed interdisciplinary education opportunities could be interviewed to determine how they were able to overcome the common obstacles to implementing interdisciplinary education.

Lastly, it would be helpful to better understand what resources schools of social work use to teach interdisciplinary education and how they design their learning outcomes. Educators could be interviewed to identify the resources that are used as well as the learning objectives that are used to measure interdisciplinary learning.

All of these would further the body of research on interdisciplinary education. This research could better inform interdisciplinary education in higher education and in social work programs. This would impact not only institutions of higher education, but communities, because the connection between interdisciplinary education and effective interdisciplinary collaboration is strong.

Conclusion

Effective interdisciplinary team function is an integral part of working on issues that are increasingly complicated. Social workers have a part on interdisciplinary teams in many contexts. It is essential that schools of social work intentionally prepare students to work on these teams. Schools of social work need people who will take the lead, champion interdisciplinary education, and create interdisciplinary learning opportunities for students. Using Bronstein's Model of Interdisciplinary Collaboration and the Interprofessional Education Collaborative's Core Competencies for Interprfoessional Collaborative Practice, schools of

social work should develop a course that is dedicated to interdisciplinary skill building and prepare students to competently practice on interdisciplinary teams. This not only adheres to the social work mission to enhance human well-being, but it is also aligned with the social work value of practicing competently (National Association of Social Workers, 2017).

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The Perceptions of Child Advocacy Students on Interdisciplinary Education and Collaboration

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Abstract

This is a mixed method study using the Interdisciplinary Education Perception Scale (IEPS to examine perceptions of interdisciplinary education and collaboration among Child Advocacy Studies (CAST) students at one middle-sized, Midwestern public institution. The students were predominantly from social work, psychology, nursing, and education. Results indicated that there were few significantly significant differences among majors and moderate differences were noted. Students indicated high levels of agreement with the inventory items. Despite the high level of agreement with inventory items, one-third of students were unfamiliar with the concept *interdisciplinary*.

The Perceptions of Child Advocacy Students on Interdisciplinary Education and Collaboration

Because social problems are often complex, many professions have started to work together collaboratively (Korazim-Kőrösy, Mizrahi, Bayne-Smith, & Garcia, 2014). According to Bronstein (2003), "trends in social problems and professional practice make it virtually impossible to serve clients without collaborating with professionals from various disciplines" (p. 297). Some argue that monodisciplinary approaches are extremely limited (Korazim-Kőrösy, 2014). There is evidence to support the use of interdisciplinary teams in resolving complex social problems (Korazim-Kőrösy, 2014; World Health Organization [WHO], 2010; Interprofessional Collaborative Practive [IPEC], 2016; Bronstein, 2003). For example, teachers have a hard time teaching children who suffer from hunger, poverty, or abuse without the support of other professionals (Bronstein, 2003). Doctors and nurses have a difficult time meeting the needs of their patients within the context of managed care without the support of other professionals (Bronstein, 2003). This practice is considered interdisciplinary collaboration. Interdisciplinary collaboration is defined as "an interpersonal process through which members of different disciplines contribute to a common product or goal" (Berg-Weger & Schneider, 1998, p. 698). In reality, it can be difficult for a team comprised of professionals from many disciplines to arrive at a common product or goal.

Although collaboration and interdisciplinary teamwork are essential, barriers can prohibit teams from working together effectively and efficiently. According to Whiteside (2004), many professionals still find themselves working in silos. The success of interdisciplinary teams is dependent on trust, communication, building common goals, addressing power differences, and getting the support of organizational structures (Thannhauser, Russell-Mayhew, Scott, 2010). Additionally, attitudes can impact how one profession/professional is able to interact with others

(Thannhauser, Russell-Mayhew, Scott, 2010). Interdisciplinary education can be used to enhance the elements of interdisciplinary collaboration that strengthen interdisicplinary team function and reduce the barriers that can inhibit effective team function. Interprofessional education occurs when there are "occasions when two or more professions learn from and about each other to improve collaboration and the quality of care" (CAIPE, 1997 revised).

This study used the Interdisciplinary Education Perception Scale (IEPS) to measure perceptions of and attitudes toward interdisciplinary education and collaboration among Child Advocacy Studies (CAST) students at one middle-sized, Midwestern public institution. This group of students was chosen because the CAST minor is an interdisciplinary minor. The Interdisciplinary Education Perception Scale (IEPS) is used to measure professional perceptions of students involved in interdisciplinary settings (Luecht, Madsen, Taugher, Petterson, 1990). The study also sought to determine whether there were any differences between the majors in relation to this scale. Lastly, it sought to investigate whether any of the CAST courses or the field experience changed students' perceptions about interdisciplinary education and collaboration. I proposed that students who participated in the minor would have a high regard for interdisciplinary education and collaboration, there would be differences between majors, and that participating in a field experience influenced their perceptions and attitudes about interdisciplinary collaboration and education. This information can help guide the CAST curriculum around the integration of interdisciplinary education as well as the curriculum of the individual majors that have students who participate in the minor.

Literature Review

Interdisciplinary Collaboration

Language. Interdisciplinary collaboration is critical to solving increasingly complicated issues that face many practice settings. Understanding the terminology is important, because there are differences between terms commonly used to describe teams of professionals working together. This is significant because interdisciplinary teamwork is seemingly more complex and sometimes more difficult than working on other types of teams (Jessup, 2007).

Scholars and practitioners often use terminology to discuss teams that work together, and use different terminology to discuss the process (Pullen-Sansfacon & Ward, 2014; Bronstein, 2003). Pullen-Sansfacon and Ward (2014) differentiate between a *partnership* and *collaboration*. They consider a partnership to be a relationship that "tends to involve formal, institutional-level working together, while collaboration implies something more active" (p. 1287). The terms *interdisciplinary* and *multidisciplinary* are also often used interchangeably. Pullen-Sansfacon and Ward (2014) believe a multidisciplinary team interaction "involves agency team members working in parallel, maintaining distinctive organizational and professional boundaries (p. 1287). And lastly, interprofessional working "involves greater interaction, integration and adaptation, merging of ideas and creation of new practice (Whittington, 2003, p. 16). There is much discussion about the difference between *interdisciplinary* and *interprofessional.* According to Oandansan and Reeves (2005), there is a move towards using the term *interprofessional*. Despite this, *interdisciplinary* will be used in this paper because many CAST students do not come from professional-track majors. Bronstein (2003) defines interdisciplinary collaboration as "an effective interpersonal process that facilitates the achievement of goals that cannot be reached when individual professionals act on their own" (p. 299). Pullen-Sansfacon and Ward

(2014) provide an illuminating analogy, comparing an interdisciplinary team to a football team rather than a tennis team. The members of a football team bring together varying experience and skills and are stronger based on their experience with the group (Pullen-Sansfacon &Ward, 2014). On the other hand, members of a tennis team function independently from one another (Pullen-Sansfacon &Ward, 2014). It is important to note the definitional differences not only because the words are often used interchangeably, but because it is important to highlight interdisciplinary work as a more complex process. This article will focus on interdisciplinary collaboration and education.

Interdisciplinary Team Results. The need for interdisciplinary collaboration is clear. In fact, according to Tataw (2011), a lack of interdisciplinary teamwork contributes to breakdowns in the health care system. Tataw, Bazargan, and James (2011) reported that interdisciplinary collaboration improves the utilization of health services, patients' satisfaction with health services, outcomes (WHO, 2010). Parents also felt more confident when navigating the health care system if they were working with interdisciplinary teams (Tataw et al., 2011). These are powerful findings. Yet, despite the fact that the benefits of interdisciplinary collaboration are known, many teams still encounter barriers that impede them from working well together and effectively meeting the needs of their clients.

Obstacles and Effective Elements

Despite the recognition that collaboration and interdisciplinary teamwork are essential, there are still barriers prohibiting teams from working together effectively and efficiently. The barriers vary, but there are common themes. According to Whiteside (2004), many professionals still find themselves working in silos. There are several things that could contribute to this, but a probable explanation is the existence of a person's professional role.

Personal Role

One's professional role may act as a barrier to successful interdisciplinary team function (Bronstein, 2003; Abramson & Mizrahi, 1996; Maidenberg & Golick, 2001; Michalec & Hafferty, 2015; Supiano & Berry, 2011). A person's professional role is strongly connected to the values and ethics of their profession as well as a loyalty to their agency and profession (Bronstein, 2003; Hall, 2005; Khalili, Orchard, Laschinger & Farah, 2013). This can be a challenge when working on an interdisciplinary team. Pullen-Sansfacon and Ward (2014) acknowledge the difficulty that arises when one moves from a professional setting with colleagues who are like-minded to a setting with diverse attitudes, beliefs, and values. This transition may not be the only barrier; at times, the desire to be independent and not work collaboratively os also a barrier to effective interdisciplinary collaboration (Korazim-Kőrösy et al., 2014). Some may say that this desire for independence is due to the socialization process, which can produce a strong identity formation which may lend itself to people feeling territorial, and thus cause problems when working on interdisciplinary teams (Khalili et al., 2013; Hall, 2005). When team members have a strong professional identity that clashes with others' values or ethics or threatens a sense of autonomy, interdisciplinary collaboration may be in jeopardy (Bronstein, 2003; Korazim-Kőrösy et al., 2014; Tataw, 2011; Halili et al., 2013; Maidenberg & Golick, 2001). At times, there is simply a lack of understanding about the knowledge base and expertise of other professionals (Watkin, Lindquist, Black & Watts, 2009). All of these are consistent with Bronstein's idea that one's professional role can serve as a barrier to interdisciplinary team function.

Structural Characteristics

Bronstein also discussed structural characteristics that may be barriers to successful interdisciplinary collaboration, such as caseload, agency culture, amount of administrative support, and time given to collaborate (Bronstein, 2003; Oliver & Peck, 2006). In fact, Oliver and Peck (2006) emphasize case load as an incredibly challenging barrier; extremely high caseloads make it virtually impossible to work to meet the needs of individual families on an interdisciplinary team (Oliver & Peck, 2006). Additionally, without an allotted amount of time given to the interdisciplinary process, it can be difficult to function collaboratively (WHO, 2010; Bronstein, 2003). The World Health Organization (WHO) confirms that structured systems and processes as well as policies about conflict resolution influence interdisciplinary collaboration (2010).

Personal Characteristics

Bronstein also indicated that personal characteristics affect interdisciplinary teamwork (2003). The way people view others from outside their profession can impact their ability to effectively collaborate (Tataw, 2011; Khalili et al., 2013; Hall, 2005; Bronstein, 2003; Watkin, Lindquist, Black & Watts, 2009). Stereotypes can prevent teams from establishing trust and building relationships that are critical to interdisciplinary collaboration (Oliver & Peck, 2006; Supiano & Berry, 2011). It is important for team members to evaluate their attitudes about working with professionals from other disciplines because these attitudes can positively or negatively impact interdisciplinary collaboration (Watkin et al., 2009)

History of Collaboration

Lastly, a history of collaboration is a potential barrier. Bronstein (2003) recognized the importance of examining the history of collaboration with other professions (Bronstein, 2003;

Watkins et al., 2009). Watkin et al. (2009) also found that lack of trust between professional groups and an inability to recognize and understand each profession's expertise were prohibitive. Bronstein had a remedy to some of these barriers, suggesting that internships and good experiences of interdisciplinary collaboration supported later experiences of collaboration.

There are many elements that have been found to support the development of effective interdisciplinary teams. Bronstein (2003) highlights five elements that can enhance collaboration: interdependence, newly created professional activities, flexibility, collective ownership of goals, and reflection on process. To begin, Bronstein (2003) first discusses interdependence (2003).

Interdependence

Interdependence occurs when team members are dependent on each other to accomplish goals (Bronstein, 2003). Bronstein discussed the importance of establishing a collective ownership of goals (2003). This includes team members' ability to create goals and accomplish goals. Supiano and Berry have found that highly effective interdisciplinary teams value "respect for each member's expertise, acceptance and use of each member's style and personal characteristics, diffuse versus centralized leadership, high trust level among team members, and a collaborative versus competitive communication style that yields consensus in the delivery of care" (p. 388). Although the terms are different, Bronstein (2003) and Supiano and Berry (2013) found that it is important that team members are able to rely on each other to complete tasks. Interdependence is critical to interdisciplinary collaboration.

Flexibility

Bronstein (2003) also notes that flexibility is an important component. Individuals on teams must be able to reach compromises even when there are conflicting opinions (Bronstein,

2003). Creativity can assist in achieving compromise (Bronstein, 2003). Other qualities and attributes may contribute to flexibility. For example, patience, a sense of humor, and humility were considered vital qualities to effective teamwork (Garcia, Mizrahi & Bayne-Smith, 2010).

Reflection

Reflecting is a necessary part of interdisciplinary collaboration. It is important for teammates to evaluate the process, discuss their relationships, and integrate the feedback (Bronstein, 2003; Garcia et al., 2014; Oandasan & Reeves, 2005). Reflection takes time, and it is important that agencies allocate time for reflection. Without agency support, professionals may not have the time to reflect and determine how the interdisciplinary process can be strengthened (Bronstein, 2003).

All of these elements are critical to interdisciplinary collaboration. Interdisciplinary education can use this knowledge to inform curriculum design and prepare students to be competent professionals on interdisciplinary teams (Bronstein, 2003). Interdisciplinary education in higher education is becoming more prolific and will be examined further, as it is responsible for preparing students to work on interdisciplinary teams.

Interdisciplinary Education

History. Over fifty year ago, in 1962, the Princeton Seminar on Public Health Concepts in Social Work Education hosted 125 public health workers and social workers in an effort to begin to explore overlapping interests and goals between the professions with a goal of better service provision to children and families (White, Cornely, & Gately, 1978). Much of the interprofessional education initiatives began in the 1970s and continued through the 1980s and 1990s (Oandasan & Reeves, 2005). While initially started in the health care setting, there are many attempts to bridge public and private efforts and extend the efforts to other fields beyond

health care (Oandasan & Reeves, 2005). This is important because people discovered that interdisciplinary education is a necessary precursor to interdisciplinary collaboration (WHO, 2010).

What is it. The Center for the Advancement of Interprofessional Education (CAIPE) defines interprofessional education (IPE) as "occasions when two or more professions learn from and about each other to improve collaboration and the quality of care (Defining IPE, 2016, para. 1). Many educators have started to integrate interdisciplinary-learning activities in the curriculum. Many argue that better educational preparation is needed in order to prepare professionals to have the skills that they need to work on interdisciplinary teams (Supiano & Berry, 2013; Bronstein et al, 2010; WHO, 2010; Schaefer & Larkin, 2015; Bridges et al., 2011; Conner, 2011). Efforts to educate interdisciplinary students vary.

Trends. Since the beginning of interprofessional education, there have been updates to the process of delivering materials and developing programming. In 2010, the World Health Organization Study Group developed the *Framework for Action*. This was created to assist policymakers to develop and practice interprofessional education (WHO, 2010). In 2011, the Interprofessional Education Collaborative (IPEC) developed core competencies to help guide interprofessional practice (Interprofessional Education Collaborative, 2016). In 2016, the Interprofessional Education Collaborative board met to update the original document that was created in 2011, affirm the importance of interprofessional work and refine the competencies (Interprofessional Education Collaborative, 2016). These initiatives have made it clear that interdisciplinary collaboration is critical to solving problems, but also that interdisciplinary education is a necessary first step to achieving interdisciplinary collaboration. Institutions of

higher education have implemented interdisciplinary education opportunities, and Child Advocacy Studies (CAST) is an example of an interdisciplinary minor.

Child advocacy studies an interdisciplinary minor. Child Advocacy Studies (CAST) is an interdisciplinary minor that educates students about child advocacy issues. The minor primarily hosts students from social work, psychology, sociology, criminal justice, education, nursing, and communication studies. The CAST program prepares students to work in child advocacy settings by providing them with a common knowledge base for engaging in child welfare through an interdisciplinary, evidenced-based experiential curriculum (Winona State University Child Advocacy Studies, n.d., para. 2). Additionally, students are challenged to think about their attitudes and perceptions while working on interdisciplinary teams post-graduation because attitudes and perceptions about interdisciplinary collaboration can impact interdisciplinary collaboration, both positively and negatively.

Students' attitudes about interdisciplinary education and collaboration. Attitudes and perceptions about interdisciplinary education and collaboration can affect interdisciplinary education and collaboration. Research indicates that there are differing attitudes and perceptions about interdisciplinary education and collaboration. First, many students feel very positive about interdisciplinary education and collaboration (Korazim-Kőrösy, et al., 2014; Ko, Bailey-Koch & Kim, 2014). Additionally, some did believe that teams working together facilitated better outcomes (Korazim-Kőrösy, et al., 2014; Maharajan, Rajiah, Khpp, Chellappan, Alwis, Chui, Tan, Tan & Lau, 2017). Additionally, many students felt even better about interdisciplinary collaboration after completing an interdisciplinary course (Park et al., 2014; Ko et al., 2014; Maharajan, et al., 2017). While this sounds positive, students also admitted to having stereotypes about students from other disciplines (Korazim-Kőrösy, et al., 2014; Park, Hawkins,

Hamlin, Hawkins & Bamdas, 2014; Tunstall-Pedoe, Rink & Hilton, 2003) and some felt that the socialization process lead them to feel superior to others (Korazim-Kőrösy, et al., 2014). Although the data did not indicate many consistent themes, the themes that were found do relate to Bronstein's Model of Interdisicplinary collaboration and support the notion that interdisciplinary education is an important first step to ensuring interdisciplinary collaboration.

Conceptual Framework

Bronstein's Model of Interdisciplinary Collaboration was used as a guide to examine interdisciplinary teamwork (Bronstein, 2003). The model "consists of five components that constitute interdisciplinary collaboration between social workers and other professionals: interdependence, newly created professional activities, flexibility, collective ownership of goals, and reflection on process (Bronstein, 2003, p. 297). Additionally, Bronstein also explains what helps or hinders this process, acknowledging "professional role, structural characteristics, personal characteristics, and a history of collaboration" as factors that influence the process (Bronstein, 2003, p. 302).

Methods

The researcher used a cross-sectional, mixed methods design, combining quantitative and qualitative data. Using a mixed methods design enabled the researcher not only to better understand the students' attitudes and perceptions about interdisciplinary education and collaboration, but to enhance the quantitative data by providing more depth and breadth to the findings. Combing the short answer questions with the quantitative scale helped the researcher understand the students' attitudes about interdisciplinary education and collaboration, and better understand the extent to which the students understood a basic concept related to

interdisciplinary education and collaboration. The complete picture that this provided will assist schools in better designing interdisciplinary curriculum.

The students completed the Interdisciplinary Education Perception Scale (IEPS). The students' were asked to complete the IEPS, along with additional questions, online, using Qualitrics. The qualitative question was given immediately after the IEPS. In addition to completing the IEPS, the students answered the following question:

- Define interdisciplinary.

Participants

Students minoring in the Child Advocacy Studies (CAST) minor at one middle-sized, Midwestern public institution were selected to participate in the survey. These students were selected because CAST is an interdisciplinary minor that educates students from many majors including social work, psychology, education, nursing, criminal justice, communication studies, therapeutic recreation, theater, public health, political science, legal studies, and biology. As of June 2016, there were 244 CAST minors. Within the minor, there were 76 social work students, 61 education students, 40 psychology students, 11 nursing students, and 59 students from other majors, including therapeutic recreation, communication studies, theater, public health, political science, legal studies, and biology. There were too few students from any of the "other" majors to include any other major as their own category. One hundred forty-four students participated in the survey, and there were 141 complete and usable surveys, for a response rate of 58%. Forty-five social work students, 27 psychology students, 41education students, 9 nursing students, and 19 "other" students participated in the survey.

CAST courses completed. In addition to being from various majors, students were at different points in the minor. Out of the 144 students, 132 had completed Child Maltreatment

(CAST 301), 121 had completed Global Child Advocacy Studies (CAST 302), 85 had completed Responses to Child Maltreatment (CAST 401), 73 had completed Survivor Responses to Child Maltreatment (CAST 402), and 41 had completed Field Experience (CAST 407).

Specifically, 22 psychology students, 39 education students, 42 social work students, 10 nursing students, and 17 other students had completed Child Maltreatment. Eighteen psychology students, 35 education students, 42 social work students, nine nursing students, and 17 other students had completed Global Child Advocacy Studies. Nine psychology students, 22 education students, 33 social works students, seven nursing students, and 14 other students had completed CAST Survivor Responses to Child Maltreatment. Eight psychology students, 20 education students, 29 social work students, five nursing students, and nine other students had completed Survivor Responses to Child Maltreatment. Lastly, 4 psychology students, 7 education students, 21 social work students, five nursing students, and 4 other students had completed Field Experience.

Field experience within major. Students within the CAST minor had varying experience in a clinical placement within their major. Field experience had been completed by 9 psychology students, 39 education students, 41 social work students, and 7 nursing students.

Class Standing. Within the population, there was also variation with class standing. Most of the students were in their fourth year. Out of the 141 students, two were first-year, 19 were second-year, 37 were third -ear, 56 were fourth-year, and 29 were fifth-year students.

Data Collection

This is a mixed method study using a single stage, convenience sample. The Interdisciplinary Education Perception Scale (IEPS) was administered (Luecht, Madsen, Taugher, Petterson, 1990) (see Appendix A for the IEPS). This was used to measure the

students' perceptions of interdisciplinary education and collaboration. The scale includes 18 response items and four subscales (Luecht et al., 1990). The instrument is specifically intended to measure four attitudes that are critical to team function when working on interdisciplinary teams (Luecht et al., 1990). The four attitudes/subscales are as follows: 1) professional competency and autonomy, 2) perceived needs for professional cooperation, 3) perception of actual cooperation and resource sharing within and across professions, and 4) understanding the value and contributions of other professionals/professions (Luecht et al., 1990). Students used a likert scale to answer the questions. The likert scale ranges from "1" strongly disagree to"6" strongly agree (Luecht et al., 1990). This instrument was validated and demonstrated reliability (Luecht et al., 1990).

The study also include a qualitative component. In an open-ended question, students were asked to define the term *interdisicplinary*. One hundred thirty-nine out of 141 students answered the question. Completion of the IEPS and open-ended question took approximately 20 minutes.

Data Analysis

Official student addresses were obtained from the university for 244 CAST students. The students were emailed to introduce the study and the consent form; embedded in the email was a link to the IEPS questionnaire and the consent form. Additionally, the students received several follow-up email reminders. If students elected, they were anonymously entered to win a gift card to a local coffee shop. The survey was then administered using an online survey program, Qualtrics. The data were analyzed using SPSS. The original 6-point scale and the distribution of the responses was highly skewed to the right (strongly agree), therefore the variables were collapsed into a dichotomous variable (agree or disagree). Because the new dependent variable

was dichotomous, chi-square was used to analyze the results. Additionally, a Cramer's V was run to identify the strength of the association between variables. Lastly, mean scores on each of the four subscales were calculated.

The qualitative data were assessed. The data were analyzed and coded for themes. Three significant themes were uncovered. These data will be discussed in the results sections as well as the discussion section below.

Protection of Human Participants

The author obtained approval from the university's Institutional Review Board, and submitted an exempt application to the Institutional Review Board. An exempt application was submitted because the research was not greater than minimal risk. Students gave electronic signatures before they completed the questionnaire.

Strengths and Limitations

A strength of this study is that there was a 58% return rate on the questionnaires. Social work students had a 59% response rate, 67% of education students participated, 68% of psychology students participated, and 81% of nursing students participated.

A limitation is that the questionnaire was administered over the summer when it was more difficult to reach students. Also, the author did not obtain a comparison group outside of the minor. Additionally, surveying students outside of the minor and with a social work, psychology, nursing, or education major would have provided interesting insights. The author also did not compare students who had just started in the minor to students who had completed the minor, although the author did analyze the difference in responses based on the number of CAST courses completed.

Results

Demographics

The sample consisted of 141 CAST minors**.** The majority of students were in their fourth or fifth year**.** There was little ethnic variation: most of the students were Caucasian. There were 45 social work students, 10 nursing students, 41 education students, 27 psychology students, and 19 other students, nine psychology students, 39 education students, 41 social work students, seven nursing students, and 14 other students had completed a field experience within their major. One hundred twenty-three students hadcompleted Child Maltreatment; 121 students completed Global Child Advocacy; 85 students completed Responses to Child Maltreatment; 71 completed Survivor Responses to Child Maltreatment; and 41 completed CAST Field Experience.

Descriptive Findings

Attitudes and perceptions of CAST students. The majority of students agreed with the statements presented in the IEPS. Levels of agreement ranged from 99% (Statement 7: Individuals in my field are very positive about their contribution and accomplishments) to 49% (Statement 11: Individuals in my profession have a higher status than individuals in other professions). Despite the range, for 16 of the 18 statements, students scored over 90%, and most students scored in the high nineties. There was very little variation among participants (see Figure 2.1 for a detailed bar chart that details students' responses).

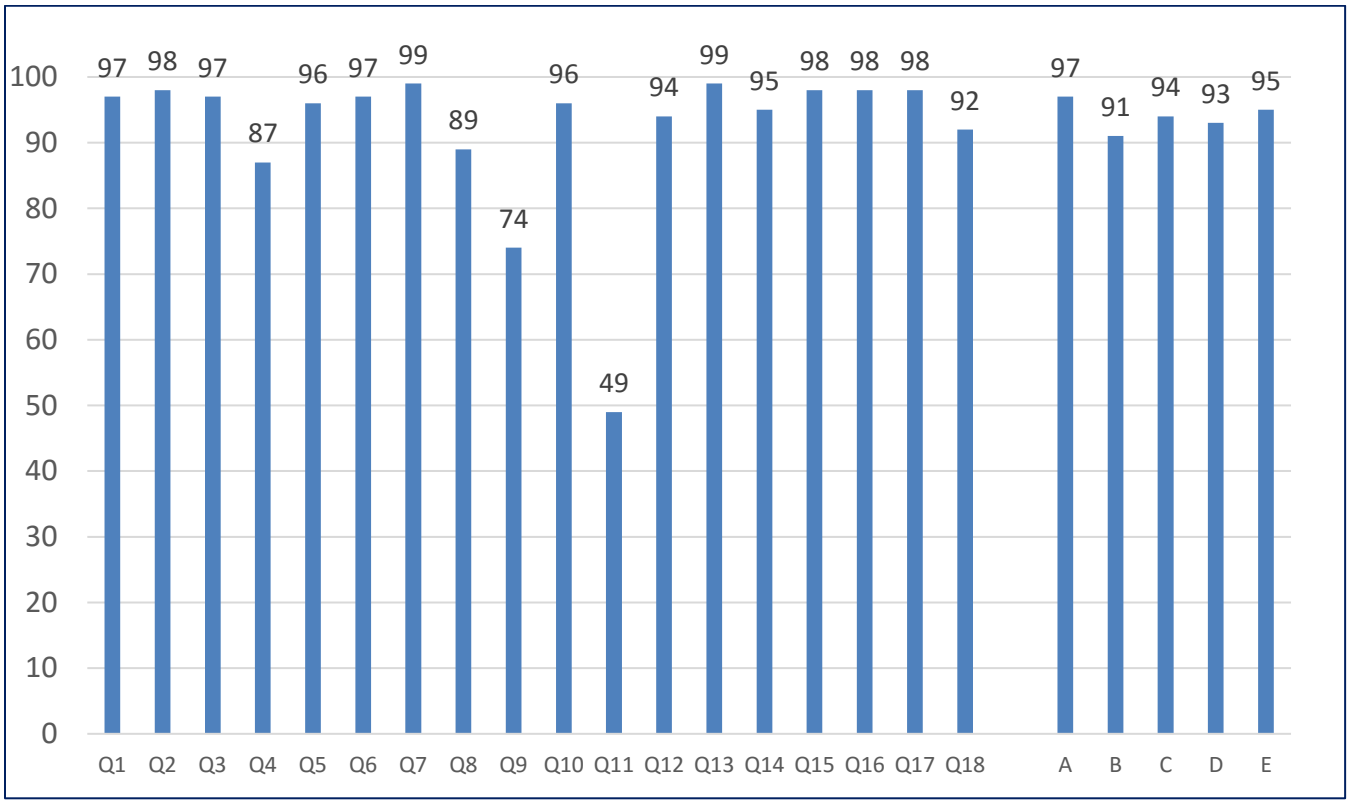

Figure 2.1 Students' Responses to IEPS Statements

Differences between majors. There was little difference across majors; that is, across the items, students responding endorsed a high level of agreement. Students, as a group, did not significantly differ in their responses to the IEPS statements (see Table 2.1 for statistically significant findings). Social work students were statistically significantly different from non-majors in their responses to the statements included in the Perceived Need for Professional Cooperation scale ($p = .044$). Psychology students were also statistically significantly different from non-majors in their responses to the statements included in the Perceived Need for Professional Cooperation scale ($p = .008$). Social work students were moderately different than psychology students, with social workers scoring slightly higher in their responses to these questions; the mean score for social work majors was higher than that of psychology students, at

1.84 and 1.69, respectively. Additionally, there was a moderate difference between psychology students and education students in their responses to this subscale. The mean score for education majors was higher than that of psychology students, at 1.90 and 1.69, respectively. Social work students also were statistically significantly different than non-majors in their responses to the Perceived Need for Professional Cooperation Resource Sharing Within and Across Professions scale ($p = .014$). There was a moderate difference between social work students, psychology students, and nursing students. The mean score for social work majors was lower than that of psychology students, at 4.64 and 4.65, respectively. Lastly, the mean score for social work majors was lower than that of nursing majors, at 4.64 and 4.80, respectively.

Table 2.1 Statistically Significant Findings

	Psychology	Social Work	Education	Nursing	Other	CAST 407	Total # of CAST Classes	Field Experience in Major
Q1. Well-trained	ns	ns	ns	ns	ns	ns	ns	ns
Q2. Work closely	ns	ns	ns	ns	ns	ns	ns	ns
Q3. Autonomy	ns	.004	ns	ns	ns	ns	.011	ns
Q4. Respect	ns	ns	ns	ns	ns	ns	ns	ns
Q5. Positive	ns	ns	ns	ns	ns	ns	ns	ns
Q6. Cooperate	ns	ns	ns	ns	ns	ns	ns	ns
Q7. Contributions	ns	.037	ns	ns	ns	ns	ns	ns
Q8. Depend	.006	ns	ns	ns	ns	ns	ns	.026
Q9. Think highly	ns	ns	ns	ns	ns	ns	ns	ns
Q10. Trust	ns	ns	ns	ns	ns	ns	ns	ns
Q11. Higher status	ns	ns	ns	ns	ns	ns	ns	ns
Q12. Understand	ns	ns	ns	ns	ns	ns	ns	ns
Q13. Competent	ns	.034	ns	ns	ns	ns	ns	ns
Q14. Willing to share	ns	ns	ns	ns	ns	ns	.004	.001
Q15. Good relation	ns	ns	ns	ns	ns	ns	ns	ns
Q16. Thinks highly of others	ns	ns	ns	ns	ns	ns	ns	ns
Q17. Works well with each other	ns	ns	ns	ns	ns	ns	ns	ns
Q18. Seeks advice of us	ns	ns	ns	ns	ns	.028	ns	ns
A. CAST is interdisciplinary	ns	ns	ns	ns	.000	.024	ns	ns
B. My major has taught me interdisciplinary skills	ns	ns	ns	ns	ns	ns	ns	ns
C. My minor has taught me interdisciplinary skills	ns	ns	ns	ns	.042	ns	ns	ns
D. My major has influenced the way I think about interdisciplinary collaboration	ns	.026	ns	ns	ns	ns	ns	ns
E. My minor has influenced the way I think about interdisciplinary collaboration	ns	ns	ns	ns	.020	ns	ns	.046
Professional Competence and Autonomy (1, 3, 4, 5, 7, 9, 10, 13)	ns	ns	ns	ns	ns	ns	ns	ns
Perceived Need for Professional Cooperation (6, 8)	.008	.044	ns	ns	ns	ns	ns	.007
Perception of Actual Cooperation Resource Sharing Within and Across Professions (2, 14, 15, 16, 17)	ns	.014	ns	ns	ns	ns	ns	ns
Understanding the Value and Contributions of Other Professional/Professions (11,12, 18)	ns	ns	ns	ns	ns	ns	ns	ns

CAST courses. Participating in CAST courses did not render statistically significant findings, when examined using a chi-square. Table 2.1 highlights the statistically significant findings.

Field experience. Students who had completed a field experience within their major were, as a group, statistically significantly different than those who had not completed a field experience within their major in their responses to the questions in the Perceived Need for Professional Cooperation Scale ($p = .007$). There was a moderate difference between those who completed a field experience within their major and those who did not. Participating in a field experience within the CAST minor did not render statistically significant findings. Table 2.1 (abaove highlights the statistically significant findings.

Other findings. Social work students, as a group, were statistically different than other students in their response to "My major has influences the way I think about interdisciplinary collaboration" ($p = .024$). Table 2.1 highlights the statistically significant findings. Additionally, there was strong agreement to the following statements: CAST is interdisciplinary (97%); My major has taught me interdisciplinary skills (91%); My minor has taught me interdisciplinary skills (94%); My major has influenced the way I think about interdisciplinary collaboration (93%); and My minor has influenced the way I think about interdisciplinary collaboration (95%). Figure 2.1 (above) illustrates these findings.

Qualitative Findings. Of the 141 student respondents, 138 responded to the question, "What is interdisciplinary?" The student responses varied from admitting no idea to well-articulated definitions; most students feel in the middle of these two extremes. Among the students who were on track with their definitions of interdisciplinary, three main themes stood

out. The first theme was *knowledge of multiple disciplines*. The second theme was *working towards a mutual goal*, and the third theme encompassed students' overall *lack of understanding* of the term interdisciplinary.

Fourteen percent of respondents referenced specifically having an understanding of knowledge in multiple disciplines. Some students ended their definition here. For example, one respondent wrote, "knowing stuff in multiple areas." Some students took this one step further and defined interdisciplinary as "combing knowledge through different branches of a field." Other respondents expanded their definition to include ideas of incorporating/integrating knowledge from certain areas. Another student commented, "getting many different specialties involved to help use the most knowledge and resources to achieve and create a common goal."

Respondents also discussed working towards a mutual goal. Every time respondents mentioned working towards a mutual goal, they also spoke about working with people from other professions. One respondent said that interdisciplinary is, "…people from all areas of expertise working together to complete a mutual goal." Other students not only spoke about many disciplines working towards a mutual goal, but suggested that people from these disciplines may have different viewpoints. For example, another respondent said, "Two or more people working together to accomplish one goal. These people are generally from different disciplines and come into the situation with different viewpoints." Most students who integrated the theme of working towards a mutual goal seemed to have a basic understanding of interdisciplinary. However, this was not the case for almost one-third of respondents.

Thirty-one percent of respondents did not know what interdisciplinary meant. Respondents' answers varied; however, a few themes were apparent. First, some students simply stated that they did not know. One respondent said "no idea." Other respondents believed that

interdisciplinary had to do with punishment. A respondent noted, "How we discipline in different settings with different factors contributing to the action taken." Some respondents thought that interdisciplinary was related to self-discipline. For example, "Discipline and success within yourself." Lastly, other students came up with definitions to interdisciplinary that lacked clarity. A respondent said, "disciplinary within an organization." These results indicate that universally, students are not completely familiar with the term *interdisciplinary*.

Discussion

Summary of Findings

The IEPS was used to gauge attitudes and perceptions of interdisciplinary attitudes and perceptions of CAST students. Psychology, social work, nursing, and education students were represented in the minor. There were few significant differences between the majors; however, some significant differences will be discussed. Psychology and social work students were statistically significantly different from education and nursing students in their responses to questions in the perceived need for professional cooperation scale. Social work students were statistically significantly different than the other majors in their responses to the perception of actual cooperation resource sharing within and across professions subscale. Lastly, if students had participated in a field experience within their major, they were statistically significantly different from students who had not participated in a field experience in their responses to questions in the perceived need for professional cooperation scale.

Interpretations

The results are limited because of the statistical analysis that was run on the data. The results do suggest that social work students and psychology students appear to be different from education and nursing students in response to two questions in two subscales. One explanation

for this difference may be that social work students (n = 41) had field experiences in their major at a higher rate than any other major. Social work students also had the most students (n = 21) who participated in a field experience in CAST. Bronstein (2003) notes that field experience is a good way to be exposed to interdisciplinary collaboration and this can promote one's understanding of the importance of interdisciplinary collaboration. Additionally, more social work students had completed more CAST courses than any other major. Lastly, more social work students than any other major had students in their fourth and fifth year of education. An explanation for nursing students having a higher mean score than social work students on the Perceived Need for Professional Cooperation Resource Sharing Within and Across Professions scale could be that students work more extensively on interdisciplinary course content in their majors and/or have more interdisciplinary contact within their field experience.

CAST course influence. CAST courses may influence students' responses. Social work students tend to complete the minor at the highest rate. Education majors also complete the minor at a high rate, but fewer students complete the minor in education than in social work. Despite the fact that many majors complete the CAST minor, they did not have any statistically significant results, which may indicate that CAST does not have much of an influence on students' attitudes about interdisciplinary education and collaboration. It is possible that there is something impacting social work students in a different way than other majors; this could be something within the social work curriculum. In fact, the body that accredits social work programs, CSWE, requires that social work programs introduce concepts of interdisciplinary collaboration (CSWE 2015). Additionally, this may be the case for a few reasons: 1) The completion of CAST courses did not yield any statistically significant findings; 2) CAST courses

and integration of interdisciplinary skill building curriculum can vary between professors; and 3) There are no course objectives that specifically highlight interdisciplinary skills.

Bronstein's Model of Interdisciplinary Collaboration

Psychology and social work students were statistically significantly different frp, their peers on two of the IEPS subscales: Professional Need for Cooperation and Perception of Actual Cooperation Resources Sharing Within and Across Professions. The first subscale, Professional Need for Cooperation, includes questions about one's ability to cooperate with others and the importance of depending on a person from another profession. Bronstein refers to the importance of interdependence and collective ownership of goals (Bronstein, 2003). The second subscale, Perception of Actual Cooperation Resources Sharing Within and Across Professions, asks questions about the profession's ability to work closely with other professions, the profession's ability to share information, the profession's ability to have good relations with other, the profession's ability to think highly of other professions, and the profession's ability to work well with each other. Bronstein (2003) and Supiano and Berry (2013) emphasize that in order to be interdependent, professionals must work collaboratively rather than competitively. The statements under the Perception of Actual Cooperation Resources Sharing Within and Across Professions subscale speak to a profession's ability to be collaborative rather than competitive. Supiano and Berry (2013) also point to the importance of respecting another profession's expertise. The statement that states that professionals in my profession think highly of other professions could suggest that professionals respect the expertise of other professionals. The two subscales on which students in psychology and social work scored statistically significantly different from their peers relate to Bronstein's Model of Interdisciplinary Collaboration's effective components of interdisciplinary collaboration. Bronstein reinforces

that the way people view other professionals is very important to the success of interprofessional teams (Bronstein, 2003). Students who major in social work or psychology may have qualities that would make them a strong interdisciplinary team member. Lastly, 49% of CAST students did not believe their profession was of a higher status than other professions. This is a positive finding. Again, Supiano and Berry (2013 find that when team members have cooperative rather than competitive attitudes, teams can be more successful.

Qualitative Findings

One-third—31%,—of students were not familiar with the term *interdisciplinary*. This is an alarmingly high number. Overwhelmingly, students agreed with the statements on the IEPS, but seemed unfamiliar with the interdisciplinary concept, *interdisciplinary*. This finding confirms that students need intentional curriculum that addresses key concepts about interdisciplinary education and collaboration (Bronstein et al., 2010).

Curricular Implications

There were no statistically significant findings that suggested that the CAST minor influenced the way students think about interdisciplinary collaboration, yet 94% of students believed that the minor had taught them interdisciplinary skills and 95% believed the minor influenced the way they felt about interdisciplinary collaboration. Concepts about interdisciplinary team function should be introduced and examined in CAST courses. Course objectives should include the attainment of interdisciplinary skillsets. Interdisciplinary activities guided by the course objectives should be included in CAST courses.

Additionally, social work students scored statistically significantly different than other major in their response to whether or not their major influenced the way they think about interdisciplinary collaboration. Again, based on the statistical measure (chi-square) used, it is

only possible to determine that social work majors were different as a group, but it is not possible to determine how there were different. Given that this researcher is a social worker and teaches in a social work program, it may be suggested that the social work curriculum positively influenced the way social work students' feelings about interdisciplinary collaboration. Other majors may benefit from examining how interdisciplinary collaboration and education is introduced, implemented, and measured in their corresponding fields.

Limitations

Surveys were distributed to CAST students at one middle-sized, Midwestern public institution; therefore, they are not generalizable. Also, the results are not generalizable because the CAST curriculum is not standardized. There were not a lot of differences represented in students' race, gender, and age. Additionally, results may differ with a non-traditionally aged student population. Also, because this is predominantly a traditionally-aged student population, students may not have much work experience. If students had more work experience, there may have been different results.

Future Research

A follow-up study could explore the attitudes and perceptions of interdisciplinary education and collaboration of students in CAST programs at other universities. Another study could administer a pre-test and post-test to evaluate student attitudes and perception of interdisciplinary education and collaboration before and after they have been formally introduced to the concepts in CAST courses or before they begin the major and once they have completed it. Lastly, another study could compare students whose minor is not CAST to those with a minor in CAST minors to determine if there are any differences between minors and non-minors.

Conclusion

Based on the findings, one potential conclusion is that the current CAST curriculum at this institution does not adequately introduce and apply concepts related to interdisciplinary education and collaboration. It is unclear whether or not the curricula of Social Work, Psychology, Education, and Nursing adequately introduce and apply concepts related to interdisciplinary education and collaboration. As reflected in this sample**,** clinical experience does not appear to substantially benefit students' understanding of interdisciplinary education and collaboration, yet it did yield minimal results that were statistically significant, which is in accord with other research that field experience can influence a person's attitudes and perceptions about interdisciplinary collaboration (Neill, Hayward, Peterson, 2007). It may benefit students to ensure that faculty and field supervisors make explicit connections to interdisciplinary work in the classes that support clinical experience. Although the findings did not yield many statistically significant results, it appears to be clear that there is still much to be done to ensure that students acquire interdisciplinary skills and concepts.

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Appendix A

Interdisciplinary Education Perception Scale

INTERDISCIPLINARY EDUCATION PERCEPTION SCALE

PRE / POST

You will be asked to complete this at the beginning and end of your placement. Thanks for your assistance.

Mother's date of birth (To allow us to match the pre and post responses): _____

Using the scale below, (Strongly Disagree–1 to Strongly Agree–6) please rate your perception of your profession and other disciplines.

DESCRIPTOR	Strongly Disagree 1	Moderately Disagree 2	Somewhat Disagree 3	Somewhat Agree 4	Moderately Agree 5	Strongly Agree 6
1. Individuals in my profession are well-trained.	1	2	3	4	5	6
2. Individuals in my profession are able to work closely with individuals in other professions.	1	2	3	4	5	6
3. Individuals in my profession demonstrate a great deal of autonomy.	1	2	3	4	5	6
4. Individuals in other professions respect the work done by my profession.	1	2	3	4	5	6
5. Individuals in my profession are very positive about their goals and objectives.	1	2	3	4	5	6
6. Individuals in my profession need to cooperate with other professions.	1	2	3	4	5	6
7. Individuals in my profession are very positive about their contributions and accomplishments.	1	2	3	4	5	6
8. Individuals in my profession must depend upon the work of people in other professions.	1	2	3	4	5	6
9. Individuals in other professions think highly of my profession.	1	2	3	4	5	6
10. Individuals in my profession trust each other's professional judgment.	1	2	3	4	5	6
11. Individuals in my profession have a higher status than individuals in other professions.	1	2	3	4	5	6
12. Individuals in my profession make every effort to understand the capabilities and contributions of other professions.	1	2	3	4	5	6
13. Individuals in my profession are extremely competent.	1	2	3	4	5	6
14. Individuals in my profession are willing to share information and resources with other professionals.	1	2	3	4	5	6
15. Individuals in my profession have good relations with people in other professions.	1	2	3	4	5	6
16. Individuals in my profession think highly of other related professions.	1	2	3	4	5	6
17. Individuals in my profession work well with each other.	1	2	3	4	5	6
18. Individuals in other professions often seek the advice of people in my profession.	1	2	3	4	5	6

Student IEPS - Luecht et al, (1990, Journal of Allied Health, 181-191) with permission.

A Presentation on Students' Perceptions on Interdisciplinary Education and Collaboration

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Abstract

This poster presentation examined the findings of a quantitative study that evaluated the perceptions of Child Advocacy Studies students about interdisciplinary education and collaboration. Students completed the Interdisciplinary Education Perception Scale (IEPS) survey. The research highlighted the differences between the students from varying majors that participate in the minor. This data can influence best practices for curriculum development and program assessment. This paper provides an overview of the interactive poster presentation, entitled "The Perceptions of Child Advocacy Studies Students (CAST) on Interdisciplinary Education and Collaboration," presented on August 28, 2017, at the 21st International Summit on Violence Abuse and Trauma, and discusses its relationship to the focus of this banded dissertation.

Keywords: Interdisciplinary, education, collaboration

A Presentation on Students' Perceptions on Interdisciplinary Education and Collaboration

The research, presented at the 21st International Summit on Violence, Abuse, and Trauma, was a product of a paper that was completed as part of this author's banded dissertation. A quantitative research study was conducted that assessed students' perceptions of interdisciplinary education and collaboration. An evaluation of this presentation as well as a summary of how it complemented this author's banded dissertation is provided.

Overview of Presentation

The conference poster presentation, entitled "The Perceptions of Child Advocacy Studies Students (CAST) on Interdisciplinary Education and Collaboration," was presented on August 28, 2017, at the 21st International Summit on Violence Abuse and Trauma. The conference was held from August 26-31, 2016, at the Town and Country Resort and Convention Center in San Diego, California. The poster presentations were held on Sunday, August 28, 2016, from 6:00pm-7:30pm. The email of acceptance from the International Violence, Abuse, and Trauma Conference team is included in this document (see Appendix A). The cover page of the conference program is also included in this document (see Appendix B). Lastly, the conference document that details all of the poster presentation speakers and titles is included in this document (see Appendix C).

The poster included below satisfies the requirement for this banded dissertation. The poster includes an abstract, methods, review of literature, result, discussion, conclusion and limitation sections. Roughly, six 10-minute presentations were given during the allotted poster-presentation timeframe. Participants heard an explanation of the reason for the research, the methods used to obtain the data, the results, conclusions based on the results, implications for curricular design, and ideas for future research. The poster presentation was interactive and

designed to facilitate discussion. All participants were allowed time to ask questions and comment on the presentation.

Although the poster presentation is provided below (Figure 3.1), it may be difficult to read; due to this, the main points will be highlighted. First, students from an interdisciplinary minor, Child Advocacy Studies (CAST), were selected to participate in this study. Students from several majors, who were CAST minors, participated in the survey. The Interdisciplinary Education Perception Scale (IEPS) was used to survey the students about their perceptions of interdisciplinary education and collaboration. The findings were limited. Social work students were statistically significantly different from non-majors in their responses to the statements included in the Perception of Actual Cooperation Resource Sharing Within and Across Professional scale and the Perceived Need for Professional Cooperation scale. Psychology student were statistically significantly different from non-majors in their responses to statements included in the Perceived Need for Professional Cooperation scale. Lastly, students who had completed a field experience within their major were statistically significantly different from those who did not complete a field experience within their major in their responses to the statements included in the Perceived Need for Professional Cooperation scale.

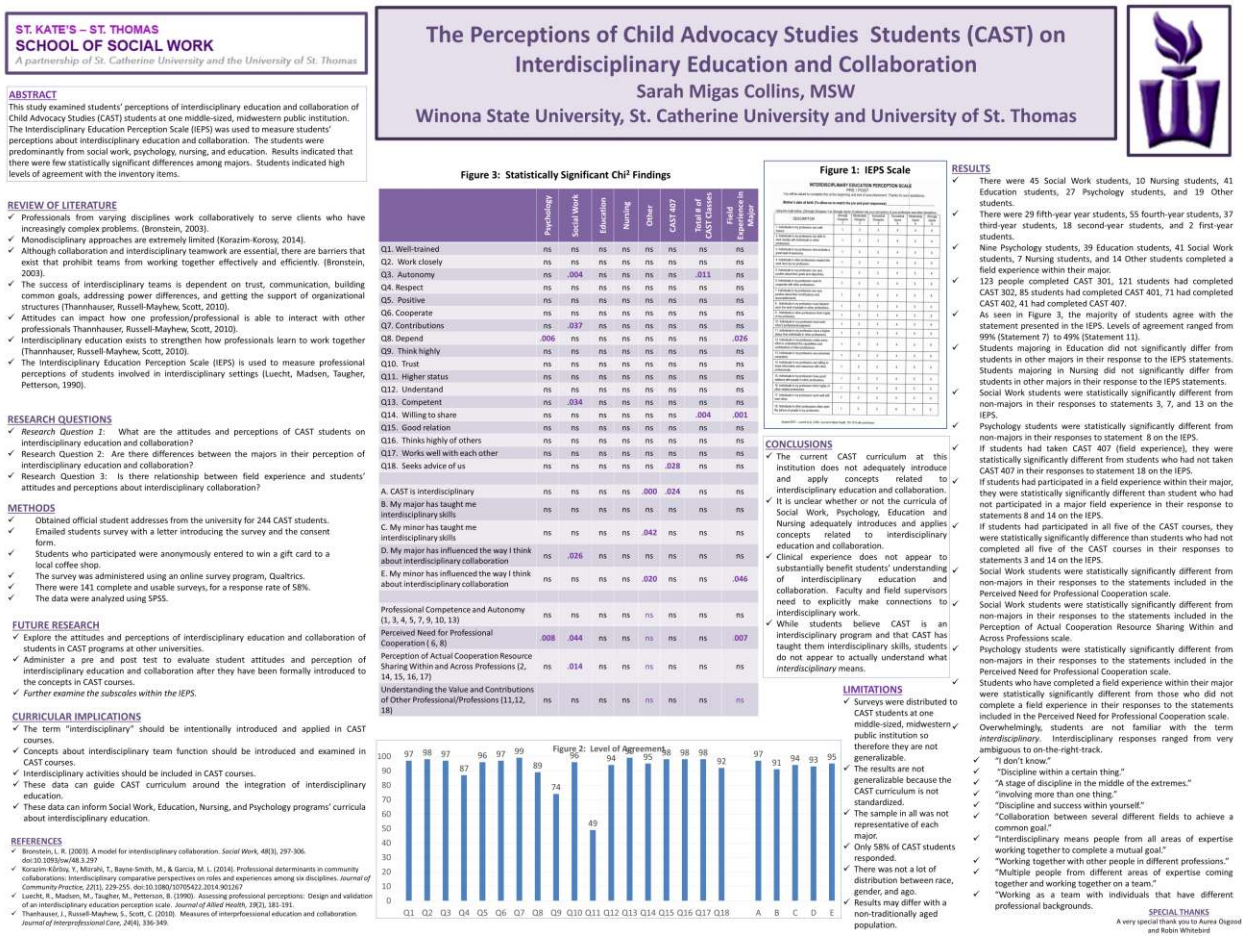


Figure 3.1 PowerPoint Poster Presentation

Students also strongly indicated that they believed their minor as well as their major taught interdisciplinary skills. When asked to define the term "interdisciplinary," many students were unable to do so. For example, a student noted that interdisciplinary meant "Discipline and success within yourself." Another student noted that it meant "A stage of discipline in the middle of extremes." Overwhelmingly, students were not familiar with the term. Lastly, based on findings, although students answered the survey questions about interdisciplinary education and collaboration, it is unclear as to whether or not they understood what interdisciplinary means.

The findings indicate that participating in a field experience does not substantially benefit students' understanding of interdisciplinary education and collaboration. It is also unclear to what extent the various majors and the minor introduce topics about interdisciplinary education. Lastly, students may benefit from an intentional integration of interdisciplinary concepts within their minor and majors.

Personal Reflection of Learning

As a social worker, I have given many oral presentations throughout my career. Until this point, I have not had the opportunity to conduct research and convert my research into a poster presentation and present at an international conference. This opportunity challenged me to consider the relevance of my topic, its usefulness, and how to carefully articulate the findings on a poster so that they were easy to discuss and digest.

My banded dissertation focused on interdiscipinary education and collaboration. I selected this topic because I have only worked on interdisciplinary teams since I started my work as a social worker. I quickly realized that some teams function well and some function very poorly. In addition to working on many interdisciplinary teams in the field, I also have had the privildge to teach in an interdisicplinary minor. Interestingly enough, I saw some of the same struggles working in higher education within an interdiscipinary minor as I did working in the field. I bgean to question what really "makes" or "breaks" interdiscipinary teams. As an educator who had access to students who were participating in an interdisicpinary minor, I thought it would be good to better understand their perceptions of interdiscipinary education and collaboration since they were, in theory, learning about these concepts and were also very likely to work on interdisciplinary teams post-graduation.

I believe this information was critical to share at this conference because this conference was an interdiscipinary conference, but also a conference attended by many people who administer and/or teach in CAST programs. I thought it would be an excellent place to discuss my findings and how CAST programs can improve by more intentionally integrating concepts related to interdisicplinary collaboration. Many people are drawn to CAST because of its mission as well as the course content. The minor focuses on educating students about child welfare issues. Unfortuntely, a part of the minor that may get lost is how to prepare students to work on interdisciplinary teams post-graduation. I believe this poster presentation highlighted the fact that the interdiscipilnary education component of the curriculum must be intentially exmined in order to better prepare students to work on interdiscipinary teams. Much of the discusson and feedback I received revolved around this concept.

Summary of Evalution

Althougth an official evaluation was not completed, many people stopped to discuss the findings and had reactions to the research. Most of the people who stopped to talk to me were either actively involved with a CAST program or trying to develop one. Most participants were disappointed that the findings were so limited. Many were disappointed that many students struggled to define interdisciplinary. One woman, who is starting a CAST program, was very curious about why their were not any criminal justice students represented on the poster. In general, people commented that they felt the information was helpful and they were looking forward to going back to their institutions to examine their curriculum.

Annotated References

Bronstein, L. R. (2003). A model for interdisciplinary collaboration. *Social Work, 48*(3), 297-306. doi:10.1093/sw/48.3.297

This study and was written by a social worker who examined aspects of interdisciplinary collaboration. This article was integral to my research. This article presented Bronstein's Model for Interdisciplinary Collaboration, which identifies effective strategies used to enhance interdisciplinary collaboration.

Korazim-Kőrösy, Y., Mizrahi, T., Bayne-Smith, M., & Garcia, M. L. (2014). Professional determinants in community collaborations: Interdisciplinary comparative perspectives on roles and experiences among six disciplines. *Journal of Community Practice, 22*(1), 229-255. doi:10.1080/10705422.2014.901267

This study was valuable because it looked at the positive and negative experiences associated with interdisciplianry collaboration. It specifically looked at how several disciplines viewed the interdisciplinary collaboration. This provided real-life examples of how different professionals experiences interdisciplinary collaboration.

Luecht, R., Madsen, M., Taugher, M., Petterson, B. (1990). Assessing professional perceptions: Design and validation of an interdisciplinary education perception scale. *Journal of Allied Health, 19*(2), 181-191.

This article was also very important because it introduced the survey that was used, the Interdisciplinary Education Perception Scale (IEPS).

Thanhauser, J., Russell-Mayhew, S., Scott, C. (2010). Measures of interprfoessional education and collaboration. *Journal of Interprofessional Care, 24*(4), 336-349. doi.org/10.3109/13561820903442903

This article was helpful because it provided informtion about how the Interdisciplinary Education Perception Scale could be used and the strengths and weaknesses of the scale.

Appendix A

Acceptance Letter

Institute on Violence, Abuse & Trauma | 10065 Old Grove Road, Ste. 101, San Diego, CA | www.IVATcenters.org | 858-527-1860

21st International Summit on Violence, Abuse & Trauma
Linking Research, Practice, Advocacy & Policy
August 28-31, 2016 | Town & Country Resort and Convention Center in San Diego, CA

June 15, 2016

Dear Sarah Collins, Submission #: 3527

Thank you for your submission to the *21st International Summit on Violence, Abuse & Trauma*. We are delighted to inform you that your submission, *"The Attitudes and Perceptions of Child Advocacy Studies Students (CAST) on Interdisciplinary Education and Collaboration" has* been accepted as a **Poster.** Please read this letter carefully for more details.

Event: Poster Session & Welcoming Reception
Location: Town & Country Resort & Convention Center (500 Hotel Circle North, San Diego, CA)
Date/Time: Sunday, August 28, 2016 / 6:00pm-7:30pm*
(Note that Posters need to be put up on Sunday between noon and 6pm, and taken down before Monday at 6pm.*)
**subject to change*

The Poster Session & Welcoming Reception features appetizers, refreshments and music to help ensure the best attendance. In addition, three awards for exceptional posters will be given during this event. We are expecting approximately 400-600 people to attend. We look forward to your participation!

Please respond this notice *within one week, no later than Wednesday June 22nd,* so that we can finalize an accurate Program. To reply, please complete the response form below and fax / email it to:

Tamara Flores | Fax #: 858-527-1743 | Email: ivatprograms@alliant.edu

Check one of the two statements below which best describes your intentions:

☒ I/we accept and plan to present at the *21st International Summit on Violence, Abuse & Trauma*, as indicated above.

- Acceptance means that I fully understand the necessity of both ***registering*** for the Summit & Training and ***paying*** the 50%-discounted rate no later than ***July 15, 2016***. Should I fail to do either of these tasks by that date, my presentation will be cancelled.
- The following co-presenters/co-authors will join me in presenting this Poster:

_____

☐ I/we decline; I will not present at the *21st International Summit on Violence, Abuse & Trauma.*

Name: Sarah Collins **Signature:** Sarah Collins

By participating in IVAT's 21st International Summit, you agree to the terms and conditions as set forth below, including the Violence, Abuse and Trauma Defamation Disclaimer.

General Terms and Conditions

You agree to present at the 21st International Summit only for lawful purposes and in accordance with professional, ethical guidelines.

Defamation/Libel Disclaimer
The following applies to all workshops, keynote panels, presentations, poster sessions, video or audio material, bulletin board postings, ideas, suggestions, concepts or other material submitted by you to us ("Content"):

(a) you must own or have the right to submit content for presentation at the 21st International Summit and all content submitted by you must be legal, honest, truthful and comply with the IVAT's objectives and all applicable laws, regulations, standards or codes of practice; and

(b) you must ensure that all content submitted to us does not infringe copyright, design, privacy, publicity, data protection, trade mark or any other rights of any third party, and is not obscene, abusive, threatening, libelous, or defamatory of any person; the IVAT has the right to monitor content and may edit, reject, or remove content if we believe it does not comply with the above.

If these terms and conditions are not accepted in full, you do not have IVAT's permission to participate in this Summit.

I accept the terms of this Agreement.

Sarah Collins
Printed Name

June 20, 2016
Date

Sarah Collins
Signature

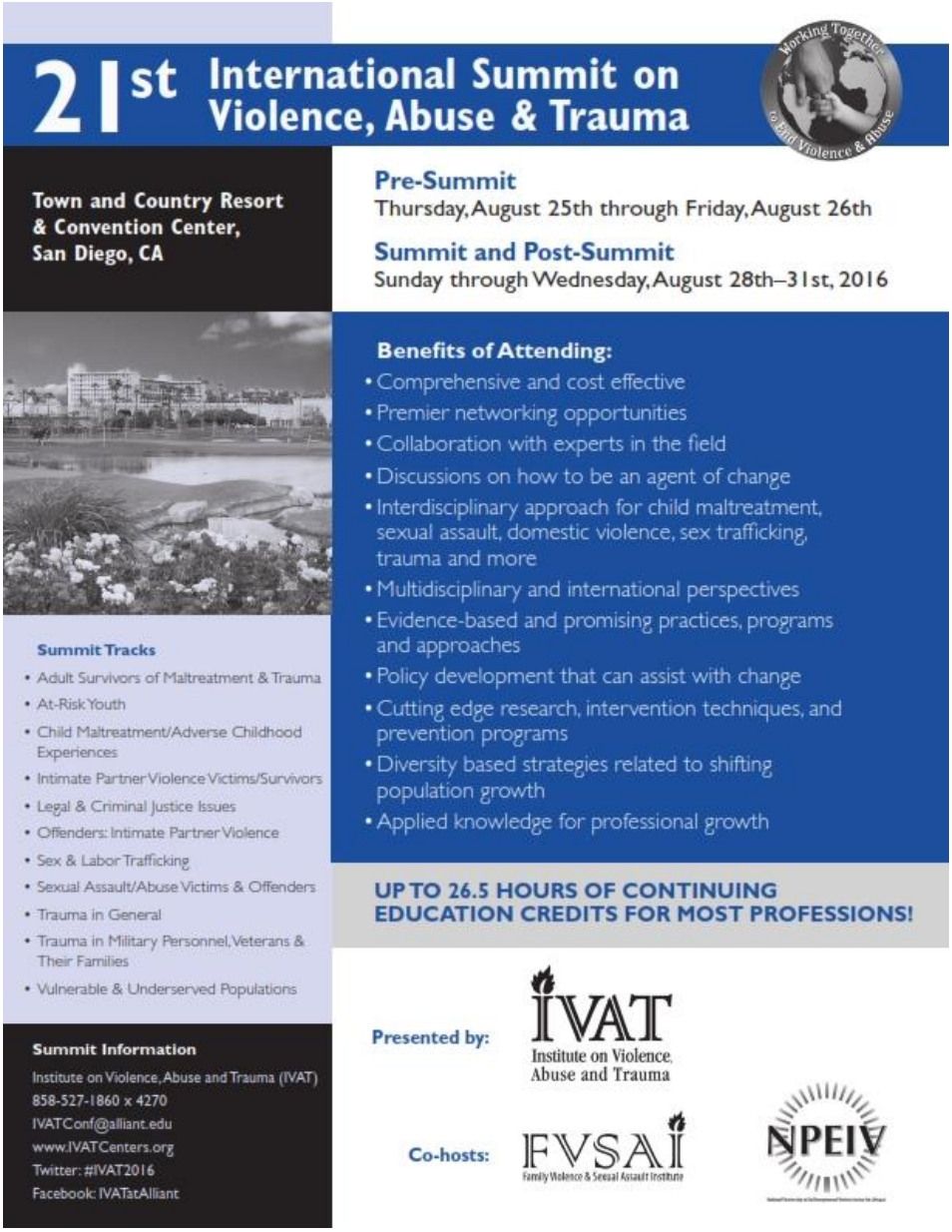
AUDIO/VISUAL PERMISSIONS

Yes	No	
[X]	[ ]	I give my permission to be audio and/or video recorded during the Summit
[X]	[ ]	I give my permission to have my handouts/slides available for attendees after the event
[X]	[ ]	I give my permission for use of my photo/video recordings taken during the Summit, for future promotion of the annual event

IVAT Institute on Violence Abuse and Trauma · ALLIANT INTERNATIONAL UNIVERSITY · children's institute, inc. · FVSAI · NPEIV

Appendix B

IVAT Conference Program Cover Page



Appendix C

Conference Document Detailing the Poster Presentations

Poster Session & Welcoming Reception

6:00 PM – 7:30 PM in the Atlas Foyer
Poster Presentations

1 **The Brave Man Book: An Awareness Campaign Giving Hope to Abusive Men,** Joan Lee Tu & Lisa Peacock, Coauthors: Bill Benson & Pam Sprankling

2 **School Employee Sexual Misconduct: A Call to Action,** Billie-Jo Grant

3 **Creativity & Compliance: UCSD Prevention Education through Peers & Performance**, Lana Talampas & Jessica Heredia

4 **Benefits of Animal Assisted Interventions in Group Therapy with Youth**, Naeri Hakopian & Lisa Peacock, Coauthors: Bill Benson & Pam Sprankling

5 **A Contemporary Look at the Need for a Complex Childhood Trauma Diagnosis**, Lauren Zellmer & Chacy Agnello

6 **Intimate Partner Violence in Lesbian Relationships: How Care Providers Can Effectively Address the Elephant in the Room**, Lisa Tapia Fleck & Holly Bookwalter

7 **Interpersonal Violence: Putting the Silicon Valley to Work**, Andrew Phelps, Coauthors: Jancis Long & Edmundo Norte

8 **Intimate Partner Violence in the Trans* Community**, Sofia Alvarez

9 **Pacific Women's Indigenous Network - Hawaii Chapter: Empowering Women in the Pacific**, Tammy Martin & Tomoko Ella Hotema

10 **Latino men perpetrators of Intimate Partner Violence: Substance Abuse and Psychosocial Risk Factors**, Mohena Moreno, Coauthor: Nafisa Banoo

11 **Oglala Lakota Responses to Youth Suicide**, Yvonne DeCory & Saunie Wilson

12 **Sexual Assault in American Samoa: A Cultural Framework for Revisiting Rape**, Ipu Lefiti

13 **Suicide in American Samoa: Prevention and Intervention Efforts**, Leuga Leiataua Turner

14 **Emotional Abuse as a Predictor of Internalizing and Externalizing in LCPD Youth**, Molly Ellenberg, Co- Authors: Amy E. Lansing & Weny Y. Plante

15 **Exploring Differences between Self- and Caregiver-report outcomes for clients in Trauma Focused- Cognitive Behavioral Therapy**, Toni Cooper & Francisco Casas, Co-Author: Diana Macias

16 **Therapeutic Interventions for Youth Exposed to Violence: A Comparison of Client Outcomes in Two Models Offered by a Community Mental Health Agency**, Francisco Casas & Toni Cooper, Co-Author: Diana Macias

17 **MMPI-2 Profile Comparison of Sexual and Non-Sexual Offenders against Children**, Bryanna Allen & Leah Dockler, Coauthors: Francesca Luizza, Desiree Hughes, Eve Schwartz, Bryanna Allen, Trevor Boon, Alan Acre, Jessica J. Fisher & Robert A. Geffner

18 **Attachment Styles, Personality, and Child Sexual Abuse**, Desiree Hughes & Leah Dockler, Coauthors: Desiree Hughes, Francesca Luizza, Alan Acre, Bryanna Allen, Trevor Boon, Eve Shwartz, Jessica J. Fisher & Robert A. Geffner

19 **Child Abuse Knowledge among Professionals and Advocates**, Denis Yukhnenko & Robert Geffner

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