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The Development of a Discipline: Examination of the Profession of Gerontology and Gerontological Professionals

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The Development of a Discipline: Examination of the Profession of Gerontology and Gerontological Professionals

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

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Abstract

By Tracey Gendron, M.S.

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The growth of the aging population has warranted increased training and education to prepare professionals with the specific knowledge needed to best serve older adults. Gerontology, as an academic discipline, provides professionals with the conceptual knowledge and the skills necessary to address the complexities of working with a diverse aging population. Little research has been done of the characteristics of professionals both with and without formal education in gerontology that are working with the aging population. The aim of this study was to investigate the roles of career motivation, job satisfaction, attitudes about aging, career commitment, and professional identity among those working with older adults. An exploration of the characteristics of gerontological professionals has implications for the development of best practice approaches in student and staff recruitment, retention, curriculum design, and training practices. Participants were recruited from volunteers invited from a convenience sample of approximately 7,000

members signed up to receive emails from the Department of Gerontology at a Southeastern University, and a snowball approach with the link to the survey being distributed by various organizations and institutions (e.g., assisted living facilities, Southern Gerontological Society, Therapeutic Recreation Association). Professionals' age and job satisfaction significantly predicted professional identity. Participants' career motivation, job satisfaction, and exposure to formal gerontological education (MSE) significantly predicted career commitment. Self-identified professional identity in aging groups did not moderate the relationship between MSE predictors and career commitment. However, aging anxiety mediated the relationship between job satisfaction and career commitment. Finally, age and higher perception of the value of teamwork predicted both level of professional identity and job satisfaction. This study sheds lights on perspectives of professionals working with older adults and highlights areas for future research and training with this population.

The Development of a Discipline: Examination of the Profession of Gerontology and Gerontological Professionals

Gerontology provides professionals with the conceptual knowledge and the skills necessary to address the complexities of working with a diverse aging population. Gerontology is relatively new as a distinct profession, and the promotion of quality care and services for the aging population has sparked discussion about the legitimacy of gerontology as a standalone profession, rather than a subset of another established disciplinary tradition. In addition to gerontology, other disciplines working with older adults include physical therapy, occupational therapy, psychology, recreation, and social work (Peterson & Wendt, 1990).

The development of a profession has a typical succession including recognizing a need for specialized services, generation of a knowledge base, and evolution in training and educating students (Abrahamson, 1981). There has been much discussion about the legitimacy of gerontology as a discipline, a specialization, or a profession (Ferraro, 2006). In recent decades, gerontology's identity as a discipline has progressed developmentally, paralleling growth in aging research and the growth of the aging population. In addition, gerontology's identity as a formal profession has advanced with the emergence and expansion of interdisciplinary aging theories, consensus on research methodology, and various scholarly publications (Alkema & Alley, 2006). Although an increasing number of professionals work with older adults, few possess the knowledge and education to have the title "gerontologist" (Peterson, Wendt & Douglas, 1991). The designation "gerontologist" indicates a degree earned in which gerontology is the primary field of study (Grabinski, 2007). This is in contrast to gerontological specialists who have specific disciplinary training

(e.g., nursing, social work, administration) that includes a formal, but not primary, gerontology degree component, and gerontology workers who have no formal gerontology education or training (Grabinski, 2007).

Since the focus of gerontological education is on the application of knowledge to improve quality of life of older adults, best practice methods for training professionals to work in the aging field must be examined as part of the developmental progression of the discipline. Gendron, Myers, Pelco and Welleford (2013) found that best practice methods for educating gerontological professionals include experiential learning and exposure to role models and mentors. According to Gendron et al., (2013), gerontology student typology plays a critical role in the education, training, and professional identity development of gerontologists. Their research identified two distinct types of graduate students: professional incumbents are already experienced in an aging-related job, and newcomers are new to the field of gerontology.

The current study will expand upon the research on the development of best practice approaches for educating the gerontological workforce by exploring the characteristics of professionals both with and without formal education in gerontology that are working with the aging population. Figure 1 illustrates the relationships explored in this project. The role of career motivation, job satisfaction, attitudes about aging, career commitment, and professional identity are investigated among gerontological professionals. An exploration of factors that contribute toward the characteristics of gerontological professionals has implications for the development of best practice approaches in student recruitment, curriculum design, teaching practices, and growth of the discipline of gerontology. Motivations for choosing a career working with older adults can be influenced both by

attitudes about the aging population and personal feelings about aging (Rosowsky, 2005). This is a salient contribution since there is currently a dearth of empirical research on career motivation in the discipline of gerontology.

The following sections review the literature on study constructs including a theoretical approach to discipline development, the development of gerontology as a discipline, and a review of career motivation, commitment, attitudes about aging, and professional identity development.

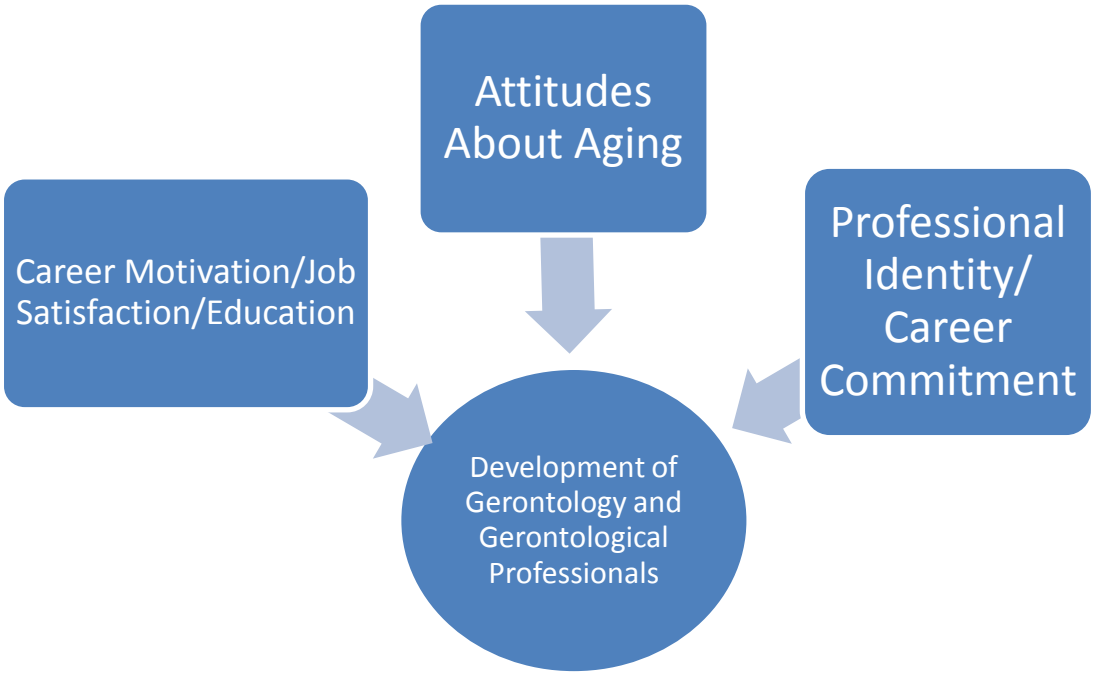


Figure 1. Variables impacting the development of gerontology as a discipline

Perspectives on the Development of a Discipline

A profession is a vocation or occupation founded upon specialized training and education (Oxford English Dictionary, 2012). Theoretically, the development of professions evolved from sociological thought based on structural and attitudinal characteristics (Hall, 1969). Current thought describes professions as consisting of knowledge gained through

education, applied techniques gained from education and training, a sense of authority and mastery within the field, and an inherent sense of professional cultural norms and language (Flexner, 2001; Hall, 1969). Professions are comprised of experts, or professionals, who have achieved a level of skillfulness or mastery necessary to engage in practice. Professional skill development comes from both formal and informal learning (Dall'Alba & Sandberg, 2006). Van Maanen and Barley (1984) described an occupational community as consisting of people whose identity is partially based on the mastery of specific occupational tasks. According to Kerr, Von Glinow, and Schriesheim (1977), a profession is a specific type of occupation where members exhibit high levels of specific characteristics such as a belief in the importance of the services the profession provides and a belief in the regulation of the profession by its members.

The developmental process of obtaining the necessary education, training, and experience for a profession is what characterizes a discipline. According to the *Oxford English Dictionary* (2012), a discipline is a branch of knowledge, typically one studied in higher education. A discipline is characterized by planned instruction and can be thought of as a systematic method of organizing and studying phenomena (Lattuca & Stark, 1994). Disciplines experience developmental evolution from various vocational influences to autonomous, self-contained fields of study.

Gerontology initially evolved from a medical model and branched to a multidisciplinary profession, drawing concepts, methods, and issues from numerous fields including medicine, biology, the social and behavioral sciences, and the care professions (Lowenstein, 2004).

The Development of Gerontology

The emergence of gerontology as a distinct academic discipline parallels a global demographic shift that has necessitated heightened public and professional awareness of the need for specific knowledge to serve the growing population of those 65 and older. Lowenstein (2004) postulates that disciplines require three distinct elements to bridge their developmental progression: theoretical developments, the institutionalized shaping of a discipline, and the proliferation of educational programs.

Theoretical development. Theoretical development in gerontology has focused on biological, psychological, and social aspects of aging related to lifespan development. Theoretical aging concepts have taken an integrative disciplinary approach incorporating elements of each discipline into a common framework. For example, lifespan developmental approaches have extended research across the entire life course, highlighting the lifelong processes of acquisition, maintenance, and transformation of biopsychosocial functions. For example, life-course perspective (Elder, Johnson, & Crosnoe, 2003) is one of the most commonly cited theoretical perspectives in social gerontology (Bengston et al., 1997). Life-course perspective places life-span development in a social context and supports a broad range of aging-related research questions (Alkema & Alley, 2006). Ecological theories of aging have been developed that incorporate social and environmental characteristics within the context of individual age-related change over time (Wahl & Weisman, 2003). The field of aging research has burgeoned to include an optimal aging approach that underscores compensatory processes in physical, cognitive, and social domains, as well as economic and cultural influences. Biological theories such as stress theories of aging (Finch & Seeman, 1999) and allostatic load (McEwen & Stellar, 1993) have posited increased rates of aging for

those individuals with greater exposure to social and psychological stressors. Aging developmental theory accounts for individual differences increasing with age as people become less alike and more rooted in individuation of aging.

Institutionalized shaping of a discipline. In the 1940's, the field of study of gerontology was based on medical studies of health problems associated with aging (Wendt & Peterson, 1993). Gerontology's developmental progression as a teaching discipline continued in the 1950's and 1960's with the Inter-University Training Program in Gerontology and with the development of the Administration on Aging (AoA) in 1965 (Wendt & Peterson, 1993). The AoA provided grant funding to support training of professionals working with older adults, as well as encouraged the development of university degree programs (Wendt & Peterson, 1993). The cornerstone of gerontological curriculum was developed during the 1980's when the Association for Gerontology in Higher Education (AGHE) and the Gerontological Society of America (GSA) issued a final report of the Foundations for Gerontological Education project (Johnson et al., 1980).

Proliferation of educational programs. During the 1960's, the passage of federal legislation (e.g., Medicare, Medicaid, and the Older Americans Act), and the increased visibility of the growing older adult population raised awareness for the need for professionals prepared to serve the aging population. Since that time, there has been tremendous growth in academic degree programs focused on older adulthood, and gerontological knowledge has proliferated through a continuously expanding body of journals and textbooks. In 1957, fifty-seven university programs offered at least a one-credit course in aging (Donahue, 1960), and today there are well over 1,000 academic gerontology programs at over 500 institutions of higher learning, including 150 graduate (masters)

programs and seven doctoral programs (Bass & Ferraro, 2000). Since the 1980's, academic degree programs have proliferated on the graduate level, with a high level of consistency between programs based on the content areas outlined in the Foundations for Gerontological Education project (Lowenstein, 2004). The Foundations for Gerontological Education focuses on the components of a basic core knowledge essential for all people working in the field of aging and on the proliferation of knowledge essential for professionals related to biomedical science, human services, social and physical environment including psychology, nursing, nutrition and social work (Johnson, 1980). In addition, proliferation of educational programs is evidenced by the development of university-based research centers in aging and professional associations (Bass & Ferraro, 2000).

According to Lowenstein (2004), a decade ago gerontology was at the developmental point of becoming a distinct academic discipline and had transcended from a medical model, to a multidisciplinary field, and finally to an interdisciplinary profession (Figure 2). A multidisciplinary approach uses a discipline-specific format that promotes independent decision making by each discipline rather than a coordination of information across disciplines (Dyer, 2003). An interdisciplinary approach promotes interdependence among various disciplines, encouraging shared communication and decision-making responsibilities (Dyer, 2003). This paper presents dynamic system theory as a theoretical framework to study the development of a discipline. Although dynamic system theory provides a general approach to human development, it can be applied to the development of organizations and systems, such as a discipline.

Centers of Foci	Start here →	Phase 1 Early stage 1940s-1960s ⇨	Phase 2 Middle stage 1960s-1980s ⇨	Phase 3 Late stage 1990s-present
	Individual/micro	Culture	Users and professionals	Values
	Contextual/community	Drawing on other disciplines	Multidisciplinarity	Interdisciplinarity Technology
	Societal/macro	Demography	Long-term care services	Academic programs International recognition

Reprinted from "Gerontology coming of age: The transformation of social gerontology into a distinct academic discipline" by Lowenstein, A., 2004, *Educational Gerontology*, pg 133.

Figure 2. Lowenstein's analytic framework for gerontology as a discipline

Dynamic System Theory

Dynamic system theory (Thelen & Smith, 1998) takes a "big picture" approach to development by considering the multiple, mutual, and continuous interaction of all the levels of the developing system (Miller, 2002). According to dynamic system theory, new behaviors or skills emerge from interactions of the parts of a complex system (Miller, 2002). Dynamic system theory represents an intricate system comprised of individual elements embedded within, and open to, a complex environment. Behavior of the system is generated by the relationships between the components, and the opportunities of the environment representing a self-organized system in which the dynamic nature of mutually influencing parts impact overall development (Smith & Thelen, 2003). Dynamic system theory embraces emergence of new forms or ideas through ongoing processes that are intrinsic to the organizational system (Smith & Thelen, 2003).

A discipline is a unique fundamental focus of study that emerges to help answer questions through the development of goals and objectives (Liles, Johnson, & Mead, 1996). Dynamic system theory describes the emergence of a discipline through the generation of new ideas and knowledge. Dynamic systems are characterized by interconnectedness, the interrelationships of all variables, whereby changes in one variable will have an impact on all other variables that are part of the system (De Bot, Lowie, & Verspoor, 2007). Systems are constantly changing and developing through internal self-reorganization, external influences, and variation (DeBot, Lowie, & Verspoor, 2007).

Gerontology as a Dynamic System. As a discipline, gerontology demonstrates many of the core characteristics of dynamic systems theory including interconnectedness of the subsystems (e.g., the relationships between academic programs in gerontology, practice disciplines serving the aging population and aging service providers), variables that interact over time, and variation among the individuals that comprise the system. From a dynamic system theory perspective, the continued development of gerontology as a discipline is dependent upon the interconnectedness of all the multiple disciplines within the larger gerontological system that interact over time and vary among the individuals within the system.

The system of interconnectedness in gerontological services includes a variety of academic and practice disciplines that provide services to older adults. In addition to gerontologists, other professions in the aging services include physicians, nurses, physical therapists, occupational therapists, audiologists, speech-language pathologists, dietitians, psychologists, and social workers (American Medical Association, 2012). Other important stakeholders from the aging services network include administrators in hospitals and assisted

living communities, hospice workers, financial managers, architects and engineers, computer specialists, law enforcement personnel, and legislators (Goldberg, Koontz, Rogers, & Brickell, 2012). The aging services network is a term used to describe the vast network of people and organizations that serve the aging population. This network employs a variety of professionals and paraprofessionals from different educational backgrounds and training modalities.

Types of community networks serving older adults. A service network or community can be viewed as a dynamic social structure and system that enables groups of people to share knowledge and resources (Fischer, Rhode, & Wulf, 2007). Generally, service communities are organized around different types of practice (Community of practice) or interest (Community of interest) and can join together to create interrelated networks that share common practice (Network of practice) (Fischer, Rhode, & Wulf, 2007). Table 1 characterizes the differences between a Community of Practice (CoP), a Network of practice (NoP) and a Community of Interest (CoI).

A community of practitioners formed around shared knowledge and interest can be referred to as a community of practice (CoP). A community of practice consists of a learning model that acts as a living curriculum for practitioners and apprentices (Wenger, 1998). In CoP's members work together in an interdependent manner, and have a responsibility, at least implicitly, for the reproduction of their community and their practice (Fischer, Rhode, & Wulf, 2007). Examples of communities of practice include e-learning communities, apprenticeship programs, and research work groups. In contrast, in a network of practice (NoP) members share a common practice but do not work together in a way that

Table 1

Differentiation of Communities of practice, Networks of practice and Communities of interest CoI's

Dimensions	CoP's	NoP's	CoI's
Nature of problems	Same task in the same domain	Different tasks in the same domain	Common task across multiple domains
Knowledge development	Refinement of one knowledge system; new ideas coming from within the practice	Refinement of one knowledge system; new ideas coming from within the practice	Synthesis and mutual learning through the integration of multiple knowledge systems
Major objectives	Codified knowledge, domain coverage	Codified knowledge; domain coverage	Shared understanding, making all voices heard
Weaknesses	Group-think	Group-think	Lack of a shared understanding
Strengths	Shared ontologies	Shared ontologies	Social creativity, diversity, making all voices heard
People	Beginners and experts; apprentices and masters	Members of the network who share a common practice	Stakeholders (owners of problems) from different domains
Learning	Sustained engagement and legitimate peripheral participation	Sustained engagement	Informed participation

Reprinted from "Community-based learning: The core competency of residential, research-based universities" by Fischer, G., Rohde, M., & Wulf,V., 2007, Computer-Supported Collaborative Learning, pg 14.

requires interdependence or coordination (Brown & Duguid, 2000). A NoP is a distributed aggregation of members who share common interests and values. NoP members typically develop their network through face-to-face or online conferencing, mailing lists, and social networking interaction (Anderson, 2009).

As a dynamic system, gerontology consists of a variety of professionals with various levels of education and training that share a common goal of addressing the needs of the aging population. However, care and services for older adults are often conducted in

isolation; therefore this paper proposes that gerontology is currently best viewed as a network of practice (NoP). A NoP is a broad community that cuts across different organizations; and consists of communities within smaller communities, referred to as networks (Tagliaventio & Mattarelli, 2006). Within a NoP, common practice is used as a reference for group members to facilitate communication (Brown & Duguid, 2000). Although these networks share practice and knowledge, network members often have little opportunity for personal or professional interaction (Tagliaventio & Mattarelli, 2006). For example, a common interest in working with and/or on behalf of the aging population is the foundation for a gerontological NoP. However, diverse educational and training programs that prepare students to work with older adults provide a variety of academic and professional concentrations and areas of focus (Haley & Zalinski, 2007) and therefore don't always provide the opportunity for interaction and cross-learning.

The complexity of the biopsychosocial model of aging necessitates a collaborative team approach to gerontological education and service delivery that crosses disciplinary knowledge and perspectives (Alkema & Alley, 2006). Therefore, gerontological education may be better viewed as a dynamic system that allows for the interaction between the systems, or the disciplines, in order to develop shared understanding and collaboration. This dynamic system approach is captured by the concept of a community of interest (CoI); which is defined by a collective concern with a particular problem or issue (Fischer, Rhode, & Wulf, 2007). For example a diverse group of people who all support legislation for gun control can be described as a community of interest. Collectively, stakeholders from CoP's and NoP's form a community of interest (CoI). Members of CoI's are informed participants who act as both experts and novices by both communicating and receiving knowledge in

their areas of expertise (Brown, Duguid & Hailand, 1994). A CoI represents a collaboratively constructed and evolved system of shared knowledge that crosses disciplinary boundaries but shares a collective concern. Within a community of interest, participants shift among the roles of learner, designer, and active contributor (Rogoff, Matsuov, & White, 1998). A CoI incorporates the opinions and beliefs of the wider community into the development of a shared knowledge base that forms the discipline.

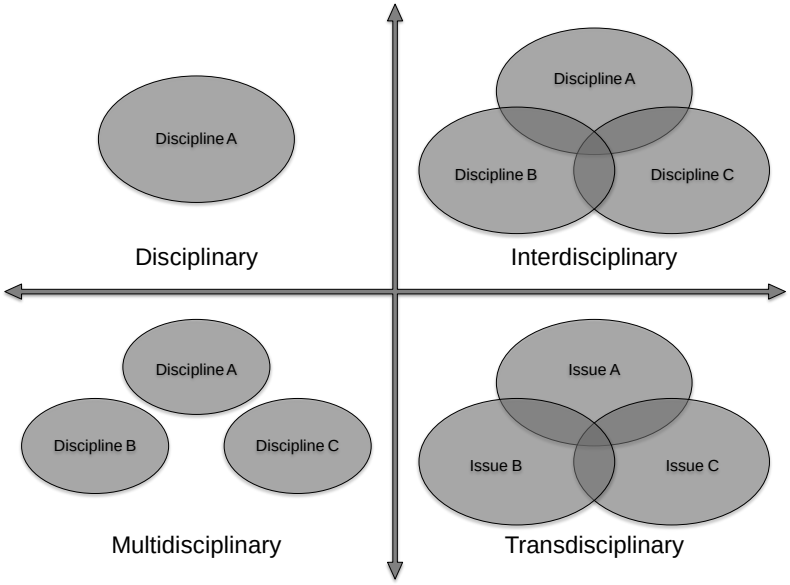
A community of interest captures the dynamic system that encompasses potential innovation by synthesizing learning opportunities through multiple knowledge systems. In other words, a CoI addresses a variety of perspectives through shared understanding and collective and social intelligence of a variety of disciplinary perspectives. This is an essential point since communication among professionals from within the CoI can be difficult because they come from different CoP's and NoP's and therefore use different language and different conceptual knowledge systems (Fischer & Redmiles, 2008).

A community of interest capitalizes on a dynamic system theory approach to aging services by promoting interprofessional understanding and collaboration within aging education. A gerontological CoI frames aging education around the development of collaborative skills that reflect the contributions of a variety of professionals and disciplines. This collaborative approach to the growth of gerontology as a discipline highlights a system of shared language and communication skills between professionals in all aging specialties. Growth of the field of gerontology is then viewed as a shared task that transcends disciplinary boundaries, essentially making all voices heard, and developing the objective of a shared understanding, and the shared goal to best serve the needs of older adults.

Using a CoI approach, the continued development of the discipline of gerontology accounts for all the different applied and theoretical fields, as well as discipline-specific programs, that contribute to gerontological knowledge and practice. What is needed is a theoretical approach that moves beyond multidisciplinary and interdisciplinary models and embraces a transdisciplinary approach. A transdisciplinary framework can be used as a model to develop educational initiatives for a community of interest (Fischer, Rhode, & Wulf, 2007). While an interdisciplinary approach promotes interdependence among various disciplines, encouraging shared communication and decision-making responsibilities (Dyer, 2003); a transdisciplinary approach promotes shared knowledge, skills, and responsibilities that cross disciplinary boundaries, representing all the interconnected systems within the community of interest.

Gerontology's Future: A Transdisciplinary Model

Transdisciplinary education focuses on the abilities required for lifelong learning of students in all disciplines by the acquisition of collaborative skills in addition to and along with in depth knowledge in particular specialties (Fischer, Rhode & Wulf, 2007). Transdisciplinary education utilizes the knowledge of different disciplines in the study of complex problems and relies on the interdependence of these disciplines to work together in the search for solutions to these problems (Skinner, 2001) (Figure 3). Transdisciplinary education is designed to cross different knowledge systems and nourish a middle ground between disciplines to promote problem solving of complex problems (Fischer, Rhode & Wulf, 2007).



Adapted from Lyall, C. (2013). What is interdisciplinary research? Melbourne Sustainable Society Institute. Retrieved March 18, 2013 from http://www.sustainable.unimelb.edu.au/content/pages/what-interdisciplinary-research.

Figure 3. Types of Disciplinary Practice

Transdisciplinary teamwork implies cross-training, including effective and frequent communication and efficiency in the delivery of services among a variety of professionals (Dyer, 2003). Fisher and Redmiles (2008) provide a clear and concise assumption to support the need for a transdisciplinary model of lifelong learning:

> If the world of working and living relies on collaboration, creativity, definition and framing of problems and if it requires dealing with uncertainty, change and intelligence that is distributed across cultures, disciplines, and tools – then education

should foster transdisciplinary competencies that prepare students for having meaningful and productive lives in such a world (pg 1).

From a transdisciplinary standpoint, gerontological education is embedded with mutual learning opportunities between different disciplines that strengthen collaborative problem framing. A transdisciplinary approach is appropriate for gerontology to address the complexities of biopsychosocial aging and to successfully navigate working in a team environment. The aging services network employs a variety of gerontologists, gerontological specialists and gerontology workers from diverse training modalities. A transdisciplinary framework capitalizes on this heterogeneous mix of educational backgrounds and transcends a distinction between disciplines by exploring professional ignorance and boundaries as a source of creativity and mutual learning. For example, a transdisciplinary framework promotes shared communication and collaboration among people from different disciplines (e.g., gerontology, nursing, and social work) and different educational levels (e.g., paraprofessional, bachelor's level, and doctoral level) thereby empowering students to learn from each other, in a shared team environment, building the skills needed to work in a complex environment.

The motivations, attitudes, and interests of those working in aging-related jobs can be explored to further develop educational initiatives and interventions that promote transdisciplinary understanding and collaboration. In other words, transdisciplinary gerontological education can embrace a distributed-intelligence paradigm promoting the collaboration of various disciplinary perspectives that is used to improve communication between professionals and consumers of services. Intelligence can be defined as the ability to learn or understand and to apply knowledge to one's environment (Miriam-Webster, 2013).

Distributed intelligence, as defined by Pea (1993) describes the thinking of people in action. In other words, activity is enabled by intelligence, and intelligence is shared by people. In a distributed-intelligence orientation, intelligence is accomplished rather than possessed, and the resources that shape and enable activity are distributed across people, environments, and situations (Pea, 1993).

In an educational setting, intelligence is typically viewed on an individual basis as the acquisition of new knowledge, the application of knowledge, and the cultivation of abilities. Formal learning settings often disregard the social, physical, and artifactual surroundings in which the learning activities take place (Pea, 1993). Within educational settings, intelligence is largely understood as a property of the minds of individuals. However, knowledge is commonly socially constructed through collaborative efforts and challenges brought about by differences in personal perspectives (Pea, 1993). Distributed intelligence accounts for how influences from within both academia and the community can change the property and context of what one "needs to know." Distributed intelligence describes a social intelligence whereby knowledge is constructed from joint activities and collaborative efforts that achieve shared aims (Pea, 1993).

Goals for transdisciplinary education include preparing students and professionals to live and work in a world in which intelligence is distributed across networks of people (Salomon, 1993). The needs of the community influence types of employment opportunities for gerontology graduates; therefore, the impact of these forces should be accounted for in the development of discipline-specific educational endeavors. The continued development of gerontology is presented as a collaborative process that embraces the views and contributions of the community of interest as a whole. In this manner, growth of the discipline of

gerontology is explored by examining the characteristics that contribute to the career development of the workforce that comprise the gerontological community of interest.

Career Development

A career is built through a lifelong process consisting of activities, attitudes, and behaviors that take place in a person's work life (Hall, 1986). According to Greenhaus, Callanan, & Godshalk (2000) a career also involves subjective interpretations of work related events, such as aspirations, expectations, values, and needs. A career is more than a job; it encompasses a process that involves attitudes, behaviors, and motivations for achieving goals (Adekola, 2011).

Career development is a process whereby personality characteristics, self-concept, career interests, and educational experiences coalesce, providing the individual with a framework for developing career choice and performing within that career. Vondracek, Lerner & Schulenberg, (1986) describe this model as a goodness of fit process characterized by a complex person-context scheme that accounts for both ecological and individual variables that contribute towards career development (Tinsley, 2000). Ecological factors represent a variety of factors, including economic conditions, social/educational policy, technological advances, and job opportunities. Individual factors involve a familial network, peers, school, and work experience (Vondracek, Lerner & Schulenberg, 1986).

Career was first approached from a developmental framework by Ginzberg, Ginsburg, Axelrad and Herma (1951), who described occupational choice as a process consisting of stages. The three stages span the period of young childhood (up to 11 years old) through adolescence. During the fantasy stage, children imagine themselves in a variety of career roles and can "act" them out through play. During the tentative stage, adolescents

develop more formed ideas of career interests, which culminate in the realistic stage, when the adolescent begins to make choices based on personal preferences and abilities.

Super (1957) extended Ginsberg's stage theory, and re-framed career development as a lifelong process that involves self-concepts and occupational preferences changing over time (Table 2). Super (1980, 1988) developed a life span and life space approach to career development that redefined vocational guidance and focused the impact of lifelong personal growth and change on vocational choices. Career development is a very deliberate process of building awareness of self, opportunities, constraints, choices and consequences (Hall, 1986).

Table 2.

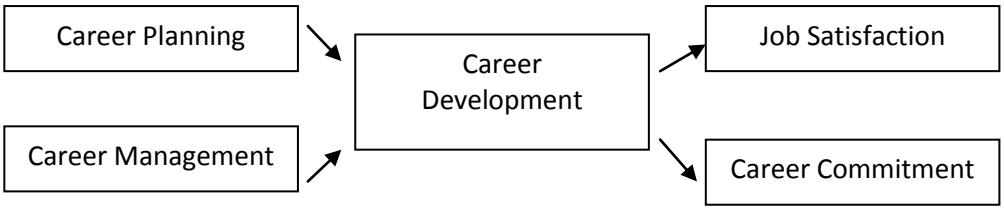
Super's Career Development Model

Career Stages	Substages	Psychological tasks that characterize each stage	Age range
Growth	Forming work attitudes and behaviors	Learning about the world of work	Birth-14
Exploration	Crystallization, specification, and implementation	To identify interests, capabilities, fit between self and work, and professional self-image	15-24
Establishment	Stabilization, consolidation, and advancing	To increase commitment to career, career advancement, and growth; To develop a stable work and personal life	25-44
Maintenance	Holding, updating, and innovation	To hold onto accomplishments earlier achieved; To maintain self-concept	44-64
Decline	Decelerating, retirement planning, and retirement living	To develop a new self-image that is independent of career success	65+

Adapted from Super, D.E. (1957). The psychology of careers. New York: Harper

Adekola (2011) conceptualizes a model of career development that addresses both antecedents, as well as potential outcomes, of career development (Figure 4). In Adekola's

model, career planning is viewed as the initiative that individuals exert over their careers by making informed choices as to their occupation and self development. Career planning also involves developmental experiences necessary to obtain career goals; such as establishing expectations and planning educational endeavors (Hall, 1986). Career management accounts for the steps taken to reach career goals by obtaining the skills, competencies, and values needed to succeed within the chosen career. Career management is an ongoing process of developing career plans undertaken by individuals along with organization in which they are employed (Hall, 1986; Greenhaus et al., 2000). Career management accounts for the perspective of the organization in the process of career development (Morrison & Hock, 1986). Career planning and career management are commonly cited antecedents of, or contributors to, career development (Adekola, 2011).



Reprinted from "Career planning and career management as correlates for career development and job satisfaction: A case study of Nigerian bank employees" by Adekola, B., 2011, Australian Journal of Business and Management Research, pg 101.

Figure 4. Conceptual Model of Career Development

Career Commitment. In the literature, job satisfaction and career commitment have been explored as potential outcomes of career development (Adekola, 2011; Colarelli & Bishop, 1990; Granrose & Portwood, 1987; Jepsen & Sheu, 2003). Job satisfaction is a positive emotional state that results from an individual's appraisal of experiences in the workplace (Gregson, 1987). Feelings about one's job, either positive or negative, is a

universal and essential aspect of career development (Jespen & Sheu, 2003). The concept of career commitment represents the strength of one's motivation to work in a chosen career (Hall, 1971). According to Collarelli & Bishop (1990), career commitment continues to become a more important aspect of occupational meaning as organizations become less able to guarantee employment security.

Research on career commitment in the discipline of gerontology has primarily focused on job and career commitment for professional caregivers. Drebing, McCarty, and Lombardo (2002) found that professional caregivers' commitment to their careers is most closely related to the interpersonal aspects of their work, the degree of personal growth or benefit experienced, and the level of burden generated by their work environment. Coogle, Parham, Jablonski, and Rachel (2007) found that a skills development training intervention positively influenced home care attendants' job satisfaction and level of career commitment. Coogle, Head, and Parham (2006) also found that a state-level training increased extrinsic job satisfaction among Alzheimer's care staff working in long-term care settings.

Several studies have examined career commitment through the lens of job retention in long-term care settings. A study by Parsons, Simmons, Penn and Furlough (2003) found that nurse's aides quitting decisions were positively associated with lack of job-related professional opportunities, dissatisfaction with supervision, and lack of communication with facility management. Francis-Felson et al. (1996) found that intent to stay in a job among Registered Nurses and Licensed Practical Nurses increased when supervisors showed an interest in their career aspirations. Simons and Jankowski (2008) found that greater job involvement and lack of a negative outlook increased social workers' job satisfaction and

commitment. Work load, facility size, social support, and job satisfaction have all been identified as predictors of job commitment within a long-term care organization (Rai, 2012). A study on commitment to aging practice among licensed social workers found that years of experience in social work and gerontology, perceived adequacy of training, number of colleagues in the work environment, appropriateness of delegated tasks, and annual income were predictive of professional commitment to work in aging (Simons, Bonifas, & Gammonley, 2011).

Within aging-related careers, the characteristics that individuals attributed to older adults contributed to the levels of professional commitment of those individuals (Simons, Bonifas, & Gammonley, 2011). For example, Amador (2007) found high level of job satisfaction among geriatric social workers who felt a high level of personal growth and enrichment from working with older adults. This study also found high job satisfaction was related to workers reporting a "calling" to the profession based on personal experiences as well as connections to older adults.

Career Motivation. One method of exploring the development of gerontology as a discipline is to explore what factors (e.g., life goals and life experience) contribute to choice of gerontology as a career (i.e., career motivation). Multiple theories attempt to explain motivation for selecting a career.

Career motivation theory first postulated that academic performance resulted from general traits such as the need to achieve and ability-related traits such as intelligence (Breen & Lindsay, 2002). Expectancy-value theory is one of the major frameworks for achievement motivation and regards expectancies of success or failure as major determinants of motivation for academic and career choice (Atkinson, 1957, Eccles, 1984). According to

Eccles (2005), academic choices are predicted by values (intrinsic goals), whereas academic performance is best predicted by expectation for success (external goals). There are conflicting findings in career motivation research, with support for career motivation both through intrinsic goals (Cosmin-Ross & Hiatt-Michael, 2005) and through external goals such as financial reward (Oyston, 2003). Breen and Lindsay (2002) developed a framework of motivations that incorporates both intrinsic goals and extrinsic motivations. Breen and Lindsay's (2002) theoretical framework of student motivation focuses on the differences between motivations of students studying different disciplines in order to consider how motivations interact with conceptions of disciplinary knowledge. Findings reveal that within discipline motivations are good predictors of student performance, recognizing that different types of motivations may lead to success in different disciplines.

Research on motivation for a career working with older adults has primarily focused on the clinical disciplines such as social work and nursing (Cummings & Galambos, 2002; Cummings, Galambos, & DeCoster, 2003; Robert, & Mosher-Ashely, 2000; Wesley, 2008). As well, most existing research has focused on students' motivations to work in the aging field, but has not addressed motivations of those already working in an aging-related career that do not have formal education and training. Identified influences and sources of motivation to work with older adults for those with formal training include: positive attitudes toward aging and older people, prior experience with older adults, the availability of career opportunities, exposure to professional role models and mentors, and degree of perceived reward in this line of work (Cummings & Galambos, 2002; Cummings, Galambos, & DeCoster, 2003; Gorelik, Rodriguez, Funderburk & Dolomon, 2000; Robert, & Mosher-

Ashely, 2000; Wesley, 2008). There are currently no empirical studies on career motivation specifically for the discipline of gerontology.

Reason, or motivation, for choosing a career in gerontology can have implications for educational pedagogy as well as implications for the development of professional identity and level of commitment to a career with the aging population. Understanding the relationships between intrinsic and extrinsic career motivations along with attitudes about aging, to professional identity and career commitment can inform professional practice and development of the discipline.

Attitudes—and Anxiety—about Aging

Motivation and desire to work with older adults can be influenced by knowledge and understanding of the aging process and attitudes about our own aging. Many in our society, however, recoil against aging, seeing it as something they dread for themselves; further, many want to avoid being around old people. Ageism, or the systematic stereotyping of and discrimination against people because they are old (Butler, 1969), is insidious in Western society. It is common in the public and has been noted as well among those who work with the aging population (Gellis, Sherman, & Lawrance, 2003). Healthcare professionals, among others, are more likely to be familiar with pathological aging than with healthy aging and therefore are likely to expect disease and disability as the norm for an aging individual (Rosowsky, 2005). According to Rosowsky, numerous clinical disciplines (e.g., social work, nursing, psychology and medicine) devalue the sub-specialty areas related to aging for reasons including: old people have poor prognoses, old age seems painful and sad, and old age is perceived as a state of deterioration. Education and training in gerontology can combat some of these beliefs; however, addressing attitudinal change or fear of our own

aging may not be an outcome of increased knowledge about aging based on formal training and education (Rosowsky, 2005) but may rather depend upon inner reflection and personal experience.

Wells, Foreman, Gething and Petralia (2004) found that nurses had less accurate knowledge about aging and higher personal anxiety about aging than other health professionals such as physicians and direct care staff. However, they also found that nurses with formal gerontological education were more likely to hold positive attitudes. Research on attitudes about aging in the field of social work demonstrated that non-social work students (e.g., psychology, business communications, etc) possessed significantly higher knowledge about aging than did the social work students (Anderson & Wiscott, 2004). In addition, personal aging anxiety, relationship quality with older adults, personal experiences, and ageist attitudes were significant contributors to attitudes about aging and desire to work with older adults (Anderson & Wiscott, 2004). Curl, Simons and Larkin (2005) found that increasing age, as well as personal and professional experiences with older people, predicted willingness to accept a job in aging.

Palmore (1988) found that attitudes toward older adults are related to knowledge level about aging. Negative attitudes toward older adults have an impact on student recruitment and interest in aging-related employment (Curl, Simons, & Larkin, 2005). Within the literature, common factors associated with a positive interest working with older adults include the experience of having cared for an older adult and possessing more positive perceptions of older adults (Robert & Mosher-Ashley, 2000). Common barriers associated with lack of interest in gerontology include: the public's stigmatized view of older adults, an emphasis on loss, the perspective that aging-related jobs require little creativity, and low pay

for those working with older adults (Sharlach et al, 2000; and Wesley, 2005). In a study on social work students and aging careers, Biggerstaff (2000) found that choice of career was influenced by family-of-origin and personal experiences, but that practice following graduation was influenced by the market economy.

Negative attitudes held by professionals about aging can result in poor treatment and lowered self-esteem of older adults (Hawkins, 1996). In addition, negative attitudes about aging held by those working with older adults can influence the quality of care provided (Grant, 1996). Grant (1996) advocates for the continued examination of attitudes toward aging and elderly people among health care providers as a mechanism of fighting ageism and improving quality of care. Building upon Grant's (1996) argument, it is feasible to consider that attitudes about aging can impact career commitment for those working with the aging population. With a greater understanding of the relationship between aging anxiety and career commitment, educators can better emphasize, stimulate, and guide in the development of best-practice approaches. Fear of aging can affect all areas of professional life. Many members of the gerontological workforce—including academics, advocates, policy makers, and health professionals—bring to their workplace the stereotypic attitudes we refer to as ageism (Angus & Reeve, 2006).

Tornstam (1992) suggests that these attitudes stem from deeply entrenched value patterns in Western society characterized by a strong performance orientation and focus on economic productivity and independence. Personal aging anxiety can manifest itself as a form of ageism and can have an impact on society by influencing policies, programs, and practice that affect older people. Fear of aging can limit the abilities of all who provide care and services to older adults, including those who choose to work with older adults (Snyder,

2005). In addition, fear of aging can potentially stand in the way of a potentially fulfilling career choice (Snyder, 2005). There is surprisingly little empirical evidence for age bias and/or fear of aging in relation to career commitment and professional identity development for professionals working with older adults.

Professional Identity

In its most simplistic definition, professional identity is the perception of oneself as a professional (Bucher & Stellings, 1977). How people feel about themselves within a professional context is integral to the overall development of a discipline. In the discipline of gerontology, professional identity addresses how gerontologists create their own professional paths. Professionally, a gerontologist can work in a variety of capacities. For example, an applied gerontologist works in social services, or training, while a research gerontologist works in the field of research, an administrative gerontologist works in a long-term care or assisted living facility, and an educational gerontologist is employed as a professor or instructor.

Professional identity development (PID) is a process of identification with a profession based on systematic and scientific knowledge that is gained during formal education and is based on attributes, beliefs, values, motives, and professional experiences (Dall'Alba & Sandberg, 2006; Ibarra, 1999). The process of developing a professional identity may begin as early as adolescence, where the degree to which one has explored and committed to an identity sets the stage for the choices in life domains, such as education and vocation, encountered in adulthood.

Erikson's (1950, 1968) eight developmental stages from birth through death highlights the challenge of identity development during adolescence. It is during the stage of

Identity and Repudiation versus Identity Diffusion that adolescents seek autonomy and begin to develop a unique sense of self identity that is distinguished from parental identities. Marcia's (1966) theory of identity achievement elaborated upon Erikson's work by incorporating a succinct decision-making process whereby the individual must engage in some degree of struggle and upheaval (crisis) in order to decide on a value or choice (commitment). According to Marcia, there are several potential outcomes of this adolescent developmental crisis/commitment paradigm. In identity foreclosure, adolescents commit to an identity without experiencing a crisis; in identity achievement, adolescents experience the crisis and achieve a commitment; those who experience identity moratorium are searching for an identity, but have not yet committed and therefore put a final decision on hold; and finally, in identity diffusion, neither a crisis nor a commitment is yet experienced, resulting in apathy and disengagement from figuring out a future.

The progression of development of identity continues for emerging adults choosing to further their education by incorporating yet a new identity, that of college student. McEwen's (2005) work on student identity approached development in terms of three distinct areas: psychosocial development, social identity development, and cognitive-structural development. Within a psychosocial development framework, emotions and maturity are developed within social experiences. Social identity refers more broadly to the development of cultural aspects of identity, such as ethnicity, gender, and sexual orientation. The cognitive-structural aspects of development address how students organize and process their experiences cognitively (Perry, 1981). As students mature and progress in their academic careers, they gain expertise and professional knowledge that coalesce to form the basis for career development and professional identity.

Professional identity is a developmental process that begins during the transition between school and career, or between jobs, as a key period of identity adaptation for those seeking a professional career (Ibarra, 1999), and consists of identifying oneself as part of a professional group. Arnett (2000) refers to this developmental period, between the late teens through the mid- to late twenties, as emerging adulthood. According to Arnett (2000), emerging adults experience exploration and change related to work, family, and education. The development of identity continues to play an integral role in the development of sense of self. Globalization of the economy and the abundance of societal choices and opportunities are markers of the opportunities available to emerging adults today. These changes provide opportunities for identity building that impact life choices such as working, traveling, achieving financial independence, or seeking additional education in a college or university setting. During this time frame, professional identity development (PID) expands upon the development of student identity by incorporating the knowledge and skills gained from academic study with the self-concept developed through professional experience.

Professional development is a social learning process that includes the acquisition of specific knowledge and skills that are required in a professional role, along with the development of the values, attitudes, and self-identity components consistent with a specific discipline (McGowen & Hart, 1990). The PID process of group and self-identification is subjective in nature and represents an important transition for both the individual and the collective workforce within the chosen discipline. The process of developing a professional identity is complex and involves the ability to integrate the demands of the work role in relation to individual personality characteristics and styles (Krejsler, 2005). The development of professional identity can be viewed as a process wherein an individual

incorporates the academic learning or training received in preparation for a profession along with the knowledge of the expected behaviors and expectations provided by experience working within the chosen field (Flexner, 2001; Krejsler, 2005). Gendron, Myers, Pelco and Welleford (2013) found that professional identity is highest among those with previous gerontological work experience.

Dissertation Study: Aims and Hypotheses

This study brings together the components that contribute to the careers of people working in the aging field, specifically the contributions of professional identity, career commitment, and initial and continued interest working in the aging field. This study has four major research questions. The first research question is to assess the contributions of career motivation, job satisfaction, and gerontological education to level of professional identity. Gerontological education reflects any level of formal, higher education training in gerontology (e.g., undergraduate certificate, master's degree or doctoral degree). The second major research question of the study is to assess the contributions of career motivation, job satisfaction, and level of education (MSE) to career commitment. The third research question is to assess the reasons for initial interest in working in the aging field and continued interest in working in the aging field. The fourth research question is to assess the impact of teamwork on professional identity and job satisfaction.

Aims and hypotheses. The specific aims and hypotheses for the current study are listed here. All measures are described in detail in the Method section.

AIM 1: To determine whether MSE are predictive of level of professional identity.

- **Hypothesis 1.** Career motivation, job satisfaction and gerontological education will each significantly ($p<.05$) predict professionals' self-reported overall level of

professional identity. This hypothesis is examined using hierarchical multiple regression.

AIM 2: To determine whether MSE are predictive of level of career commitment.

- **Hypothesis 2.** Career motivation, job satisfaction and exposure to gerontological education will each significantly ($p<.05$) predict professionals' self-reported overall level of career commitment. This hypothesis is examined using hierarchical multiple regression.

AIM 3: If there is support for Hypothesis 2, and predictor variables significantly predict career commitment, an aim is to assess whether the strength of the effect of the predictor variables on career commitment differs for professional identity in three aging categories (Being an aging specialist is: at the core of my professional identity, an add-on to my professional identity, is not a part of my professional identity). Stated another way, an aim is to see whether the strength of association between the predictor variables and career commitment change as a function of the moderator variable, Professional Identity in Aging (PIA). Path diagrams are helpful in clarifying hypothesized relationships between variables (Jaccard, Guilamo-Ramos, Johansson & Bouris, 2006). Figure 5 outlines the relationships explored in this study with the straight, solid arrows (path 'a' and path 'c') examining the main effects and the dotted line (path 'b') examining the effect of the moderator variable. This hypothesis is examined using hierarchical multiple regression using interaction terms (product of aging career identity by predictors). The moderator hypothesis is supported if the interaction step in the regression (path 'c,' the interaction terms of PIA X motivation/satisfaction/education) is significant.

- **Hypothesis 3.** Level of career commitment, job satisfaction and career motivation will differ for professional identity in three aging categories (Being an aging specialist is: at the core of my professional identity, an add-on to my professional identity, is not a part of my professional identity). It is hypothesized that those who identify being an aging specialist at the core of their professional identity will have higher level of career commitment, job satisfaction and career motivation than those who identify aging as an add-on to their identity or as not a part of their identity.
- **Hypothesis 4**. Professional identity in aging will moderate the relationship between job satisfaction, career motivation and gerontological education and level of career commitment, such that the association between job satisfaction, career motivation and gerontological education and level of career commitment will differ for participants in the three professional identities in aging categories.

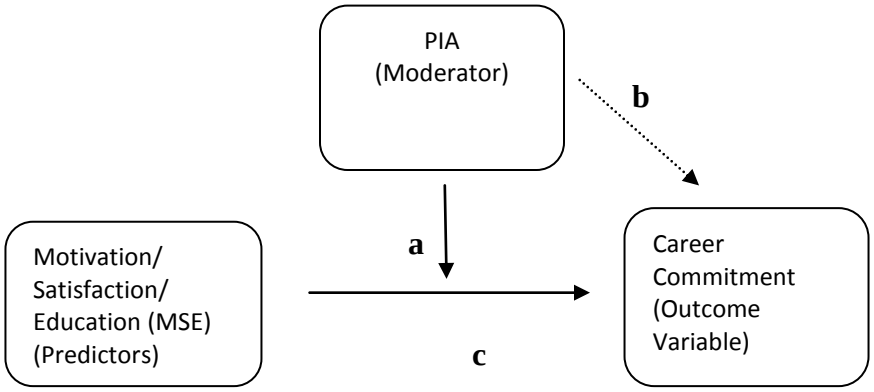


Figure 5. Moderated relationship in a path diagram

AIM 4: If there is support for Hypothesis 2, and predictor variables significantly predict career commitment, an aim is to assess whether the strength of the effect of the predictor variables (job satisfaction) on career commitment, and professional identity is mediated by

the presence of aging anxiety. Stated another way, an aim is to see whether presence of aging anxiety explains the relationship between the predictor variables and career commitment. Figure 6 outlines the relationships explored with mediation analysis when an independent variable is thought to have influence on a dependent variable through a third variable (Barron & Kenny, 1986). In this case, the influence of motivation/satisfaction/ (path 'c') on career commitment is explained by aging anxiety (path 'a' and path 'b').

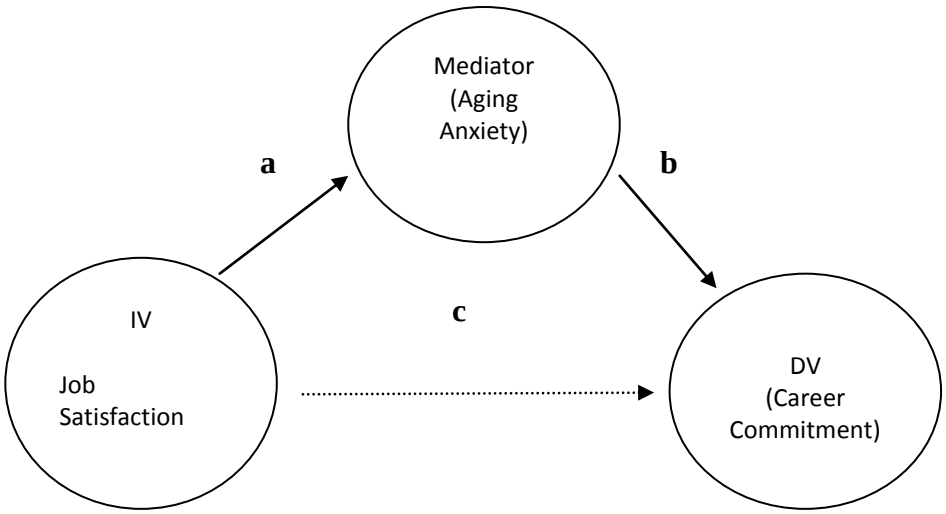


Figure 6. Mediated relationship in a path diagram

- **Hypothesis 5.** Presence of aging anxiety will mediate the relationship between job satisfaction and level of career commitment, such that the association between the construct and level of career commitment will be lower for participants who report a high level of anxiety about personal aging. This hypothesis is examined using a multiple regression with mediation model.

AIM 5: To determine whether participation in teams and perceived value of teamwork (as measured by the teamwork value scale) is predictive level of professional identity and job satisfaction.

- **Hypothesis 6.** Team participation and perceived value of teamwork will each significantly ($p<.05$) predict professionals' self-reported overall level of professional identity and job satisfaction. This hypothesis is examined using hierarchical multiple regression.

AIM 6: To describe the reasons for initial interest in working in the aging field through analysis of career interest items.

Method

Participants. Approximately 1,005 people responded to the survey; however, 248 cases were eliminated that were missing at least 90% of the responses to the questions. The final study sample consisted of 757 participants who work with adults and older adults in the United States that responded to at least 80% of the items in the survey. The study population was recruited from volunteers invited from a convenience sample of approximately 7,000 members signed up to receive emails from the Department of Gerontology at a Southeastern University, and a snowball approach with the link to the survey being distributed by various organizations and institutions (e.g., assisted living facilities, Southern Gerontological Society, Therapeutic Recreation Association). Eighty six percent of the participants lived in Virginia, 4% in Pennsylvania, 2% in North Carolina and the remainder from one of 23 other States. Thirteen participants who work primarily with infants and children were excluded from the sample. The mean age of the sample was 50.2 (SD = 12.9) with a range of 20 to 83 years of age. Table 3 describes the demographic characteristics of the sample.

Power analysis. An *a priori* power analysis was completed to calculate the number of cases needed to detect small, medium, and large effects. G*Power 3.1 was used to conduct the power analysis (Faul, Erdfelder, Lang, & Buchner, 2007; Faul, Erdfelder, Buchner, & Lang,

2009). R^2 estimates were entered into G*Power 3 to calculate Cohen's *f2* statistic for small, medium, and large effect sizes (*f2*= .02, *f2*= .15, and *f2*= .35), and the estimated number of predictor variables. It was estimated that there would be 6 variables for both the professional identity and career commitment analyses. Findings from this power analysis indicated that at least 67 participants were needed to detect a large effect, 146 to detect a medium effect, and 1,050 cases to detect a small effect. For the purpose of the dissertation, the overall sample size (*n* = 757) is more than adequate and exceeds recommendations for sample and group size in an exploratory survey (e.g., Fowler, 1993; Dillman, Smyth, & Christian, 2009).

Table 3
Demographic Characteristics of Participants (N =743)

Characteristic	*n*	%	*M*	SD	Range
Age			50.5	12.9	20-83
Gender					
Female	687	91			
Male	69	9			
Marital Status					
Single	120	16			
Married	471	62			
Divorced	90	12			
Partnered	12	2			
Widowed	20	3			
Unknown	25	3			
Ethnicity					
Caucasian	598	79			
African American	93	12			
Asian	9	1			
Hispanic/Latino	7	1			
American Indian	5	1			
Other	8	1			
Unknown	37	5			
Level of Education					
High School/GED	21	3			
Some College	124	17			

Bachelor's Degree	270	36
Master's Degree	264	36
Doctoral Degree	60	8
Degree in Gerontology		
Yes	158	21
No	598	79
Highest Level Gerontology Training		
Undergraduate Certificate	29	19
Bachelors in Gerontology	9	6
Graduate Certificate	39	26
Masters in Gerontology	63	41
Doctorate in Gerontology	12	8
Income		
Less than $10,000	8	1
10,000- 19,999	15	2
20,000 – 29,999	47	6
30,000 – 39,999	108	15
40,000 – 49,999	132	18
50,000 – 59,999	99	13
60,000 – 69,999	66	9
70,000 – 79,999	56	8
80,000 – 89,999	33	5
90,000 – 99,000	24	3
100,000 – 149,999	51	7
150+	8	1
Prefer not to say	89	12

Procedure

A wide variety of individuals from the Department of Gerontology listserv (e.g., former students, professionals in the field, etc.) were sent an email informing them of the study and inviting their participation. In addition, several organizations distributed the survey link via email to their subscribers (e.g, Beard Center on Aging, Therapeutic Recreation Association, and Chesterfield Council on Aging). It is impossible to determine exactly how many people received the survey. Approximately 7,000 people were contacted via the Gerontology Department listserv. About 1,000 people responded, potentially yielding a 14% response rate. An unknown number of the participants came from the other emailed

invitations, however, so we cannot know the response rate from the Gerontology listserv or the other sources. Informed consent was explained to all participants before beginning the online survey. Informed consent explained the purpose of the study, expectation for completion, confidentiality, and risks in participation. After completing the survey, participants confirmed their consent by clicking "finish" and submitting their survey answers. The survey was in RedCap and took approximately 20 minutes to complete. Survey items included both closed and open-ended questions. Survey results were anonymous and confidential with no identifiers being used in the data collection. No risks or discomforts were anticipated from taking part in this study. Withdrawal from the study was available at any point during the survey. Participants on the Department of Gerontology listserv received two email reminders within a one-month period. All email correspondence contained an opt-out message with instructions on how to be removed from the email list. No emails were received with an opt-out request. The study protocol was approved by the university's Internal Review Board (IRB).

Measures

Personal Background Variables. Demographic variables included gender, age, highest level of education, year of graduation, race, ethnicity, marital status, and income level. A list of measures can be found in Appendix 1.

Clarity of Professional Identity. Clarity of professional identity is a 4-item scale developed by Dobrow and Higgins (2005) (Appendix 1). Items are rated on a seven-point Likert scale, where 1 = strongly disagree, 4 = neutral, and 7 = strongly agree. Discriminant validity for Clarity of Professional Identity was consistent when differentiating from career

planning, career self-efficacy and perceptions of career success measures (Dobrow & Higgins, 2005). A previous study reported a Cronbach's alpha of .90 (Dobrow & Higgins, 2005), and the Cronbach's alpha for the present sample was .89. The score used is a mean score in which higher scores indicate greater clarity of professional identity. Professional identity was defined for participants as follows:

"Professional identity integrates the demands of the work role and your individual personality characteristics and styles. Professional identity consists of identifying yourself as part of your professional group" (Gendron, 2012).

Professional Identity in Aging. This question was developed for Gendron, Myers, Pelco & Welleford (2013) and classifies level of professional identity as a gerontologist or aging specialist. Participants choose the best response of the following: Being a gerontologist/aging specialist is at the core of my professional identity, being an aging specialist is an add-on to my professional identity, being an aging specialist is not a part of my professional identity.

Teamwork. The teamwork questionnaire was adapted for this study from the attitudes toward health care teams scale (Leipzig et al, 2002) to assess attitudes about whether team care improves outcomes for residents, patients or clients. The Attitudes toward health care teams scale originally consisted of 11items and was adapted for this study to a 9-item scale that eliminates items specifically referring to work in a hospital setting, and adds an item about satisfaction working in a team (Table 4). A five-point Likert scale is used ranging from 1 (strongly disagree) to 5 (strongly agree). The score used is a mean score in which higher scores indicate more value on teamwork. A previous study by Hyer, et al.

(2002) reported a reliability estimate (Cronbach's alpha) of .85, and the internal consistency for the present sample is .94.

Table 4

Adaptation of Attitudes Toward Team Value Scale

Leipzig et al. (2002) Attitudes toward team value scale	Adapted item
The team approach improves the quality of care to patients	The team approach improves the quality of care to residents/patients/clients
Team meetings foster communication among team members from different disciplines.	No change
Patients receiving team care are more likely than other patients to be treated as whole persons	Eliminated
Working on a team keeps most health professionals enthusiastic and interested in their jobs	No change
The give and take among team members helps the make better care decisions	No change
Developing a patient care plan with other team members avoids errors in delivering care	Eliminated
Health professionals working on teams are more responsive than others to the emotional and financial needs of patients.	No change
The team approach makes the delivery of care/services more efficient	No change
The team approach permits health professionals to meet the needs of family caregivers as well as patients	The team approach permits health professionals to meet the needs of family caregivers as well as residents/patients/clients
Having to report back to the team helps team members better understand the work of other health professionals	No change
Hospital patients who receive team care are better prepared for discharge than other patients	Eliminated
I enjoy working on a team with my team coworkers	Added

Career Motivation and Interest. The career interest questionnaire was adapted for this study from the work of MacLaren (2009) to assess 12 (from the original 14) factors identified by MacLaren as contributing to initial interest in the aging field. Sample factors are career opportunities in the field; desire to meet a societal need, and knowledge about the population. Participants are asked to select the most important contributing factors (of 12 factors) to their initial interest in the aging field. Participants are then asked to rate each of the 12 factors on a 5-point Likert scale ranging from 1 (not at all) to 5 (strongly) in order to assess overall motivation for a career in the aging field. The score used is a mean score in which higher scores indicated greater sources of motivation.

Job Satisfaction. The Job Satisfaction measure is a 9-item scale that was adapted by Adekola (2011) from the Job Diagnostic Survey (Hackman & Oldham, 1980) and aims to measure satisfaction with current job. A five-point Likert scale is used that ranges from 1 (strongly disagree) to 5 (strongly agree). The score used is a mean score in which higher scores indicate greater job satisfaction. A study by Adekola (2011) confirmed construct validity with factor analysis and reported a reliability estimate (Cronbach's alpha) of .92, with the internal reliability of the current sample .93.

Career Commitment. The career commitment scale originally consisted of 8-items adapted by Adekola (2011) from the work of Chay and Bruvold (2003), and Colarelli and Bishop (1990) to measure the development of personal career goals, and the attachment to, identification with, and involvement in those goals. Adekola's career commitment scale was further adapted for this study, and consists of a 6-item scale that specifically references working with the aging population (Table 5). A five-point Likert scale is used ranging from 1 (strongly disagree) to 5 (strongly agree). The score used is a mean score in which higher

scores indicate greater commitment to career. A previous study by Adekola (2011) confirmed construct validity with factor analysis and reported a reliability estimate (Cronbach's alpha) of .90; the internal reliability for the current sample is .86.

Table 5.

Adaptation of Career Commitment Scale

Adekola (2011) Career Commitment Item	Adapted item
I am happy to develop my career with the Bank	I am happy to develop my career working with older adults
I believe this career is a great career to work in.	I believe that a career with the aging population is a great career to work in.
I would be very happy to spend the rest of my career with the Bank.	I would be very happy to spend the rest of my career working with older adults.
I enjoy sharing about the work in the bank with people outside of it.	Eliminated
I feel bonded to the bank.	Eliminated
One of the major reasons I continue to work for this bank is that another organization may not match the overall career opportunities I have here.	Eliminated
I am proud to tell others about my career.	I am proud to tell others about my career working with older adults
I am not thinking of shifting to another career.	I am not thinking of shifting to another career that doesn't involve older adults.
I wish that I was working with a different age group	Added item (reversed-scored)

Aging Anxiety Scale. The Aging Anxiety scale (Lasher & Faulkneder, 1993) is a 20-item scale that requires participants to indicate on a 5-point Likert scale the extent to which they agree or disagree on statements related to overall anxiety, as well as four dimensions on anxiety about aging: fear of old people, psychological concerns, physical appearance, and fear of losses. Lasher and Faulender (1993) found high internal consistency reliability (Cronbach's alpha) of .82 for the overall scale, and Cronbach reliabilities for each of the four subscales have been reported to be .78, .74, .71 and .69 for fear of old people, psychological

concerns, physical appearance, and fear of losses scales, respectively (Lasher & Faulkneder, 1993). For this sample, the internal consistency reliability (Cronbach's alpha) for the overall scale was .85 and Cronbach reliabilities for each of the four subscales were .79, .75, .61 and .75 for fear of old people, psychological concerns, physical appearance, and fear of losses scales, respectively. As the alpha for physical appearance was below .70, this subscale was not used as a stand-alone scale in any analyses; its contribution was maintained in the overall scale. Construct validity was tested by demonstrating negative correlations with amount of contact, self efficacy, and knowledge of aging and positive correlations with quality of contact with the elderly. The score used is a mean score in which higher scores indicate greater overall anxiety about aging, fear of old people, psychological concerns, physical appearance and fear of losses.

Open ended: Why did you choose a career working with/or on behalf of older adults? What are the reasons that you continue to work with/or on behalf of older adults? Do you believe team work is important for your job? Why? Note, this question was included in the survey but results are not presented in this report.

Results

Overview

This section begins with a review of the variables explored in this project, then the data preparation and data cleaning procedures that were conducted prior to analysis. Next, the descriptive statistics of the variables relevant to this study are presented and the bivariate associations (intercorrelations) between predictors, covariates, and the dependent variables are presented.

Review of variables

The first goal of this study was to investigate the role of career motivation, job satisfaction, and attitudes about aging in predicting professional identity and career commitment among professionals both with and without formal education that are working with the aging population. Since the discipline of gerontology represents numerous fields of study and practice, the sample is first described by occupation and level of education. Next, the relationships between the predictor variables (i.e., career motivation, job satisfaction, and attitudes about aging) and outcome variables (professional identity and career commitment) are presented. Career motivation, job satisfaction, and attitudes about aging are also explored by occupation in order to assess if there are any significant differences between practice fields within gerontology.

A second goal of this study is to evaluate the potential for transdisciplinary practice within the discipline of gerontology. Therefore, participation in teamwork and perceived value of teaming are described by occupation. In addition, participation in teamwork and perceived value of teaming are explored as potential predictors of commitment to an aging career.

Data Preparation

This section reviews the data preparation procedures, specifically the treatment of Univariate outliers. IBM SPSS v20.0 software was used for all procedures.

Univariate Outliers. A case was considered an outlier if it had standardized scores that were three or more standard deviations away from the mean. For continuous IVs, the ranges for each variable were examined and outliers were Winsorized (i.e., recoded into the most extreme acceptable scores). All continuous variables were re-examined again for univariate outliers. No remaining outliers were identified. Descriptive statistics and bivariate

relations in the Methods and Results section reflect these variables after outliers had been Winsorized. Fewer than 10 cases were Winsorized for each variable.

Descriptive Statistics

Descriptive statistics are presented in this section for all variables included in analyses. Descriptive statistics were calculated for continuous independent and dependent variables in the form of means and standard deviations, and frequencies for categorical variables.

Occupation and Education. Twenty one percent of the sample (n = 158) reported that they have received formal education (degree or certificate) in gerontology; while, 5% (n = 38) of respondents are currently enrolled in a gerontology program. However, 32% of respondents (n = 243) believe that formal training in gerontology is necessary for their job, 41% (n = 313) recommend formal training in gerontology for their job, and 16% (n =123) felt that it was minimally or not at all important for their job.

Table 6 describes the current occupations, level of education received by participants by occupation and how valuable they felt gerontology training was in helping them obtain a job. Educators, gerontologists and research staff felt the most strongly that their gerontology training helped them obtain employment in the field of aging; while business professionals (e.g., owners, financial advisors) felt the least strongly about gerontology training and obtaining a job. Eighty percent (n = 609) of participants reported being in their profession 5 years or longer, 9% (n = 70) reported 3-5 years and 9% (n = 71) up to 2 years. Eighty six percent (n = 652) of participants report working full time, 10% (n = 78) part time and the remaining 4% were not employed or were retired or students. ANOVA analysis indicated that the group means were significantly different ($F(11,660) = 6.7$, $p > .001$) for age between

the occupation groups. Using Tukey's HSD it was found that social services participants were significantly younger ($p < .05$) than those in administration, education, and nursing; other occupational groups did not differ.

Table 6

Summary Data for Current Occupation (N = 757)

Occupation/Education	*n*	%	Gerontology training helped obtain a job %
Social Services (Social Work/Social Service)	174	23	36
High School/GED	0	0	
Some College	3	1	
Bachelor's Degree	87	50	
Master's Degree	83	48	
Doctoral Degree	1	1	
Administrators (Hospital/ALF/SNF/Non-profit)	128	17	30
High School/GED	4	3	
Some College	30	24	
Bachelor's Degree	46	36	
Master's Degree	43	34	
Doctoral Degree	4	3	
Nursing	111	15	32
High School/GED	9	8	
Some College	52	48	
Bachelor's Degree	28	26	
Master's Degree	17	15	
Doctoral Degree	3	3	
Education (Faculty/Trainers)	98	13	53
High School/GED	1	1	
Some College	8	8	
Bachelor's Degree	35	36	
Master's Degree	31	32	
Doctoral Degree	23	23	
Professional Direct Care (Therapists - OT/PT/Psychology/TR)	64	9	41
High School/GED	2	3	
Some College	5	8	
Bachelor's Degree	21	33	
Master's Degree	24	37	

Doctoral Degree	12	19	
Management	64	9	37
High School/GED	2	3	
Some College	4	6	
Bachelor's Degree	23	36	
Master's Degree	25	39	
Doctoral Degree	10	16	
Professional Services (Marketing/Advocacy)	34	5	46
High School/GED	2	6	
Some College	4	12	
Bachelor's Degree	10	29	
Master's Degree	15	44	
Doctoral Degree	3	9	
Private enterprise (Owners/Finance/Real Estate)	22	3	11
High School/GED	0	0	
Some College	7	32	
Bachelor's Degree	10	45	
Master's Degree	5	23	
Doctoral Degree	0	0	
Geriatric Care Management	17	2	58
High School/GED	0	0	
Some College	1	6	
Bachelor's Degree	6	35	
Master's Degree	8	47	
Doctoral Degree	2	12	
Gerontologist	16	2	64
High School/GED	0	0	
Some College	1	6	
Bachelor's Degree	0	0	
Master's Degree	13	81	
Doctoral Degree	2	13	
Research	6	1	60
High School/GED	0	0	
Some College	0	0	
Bachelor's Degree	0	0	
Master's Degree	3	50	
Doctoral Degree	3	50	
Other	23	3	15
High School/GED	1	5	
Some College	7	31	
Bachelor's Degree	13	59	
Master's Degree	1	5	
Doctoral Degree	0	0	

Table 7 describes reported professional identity in aging by occupation. Chi-square analysis indicated no significant differences between the occupational groups ($\chi 2(22, N = 591) = 32.65$, $p = .067$). Geriatric care managers and gerontologists most frequently reported that being an aging specialist was at the core of their professional identity. Administrators and business owners most frequently reported that being an aging specialist was not a part of their professional identity.

Table 7

Summary Data for Professional Identity in Aging by Occupation (N = 591) and by Professional Identity in Aging (PIA)

Occupation/Education	*n*	%
Social Services (Social Work/Social Service)		
Aging specialist is core of professional identity	55	38
Aging specialist is an add-on to professional identity	73	49
Aging specialist is not a part of professional identity	19	13
Administrators (Hospital/ALF/SNF/Non-profit)		
Aging specialist is core of professional identity	26	27
Aging specialist is an add-on to professional identity	51	52
Aging specialist is not a part of professional identity	20	21
Nursing		
Aging specialist is core of professional identity	23	29
Aging specialist is an add-on to professional identity	43	54
Aging specialist is not a part of professional identity	14	17
Education (Faculty/Trainers)		
Aging specialist is core of professional identity	34	44
Aging specialist is an add-on to professional identity	33	43
Aging specialist is not a part of professional identity	10	13
Professional Direct Care (Therapists - OT/PT/Psychology/TR)		
Aging specialist is core of professional identity	15	27
Aging specialist is an add-on to professional identity	31	56
Aging specialist is not a part of professional identity	9	16
Management		
Aging specialist is core of professional identity	18	44

Aging specialist is an add-on to professional identity	19	46
Aging specialist is not a part of professional identity	4	10
Professional Services (Marketing/Advocacy)		
Aging specialist is core of professional identity	13	46
Aging specialist is an add-on to professional identity	12	43
Aging specialist is not a part of professional identity	3	11
Private enterprise (Owners/Finance/Real Estate)		
Aging specialist is core of professional identity	3	19
Aging specialist is an add-on to professional identity	10	62
Aging specialist is not a part of professional identity	3	19
Geriatric Care Management		
Aging specialist is core of professional identity	8	67
Aging specialist is an add-on to professional identity	4	33
Aging specialist is not a part of professional identity	0	0
Gerontologist		
Aging specialist is core of professional identity	10	67
Aging specialist is an add-on to professional identity	3	20
Aging specialist is not a part of professional identity	2	13
Research		
Aging specialist is core of professional identity	2	50
Aging specialist is an add-on to professional identity	2	50
Aging specialist is not a part of professional identity	0	0
Other		
Aging specialist is core of professional identity	3	16
Aging specialist is an add-on to professional identity	13	68
Aging specialist is not a part of professional identity	3	16

Predictors and Outcome Scale Scores by Occupation. Descriptive data (means, standard deviations) of professionals' self-reported levels of career motivation, career commitment, professional identity, job satisfaction, and value of teaming (used in regression analyses) are presented in Table 8.

Table 8

Mean ratings of career motivation, career commitment, professional identity, job satisfaction and value of teaming by occupation [a b]

Occupation	Career Motivation (n = 537)		Career Commitment (n = 562)		Professional Identity (n = 574)		Job Satisfaction (n = 584)		Value of Teaming (n = 624)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Social Services	3.42	.55	4.26	.61	3.90	.83	4.41	.51	4.19	.59
Administrators	3.54	.52	4.24	.70	4.14	.74	4.41	.51	4.39	.60
Nursing	3.44	.63	4.29	.66	4.14	.72	4.37	.56	4.35	.56
Professional Direct Care	3.45	.54	4.22	.66	3.74	1.00	4.42	.53	4.29	.51
Management	3.35	.46	4.23	.63	4.15	.73	4.41	.53	4.12	.67
Education	3.52	.59	4.19	.67	3.96	.88	4.49	.57	4.27	.57
Professional Services	3.48	.51	4.45	.66	4.06	.81	4.44	.64	4.31	.65
Private enterprise	3.52	.51	4.34	.50	4.16	.81	4.59	.41	4.25	.68
Geriatric Care Management	3.42	.50	4.49	.63	4.40	.76	4.60	.63	4.06	.87
Gerontologist	3.49	.67	4.54	.53	3.92	1.04	4.60	.55	4.56	.53
Research	3.55	.57	4.67	.56	4.06	.81	4.67	.78	3.70	.99
Other	3.59	.31	4.30	.52	3.63	.90	4.38	.55	4.29	.50
Total	3.58	.54	4.27	.61	4.00	.83	4.43	.55	4.27	.60

Note. [a] Higher scores indicate greater motivation, commitment, professional identity, job satisfaction and value of teaming. [b] Participants provided ratings using the following anchors: *1= "Strongly Disagree"; 2= "Disagree"; 3= "Neither Agree or Disagree"; 4= "Agree"; 5= "Strongly Agree".*

ANOVA analysis indicated that there were no significant group differences in career motivation, career commitment, professional identity, job satisfaction or value of teaming for the occupational groups. Descriptive data (means, standard deviations) of professionals' self-reported levels of overall anxiety about aging, as well as the subscales of fear of old people, psychological concerns, physical appearance, and fear of losses (used in regression analyses) are presented in Table 9.

Table 9

Mean ratings of aging anxiety, fear of old people, psychological concerns, physical appearance, and fear of losses [a b]

Occupation	Aging Anxiety Total (*n* =509)		Fear of Old People (*n* =562)		Psychological Concerns (*n* = 551)		Physical Appearance (*n* =562)		Fear of Losses (*n* =557)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Social Services	2.22	.46	1.56	.48	2.08	.59	2.50	.70	2.54	.78
Administrators	2.29	.46	1.68	.52	2.13	.52	2.58	.75	2.68	.76
Nursing	2.27	.45	1.67	.46	2.19	.62	2.44	.73	2.61	.79
Professional Direct Care	2.31	.47	1.62	.49	2.20	.66	2.55	.72	2.70	.79
Management	2.38	.43	1.79	.52	2.17	.65	2.74	.69	2.54	.75
Education	2.14	.47	1.65	.51	1.95	.61	2.34	.71	2.44	.69
Professional Services	2.01	.44	1.52	.59	1.86	.62	2.36	.68	2.33	.60
Private enterprise	2.05	.36	1.71	.43	1.76	.48	1.93	.45	2.35	.67
Geriatric Care Management	2.27	.58	1.53	.46	2.24	.74	2.50	.97	2.78	.64
Gerontologist	1.93	.41	1.29	.39	1.71	.54	2.17	.59	2.36	.64
Research	2.37	.41	1.33	.58	1.85	.60	2.60	.63	2.45	.81
Other	2.30	.39	1.64	.41	2.09	.54	2.34	.66	3.10	.70
Total	2.23	.46	1.62	.50	2.07	.60	2.47	.72	2.58	.75

Note. [a] Higher scores indicate more anxiety. [b] Participants provided ratings using the following anchors: *1= "Strongly Disagree"; 2= "Disagree"; 3= "Neither Agree or Disagree"; 4= "Agree"; 5= "Strongly Agree".*

ANOVA analyses indicated that the group means by occupation were significantly different ($F(11,561) = 2.1$, $p = .02$) for aging anxiety total, as well as the subscale fear of losses ($F(11,556) = 1.9$, $p = .04$). Using Tukey's HSD, it was determined that overall aging anxiety scores were significantly lower for business than for managers and administrators, and that fear of losses was significantly lower for Other occupations than for education and professional services. Other occupational contrasts were not significant.

Teamwork. Descriptive data for value of teaming are presented in Table 10**.** Eighty-eight percent (n = 669) of the sample attends team meetings with people representing other disciplines, while 74% (n = 562) of the total sample reported that they have participated in formal team training. Pearson's Chi-square analysis determined that there were significant differences between the occupational groups related to participating on teams ($\chi 2(11, N = 724) = 39.45$, $p < .001$), with research and business participating in fewer teams than the

Table 10

Mean ratings of value of teamwork[a b]

Occupation	Value of Teamwork (n =614)	
	M	*SD*
Social Services	4.19	.59
Administrators	4.28	.57
Nursing	4.34	.56
Professional Direct Care	4.30	.52
Management	4.13	.68
Education	4.28	.57
Professional Services	4.31	.65
Private enterprise	4.25	.68
Geriatric Care Management	4.06	.87
Gerontologist	4.56	.53
Research	3.70	.99
Other	4.33	.49
Total	4.28	.60

Note. [a] Higher scores indicate more value of teamwork. [b] Participants provided ratings using the following anchors: *1= "Strongly Agree"; 2= "Agree"; 3= "Neither Agree or Disagree"; 4= "Disagree"; 5= "Strongly Disagree".*

other occupations. There were also significant differences between the occupational groups related to receiving formal team training ($\chi 2(11, N = 719) = 41.45$, $p < .001$), with administration, nursing, and management receiving less training than the other professions.

ANOVA analysis indicated no significant differences between the groups on the value of teaming.

Career Interest and Motivation. Descriptive statistics were used to assess important factors in initial interest in working in the aging field. Table 11 describes the participants' assessment of the most important factor that contributed to their initial interest in the field of aging. In addition, participants were asked to individually check all factors that contributed toward initial interest in the aging field. Fifty six percent (*n* = 420) reported personal reward and/or satisfaction as an important factor in their interest working with the aging population, 33% (*n* = 249) reported because of a societal need, 32% (*n*=246) because of career opportunities, 31% (*n* = 234) reported because a job was available, 31% (*n* = 231) because of contact with an older person (non-relative), 28% (*n* = 212) because of contact with an older relative, and 28% (*n* = 214) for both skill level and knowledge working with this population. ANOVA analyses indicated that there were no significant differences in total motivation score between the occupation groups, or for gender, race, marital status, or income.

Table 11

Summary Data for Most Important Factor in Initial Interest (N = 655)

Motivation Factor	*n*	%
Career opportunities in the field	75	12
Desire to meet a societal need	83	13
Contact with older relative	62	10
Contact with older person (non-relative)	38	6
Personal reward/satisfaction	160	24
An available job with older adults	116	18
Role model/mentor	23	4
Skill level in doing this work	30	5
Knowledge about population	24	4
Other	42	4

Intercorrelations among Study Variables

Bivariate associations (correlations) were conducted to examine relations and patterns between variables included in analyses. Table 12 presents the correlation matrix describing the relationships among dependent and independent variables used in the regression analyses.

There were a number of significant correlations between the outcome and predictor variables. However, while these correlations are statistically significant, they do not reach the level indicative of multicollinearity (r >.70) (Field, 2005). Therefore, each predictor variable was entered into multiple regression analysis as a unique variable and multicollinearity was assessed formally using regression diagnostics. An exception to the above is the correlations among the aging anxiety overall scale and the aging anxiety subscales; this is expected and the overall scale and subscales are not used simultaneously in any analysis.

Specific significant correlations of note include the relations between professional identity, job satisfaction, and career motivation to overall aging anxiety, as well as the subscales fear of older people and psychological concerns. Professional identity, job satisfaction and career commitment are all significantly and negatively correlated with aging anxiety, suggesting that the lower the personal fear of aging, the higher level of professional identity, job satisfaction, and commitment to career are demonstrated.

Assumptions of Multiple Regression

This section will discuss the assumptions that were tested as a prerequisite to a regression analyses approach. The following assumptions for multiple regression equations were assessed: Multicollinearity, Multivariate Outliers, Normality, Linearity, and Homoscedasticity (Tabachnick & Fidell, 2007).

Table 12
Summary of Intercorrelations for Outcome and Predictor Variables

Measure	2	3	4	5	6	7	8	9	10	11
1.PI	.47**	.59**	.08	.17**	-.32**	-.24**	-.32**	-.13**	-.26**	.34**
2.Job Satisfaction	--	.59**	.33**	.28**	-.36**	-.44**	-.32**	-.17**	-.19**	.12**
3. Career Commitment		--	.28**	.28**	-.36**	-.61**	-.28**	-.17**	-.18**	.01
4. Career Motivation			--	.28**	-.07	-.32**	-.04	-.02	-.07	-.04
5. Team Value				--	-.12**	-.25**	-.16**	.04	-.04	-.01
6. Aging Anxiety – Overall					--	.49**	.86**	.76**	.79**	-.13*
7. Aging Anxiety - FOP						--	.35**	.20**	.10*	.10*
8 Aging Anxiety – PC							--	.48**	.64**	-.16**
9. Aging Anxiety – PA								--	.42**	-.13**
10. Aging Anxiety - FOL									--	-.13**
11. Age										--

Note. PI = Professional Identity, FOP = fear of old people, PC = psychological concerns, PA = physical appearance, FOL= fear of losses
* $p < .05$. ** $p < .01$

Collinearity statistics were conducted for predictor variables. Tolerance values were greater than .10 and variance inflation factors (VIF) values were less than 10, indicating a lack of multicollinearity (Field, 2005). Bivariate associations of the predictors were examined and none were equal to or greater than .70, providing additional support for a lack of multicollinearity of variables (other than the Aging Anxiety subscales which, as expected, are highly correlated with the overall Aging Anxiety scale and therefore not used simultaneously in a regression model).

Regression model diagnostics were conducted to assess the existence of multivariate outliers and influential cases. Mahalanobis distances were conducted to assess how unusual each case was in terms of its values on the independent variables (compared to the mean values; Tabachnick & Fidell, 2007) and no multivariate outliers were found.

After calculating scale scores from the item-level values, variables were screened to see if they had a normal distribution. Values for skewness and kurtosis were examined to determine normality of the data after univariate outliers had been Winsorized. All dependent variables were within acceptable limits for skewness and kurtosis and were normally distributed. In addition, with regression, examination of residuals scatterplots provides a test of assumptions of normality, linearity, and homoscedasticity between predicted dependent variables and the errors (residuals) within the prediction model (Tabachnick & Fidell, 2007). The scatterplot for the residuals (predicted values of dependent variable on the X-axis and residuals on the Y-axis) for each analysis was examined; this examination indicated that the models met the assumptions of normality and the shape of the scatterplots appeared to be consistent with a linear distribution for all outcome variables. Homoscedasticity was examined by evaluating the band enclosing the residuals. The band was approximately equal

in width at all values of the predicted dependent variables, providing evidence for meeting the assumption of homoscedasticity (Osborne & Waters, 2002).

General Multiple Regression Procedures

This section provides an overview of the general procedures conducted for assembling the regression models. The variable race was dummy coded such that 0 = Caucasian, and 1= Minority. For the moderation analysis, continuous variables were centered by subtracting the sample means from each value prior to inclusion in the model; this was done to reduce collinearity with interaction terms (Cohen, Cohen, West & Aiken, 2003). Product terms were then created between the predictor and the moderator variable (professional aging identity) by multiplying the centered variables by the unweighted effects of the coded PIA variable (Cohen, et al., 2003). The specific model (and blocks/steps) for each analysis is fully outlined in the corresponding sections for the analyses. Next, mediation models (Baron & Kenny, 1986) evaluated whether the relation between career commitment and job satisfaction was explained by attitudes about aging. Mediation analysis consisted of the evaluation of effect sizes and significance levels for Paths C (predictor to outcome), A (predictor to mediator), B (mediator to outcome), and C' (predictor to outcome also considering the mediator). For full mediation to be established, Paths A and B must be significant, Path C' must become nonsignificant, and the indirect effect of the predictor on the outcome variable via the mediator must be significant. This last condition was evaluated by Sobel's method (1982). The same regression requirements hold for partial mediation; however, Path C' must be smaller and in the same direction, but it does not need to become nonsignificant.

Testing Study Hypotheses

This section will discuss the process of testing study hypotheses. Hypotheses 1 and 2 examine the effect of predictors on Clarity of Professional Identity and Career Commitment; predictor and covariate variables were entered in a series of blocks.

Hypothesis 1. Career motivation, job satisfaction and exposure to gerontological education will each significantly ($p < .05$) predict professionals' self-reported overall level of professional identity. To test this hypothesis of the predictive value of career motivation, job satisfaction, and exposure to gerontological education, variables were entered into the equation in a series of blocks. At step 1, age and length of time since graduation was entered. At step 2, race (Caucasian and Minority) and gender were entered; and at step 3, gerontological education, career motivation, and job satisfaction were entered. As such, it was possible to examine the predictive value of the independent variables while controlling for the effects of age, and length of time since graduation. Table 13 displays the results of the hierarchical regression analysis testing this hypothesis. The final model was significant ($F(7, 421) = 26.61$, $p < .001$). Overall, the regression model explained 31.0% of the variance in professional identity. In Step 1 length of time since graduation was not significant, but age was a significant predictor and accounted for 12 percent variance to the model. Being older predicted higher professional identity. Race and Gender (Step 2) did not add a significant amount of variance to the model; and job satisfaction (Step 3) added 19 percent additional variance to the model. Having higher job satisfaction predicted higher professional identity. Hypothesis 1 was partially supported. Professional identity was not predicted by career motivation or exposure to gerontological education but was predicted by older age and higher job satisfaction, after controlling for demographic factors.

Hypothesis 2. **Career motivation, job satisfaction and exposure to gerontological education will each significantly (p<.05) predict professionals' self-reported overall level of career commitment.** Table 13 displays the results of the hierarchical regression analysis testing this hypothesis. The final model was significant *(F*(7, 426) = 36.07, p <.001). Overall, the regression model explained 39% of the variance in career motivation. Length of time since graduation and age (Step 1) did not add significance to the model. Race and Gender (Step 2) also did not add a significant amount of variance to the model. However, career motivation, exposure to gerontological education, and job satisfaction (Step 3) were each significant and added 36.9 percent additional variance to the model. Hypothesis 2 was fully supported. Career commitment was predicted by career motivation, exposure to gerontological education, and job satisfaction, after controlling for demographic factors.

Table 13

Hierarchical Regression Analysis Predicting Professional Identity and Career Commitment

	Professional Identity		*Career Commitment*	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.12**		.006	
Age		.25**		-.03
Length of time since graduation		.05		-.05
Step 2	.01		.01	
Race		-.05		-.03
Gender		-.001		-.05
Step 3	.19**		.37**	
Gerontological education		.05		.11**
Career Motivation		-.05		.11**
Job Satisfaction		.44**		.54**
Total R^2	.31**		.39**	
F	26.61**		37.16**	
N	422		419	

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

Hypothesis 3. Level of career commitment, job satisfaction, and career motivation will differ for professional identity in the three PIA categories (Being an aging specialist is: at the core of my professional identity, an add-on to my professional identity is not a part of my professional identity). Analysis of variance (ANOVA) indicated a significant difference for the three professional identity in aging groups in overall level of career commitment ($F(2, 552) = 40.83$, $p < .001$), job satisfaction ($F(2,561) = 15.89$, $p < .001$), and career motivation ($F(2,516) = 5.65$, $p = .004$). In each case participants who reported that being a gerontologist or aging specialist is at the core of professional identity has significantly higher professional identity, job satisfaction and career motivation than participants who reported being an aging specialist was an add-on or that being an aging specialist was not a part of professional identity. In addition, participants who reported that being an aging specialist was an add-on to their professional identity had significantly higher professional identity, job satisfaction and career motivation than those that reported that being an aging specialist was not at all a part of their professional identity. Hypothesis 3 was fully supported.

Hypothesis 4. Professional identity in aging (PIA) will moderate the relationship between MSE predictors and level of career commitment, such that the association between motivation, job satisfaction, and education to level of career commitment will be different for participants with different levels of PIA (i.e., aging specialist as core of identity, add-on to identity, or not part of identity). Variables were entered into the equation used to test Hypothesis 4, in a series of blocks following Frazier et al.'s (2004) recommendations for the order of entering variables to test moderating effects: covariates, predictors, moderator, and finally, product terms/interactions (predictors X moderator). To

address Hypothesis 4, all continuous variables were centered and interaction terms were calculated by multiplying the unweighted effects of coded values for PIA by the centered variables. Results of the moderation analyses are presented in Table 14. For all participants, career motivation positively predicted career commitment ($\beta = .22$, $p > .001$). Professional identity in aging was also significantly related to career commitment ($\beta = .37$, $p > .001$); that is, individuals who reported that aging was at the core of their identity reported a higher level of career commitment. However, the association between career motivation and career commitment was not moderated by PIA. That is, the relation between career motivation and career commitment was not different for those for whom being an aging specialist was at the core of their identity, an add-on to their identity, or not a part of their identity. This same pattern was found with job satisfactions, whereby job satisfaction positively predicted career commitment ($\beta = .50$, $p > .001$), and PIA significantly and positively related to career commitment ($\beta = .24$, $p > .001$). However, the association between job satisfaction and career commitment was not moderated by PIA. Formal gerontological education was not significantly related to career commitment ($\beta = .03$, $p > .727$). PIA was significantly and positively related to career commitment ($\beta = .35$, $p > .001$) and the association between gerontological education and career commitment was not moderated by PIA.

Table 14

Multiple Regression Analysis Testing Moderation of MSE Predictors and Career Commitment by PIA

	Career Commitment					
Predictor	*b*	*SE*	β	N	R^2	*F*
Career motivation	.25	.06	.22**	438	.19	33.63**
PIA	.45	.05	.37**			
Career motivation x PIA	-.07	.10	-.04			
Job satisfaction	.58	.06	.50**	471	.38	95.01**
PIA	.30	.05	.24**			
Job satisfaction x PIA	.06	.09	.03			
Gerontological education	.03	.10	.03	485	.11	20.26**
PIA	.44	.07	.35**			
Gerontological education x PIA	-.07	.13	-.05			

** $p < .001$

Professional identity in aging (PIA) did not moderate the relationship between MSE predictors and level of career commitment. Since there was not a significant moderation of Professional Identity in Aging for career motivation, job satisfaction, or gerontological education, hypothesis 4 was not supported. The associations between career motivation, job satisfaction, and education to level of career commitment were not significantly different for participants with different levels of PIA.

Hypothesis 5. Aging anxiety will mediate the relationship between job satisfaction and level of career commitment, such that the association between job satisfaction and level of career commitment will be higher for participants who report a lower level of anxiety about personal aging. A series of regression analyses were performed to test for mediation. No covariates were used in these analyses. Table 15 displays

the results of the mediation analyses. Using Baron and Kenny's (1986) method for testing mediation, a significant positive relation between job satisfaction and career commitment was first established, $\beta = .59$, $p < .001$. Next, job satisfaction was found to show a significant negative relation to aging anxiety, $\beta = -.17$, $p < .001$. When both job satisfaction and aging anxiety were entered into the model, the relation of aging anxiety to career commitment was significant, $\beta = -.08$, $p < .03$, and the relation of job satisfaction to career commitment was also significant, but slightly smaller than the original association, $\beta = .57$, $p < .001$. Using the Sobel test, the magnitude of the relation between job satisfaction and career commitment was found to decrease significantly when aging anxiety was included ($z = 1.93$, $p = .05$). Thus, aging anxiety partially mediated the effect of job satisfaction on career commitment.

Aging anxiety was examined further to determine how the subscales contributed to the mediation of job satisfaction and career commitment. There was no significant relation between job satisfaction and the subscale fear of losses. However, examination of the subscales fear of older people and psychological concerns demonstrated significant negative relations. When both job satisfaction and fear of older people were entered in a regression model, the relation of fear of older people to career commitment was significant, $\beta = -.44$, $p < .001$, and the relation of job satisfaction to career commitment was smaller than the original association, changing from $\beta = .59$ to $\beta = .41$, $p < .001$. Using the Sobel test, the magnitude of the relation between job satisfaction and career commitment was found to decrease significantly when fear of older people was included ($z = 8.64$, $p < .001$). Thus, fear of older people partially mediated the effect of job satisfaction on career commitment. In addition, when both job satisfaction and psychological concerns were entered in a regression model, the relation of physical concerns to career commitment was significant, $\beta = -.11$, $p = .004$,

and the relation of job satisfaction to career commitment was smaller than the original association, changing from β = .59 to β = .55, $p < .001$. Using the Sobel test, the magnitude of the relation between job satisfaction and career commitment was found to decrease significantly when psychological concerns was included ($z = 2.72$, $p = .006$). Thus, psychological concerns partially mediated the effect of job satisfaction on career commitment.

Table 15

Mediation Results

	Path C		Path A		Path B		Path C'		Sobel's Test	
	β	*p*	β	*p*	β	*p*	β	*p*	*Z*	*p*
Aging-Anxiety Total	.59	<.001	-.17	<.001	-.08	.03	.57	<.001	1.93	.05
Aging Anxiety – Fear of older people	.59	<.001	-.44	<.001	-.44	<.001	-41	<.001	8.64	<.001
Aging Anxiety – Psych'l concerns	.59	<.001	-.32	<.001	-.11	.004	.55	<.001	2.72	.006

To establish mediation, (1) Path A must be significant, (2) Path B must be significant when C' is also in the regression, (3) Path C' must be smaller than C. The indirect effect of the predictor on the outcome must be significant (Sobel's Z). Full mediation is established when C' nonsignificant; partial mediation has a significant C'. Sobel's Z was not calculated (*nc)* when condition (1) or (2) was not met.

Hypothesis 6. Team participation and perceived value of teamwork will each significantly ($p < .05$) predicts professionals' self-reported overall level of professional identity and job satisfaction. Variables were entered into a regression equation in two blocks. Table 16 displays the results of the two hierarchical regression analyses testing this hypothesis. The final model for the professional identity analysis was significant ($F(5, 456) = 15.96$, $p <.001$). Overall, the regression model explained 15% of the variance in professional

identity. Age, gender, and race (Step 1) contributed 12% variance to the model, with older age indicating predicting higher professional identity (i.e., being an aging specialist is core to identity). *Participation* in teaming (Step 2) was not significant; however, perceived value of teaming (Step 2) was significant and added 3 percent additional variance to the model, with greater perceived value of teaming indicating higher professional identity.

Table 16

Hierarchical Regression Analysis Predicting Effects of Teamwork on Professional Identity and Job Satisfaction

	Professional Identity		*Job Satisfaction*	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.12**		.02**	
Age		.33**		.14**
Gender		.01		.01
Race		-.07		-.04
Step 2	.03**		.08**	
Participation in teaming		.04		-.01
Value of teaming		.18**		.28**
Total R^2	.15**		.10**	
F	15.96**		10.30**	
N	456		453	

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

The final model for the job satisfaction analysis was significant ($F(5, 458) = 10.30$, $p < .001$). Overall, the regression model explained 10% of the variance in job satisfaction. Age, gender, and race (Step 1) contributed 2% variance to the model, with age being the only significant factor. Participation in teaming (Step 2) was not significant; however, perceived *value* of teaming (Step 2) was significant and added 8 percent additional variance to the model. Hypothesis 5 was partially supported, with perceived value of teamwork significantly

contributing to both professional identity and job satisfaction, (β =.18, $p > .001$, β = .28, $p > .001$, respectively), Participation is teamwork was not a significant predictor in either analysis.

Summary of Findings

Hypothesis 1. Findings from this study indicate that both older age and higher job satisfaction significantly predict level of professional identity. Notably, neither career motivation nor exposure to gerontological education significantly predicted professional identity. However, the effect of job satisfaction to professional identity was large, accounting for 19% of the unique variance explained. This provides support for part of Hypothesis 1. Age was the only covariate that demonstrated significance in this analysis. This supports previous findings that age is a significant predictor of professional identity (Gendron et al, 2013).

Hypothesis 2. Findings indicated that all three MSE predictors significantly predicted professionals' self-reported overall level of career commitment. Therefore, Hypotheses 2 is fully supported. More reasons for motivation, exposure to gerontological education, and greater satisfaction with a job predicted higher level of career commitment.

Hypothesis 3. Analysis indicated a significant difference for the three professional identity in aging groups in overall level of career commitment ($F(2, 552) = 40.83$, $p < .001$), job satisfaction ($F(2,561) = 15.89$, $p < .001$), and career motivation ($F(2,516) = 5.65$, $p = .004$). In each case participants who reported that being a gerontologist or aging specialist is at the core of professional identity had significantly higher career commitment, job satisfaction and career motivation than participants who reported being an aging specialist was an add-on or that being an aging specialist was not a part of professional identity. In

addition, participants who reported that being an aging specialist was an add-on to their professional identity had significantly higher career commitment, job satisfaction, and career motivation than those that reported that being an aging specialist was not at all a part of their professional identity.

Hypothesis 4. No significant differences were evident in the associations between MSE variables and self-reported career commitment across PIA groups; Hypothesis 4 was not supported. Given these findings, we can use the regression model for Hypothesis 2 to best understand the main effects of MSE predictors. Within this framework, career motivation, job satisfaction and exposure to gerontological education have significant effects in terms of explaining professionals' self-reported level of career commitment; however, these effects for each PIA group do not differ significantly from that of the sample mean.

Hypothesis 5. A mediation analysis determined that after controlling for job satisfaction, aging anxiety still accounted for a significant portion in career commitment; therefore aging anxiety partially mediated the effect of job satisfaction on career commitment. Lower anxiety about aging relates to higher commitment to career.

Given that the overall aging anxiety scale was significant, the aging anxiety subscales were examined further to determine if there were unique contributions of each subscale to the mediation of job satisfaction and career commitment. There was no significant relation between job satisfaction and the subscale fear of losses. However, there was a significant relation between job satisfaction and the subscales fear of older people and psychological concerns. When the subscale fear of older people was used in mediation analysis, the overall regression model accounted for 51% of the variance. There was also a significant effect for the subscale psychological concerns, with the overall regression model accounting for 35%

of the variance. Both subscales, fear of older people and psychological concerns, partially mediated the relationship between job satisfaction and career commitment.

Exploratory analysis was also conducted to determine whether aging anxiety mediated the relationship between career motivation and exposure to gerontological education and career commitment. Aging anxiety was not a significant mediator of either career motivation or exposure to gerontological education and career commitment.

Hypothesis 6. Findings from this study indicate that both older age and higher perceived value of teamwork predict level of professional identity and job satisfaction. Although *participation* in teaming was not a significant predictor, Hypothesis 5 was partially supported with perceived *value* of teamwork significantly contributing to both professional identity and job satisfaction.

Discussion

The discipline of gerontology is comprised of a variety of professionals representing different specialty areas focusing on working with or on behalf of older adults. Gerontology, as a discipline, has transcended from its roots as a medical model, to a multidisciplinary field, to an interdisciplinary profession over the past 50 years (Lowenstein, 2004). The goal of this study was twofold: first to provide an investigation of the characteristics of gerontological professionals in terms of career motivation, job satisfaction, career commitment, professional identity, and attitudes about aging, and secondly, to explore the practice of gerontology as an interdisciplinary, teamwork based system. Findings from this study can be used to develop best practice approaches in teaching, research, curriculum design, student recruitment, and effective teamwork strategies.

As the study sample indicates, gerontology demonstrates many of the core characteristics of dynamic systems theory (Smith & Thelen, 2003) including interconnectedness of the subsystems (e.g., practice disciplines serving the aging population), and variation among the individuals that comprise the system (e.g., diversity among the education and training backgrounds). As a dynamic system, the discipline of gerontology is poised to utilize a transdisciplinary framework that capitalizes on this heterogeneous mix of educational and practice backgrounds.

Job Satisfaction, Career Commitment, and Professional Identity

Job satisfaction is a positive emotional state that results from an individual's appraisal of experiences in the workplace (Gregson, 1987). The concept of career commitment represents the strength of one's motivation to work in a chosen career (Hall, 1971). Previous research has demonstrated that professional self-development, among other factors, significantly contributes to job satisfaction (Bogler, 20012; Pouline & Walter, 1992). Results of this study demonstrate that among gerontological professionals, job satisfaction is a major contributor to overall sense of professional identity. Given that results from this study found that reasons for initial interest in working with older adults (career motivation), as well as exposure to formal gerontological education, were not significant contributors to professional identity, the importance of future research on job satisfaction within aging-related jobs must be emphasized.

The current study provides support for previous research demonstrating a relationship between job satisfaction and career commitment in aging-related jobs (Coogle et al, 2007; Rai, 2002; Simons and Jankowski, 2008). In addition, previous research has supported evidence for a relationship between professional commitment and career motivation,

specifically personal growth gained from working with older adults (Amador, 2007; Simons, et al, 2011).

The value of formal education in gerontology and motivation to work with older adults. This study demonstrated that exposure to formal education in gerontology is predictive of commitment to career. Exposure to formal education in gerontology was all inclusive for people who have degrees and certificates in gerontology, representing the continuum from undergraduate certificates to doctoral degrees. Exploratory analysis using both ANOVA and multiple regressions indicate that there were no significant differences in the contribution of a specific level of education, rather, the difference lies between those that have *any* level of formal gerontological education and those that have *no* exposure to formal gerontological education. Education made a difference, and this is important news.

Young professionals come into a career with their own hopes and reasons and motivations. Do these motivations make any difference in the long run? Here, study results indicated that commitment to a career in the field of gerontology was higher for those with a greater number of motivations for working with older adults when they first started their careers. Previous research on career motivation in gerontology has focused on those receiving or with formal education (Cummings & Galambos, 2002; Cummings, Galambos, & DeCoster, 2003; Gorelik, Rodriguez, Funderburk & Dolomon, 2000; Robert, & Mosher-Ashely, 2000; Wesley, 2008)); therefore, separate analyses were conducted to determine if there were differences in sources of motivation for those with and without formal education.

For those with formal education in gerontology, the most common reasons for initial interest in working with older adults were personal reward or satisfaction (21%), desire to meet a societal need (18%), contact with an older relative (18%), and career opportunities in

the field (11%). These findings are consistent with previous research identifying sources of motivation to work with older adults for those with formal education including: prior experience with older adults, the availability of career opportunities, and degree of perceived reward (Cummings & Galambos, 2002; Cummings, Galambos, & DeCoster, 2003; Gorelik, Rodriguez, Funderburk & Dolomon, 2000; Robert, & Mosher-Ashely, 2000; Wesley, 2008).

For those without formal education in gerontology (e.g., certificate, or Masters), the reasons for initial interest in the field were slightly different: a job available working with older adults (20%), personal reward or satisfaction (20%), career opportunities (12%), and desire to meet a societal need (11%). Although there is significant overlap between the two groups in terms of primary reasons for interest in an aging career, a key difference is the large percentage of staff without formal degrees or certificates employed at an aging-related job because one was available.

These findings have implications for the development of recruitment, hiring strategies, and job training for gerontological jobs within the aging network. Results of this study indicate that sources of motivation for working with older adults vary between professionals with and without higher education. Therefore, examination of sources of motivations can be incorporated into the development of best practice approaches for the recruitment of both gerontology students and gerontological workers. Best practice approaches should include screening questions for prospective students and employees regarding why they want to work with older adults, and what motivated them to seek a gerontological job or career. In addition, this study demonstrated that the number of motivations for working with older adults has implications for commitment to career.

Therefore, screening tools for prospective students and employees should take into account both number of motivations as well as specific sources of motivations.

Professionals that have more personal reasons for beginning a career in gerontology may be more likely to develop a professional identity that entails a strong commitment to a career with older adults. This trickle-down relationship has implications for the quality of care provided to older adults. Further exploration of the relationship between specific sources of career motivation and career commitment, job satisfaction and professional identity is warranted.

Aging Anxiety

In this study aging anxiety, comprised of fear of older people, psychological concerns, fear of losses, and physical appearance mediated, or explained, the relationship between job satisfaction and career commitment. In addition, the subscales fear of older people and psychological concerns mediated the relationship between job satisfaction and career commitment. Those with higher levels of job satisfaction had a higher level of commitment to an aging career; however this relationship was partially explained by their attitudes about aging and older adults.

Gerontologists, gerontological specialists, and gerontology workers often hold negative attitudes about aging and older adults (Rosowsky, 2005). Negative attitudes about aging held by those working with older adults can influence the quality of care provided (Grant, 1996) and can influence which services and treatments are offered and which are not (Dembner, 2005). There is little empirical research on the relationship between aging anxiety and career constructs such as professional identity, career commitment, and job satisfaction. Examining anxiety about aging and attitudes about older adults among those working with

the aging population is a logical and critical step in the development of specific and targeted best-practice approaches for educating all employees in the aging services network. In addition, knowledge about personal fears of aging can provide important information for both recruiting and retaining employees that will likely commit to a career in gerontology.

Training about aging anxiety. To address the professional development of the gerontological workforce, it is imperative that on the job training and continuing education opportunities raise awareness of how culture and the media shape attitudes about aging. Training needs to extend beyond common topics such as the myths of aging and aging processes, and include opportunities for reflection and understanding of how people view their own aging. Helping the more aging-anxious employees to understand and confront their own negative attitudes about aging might also be helpful, both to those employees (who might come to feel more job satisfaction) and for the older adults whom they serve. Previous research has supported the hypothesis that job satisfaction is positively related to quality of care (Redfern, Hannan, Norman, & Martin, F, 2002). Therefore, the current finding that personal anxiety about aging impacts the relationship between job satisfaction and career commitment has major implications for the prevention of subpar, and inadequate care for older adults.

Teamwork

Simply put, study results indicate that having a more positive view of teamwork and teaming experiences made a difference in both professionals' self-reported level of professional identity as well as their overall job satisfaction. Therefore, future research and business practice should address and target strategies that incorporate well-functioning teamwork principles into on the job and professional training. Teamwork has yet to be

explored as a mechanism to encourage job satisfaction, professional identity, and potentially commitment to a career with older adults.

Teamwork is the norm in aging services. Another interesting finding of this study is that the vast majority of sample participants regularly attends team meetings (88%) and has participated in formal team training (74%). Given that this sample represents a wide variety the aging services network, this highlights that a collaborative team approach for service delivery has become the norm in aging services. It appears that common gerontological practice incorporates an interdisciplinary framework that promotes team interaction among various disciplines. Geriatric interdisciplinary team training (GITT) was developed in 1995 to improve care of older adults by enhancing the interdisciplinary training of health professionals (Fulmer, Flagherty, & Hyer, 2003). GITT has since become an evidence-based best practice approach for understanding attitudes toward teams, how teams function, and how teams should be trained (Fulmer, Flagherty, & Hyer, 2003). The quality of the teamwork training provided in educational or work settings, and how teams actually operate within a job setting, are dimensions that continue to need more study and refinement. There is no guarantee that all teams are good teams. Perhaps those who gave negative evaluations of working with a team were, in fact, involved with teams that were dysfunctional in a variety of ways.

It is evident from the current sample that the aging services network employs a variety of gerontological professionals from different educational backgrounds and training modalities. Therefore, from a transdisciplinary standpoint, the discipline of gerontology is embedded with mutual learning opportunities between different disciplines that have the potential to promote a collaborative team environment. Further research regarding teamwork

is needed to explore the extent to which the discipline of gerontology currently operates within a transdisciplinary framework. Specifically, this would entail a detailed examination of how the responsibilities, skills, and knowledge are shared or distributed among the team members. Results of this study highlight the need for additional research on teamwork training and practice with the field of gerontology. Close examination of how teams operate within the aging services network is a critical step in the assessment of the development of gerontology as a discipline. Although it is clear that gerontology, as a discipline, has evolved from its medical origin toward an emerging, stand alone discipline, further research is needed to determine if the current practice of teaming capitalizes on the heterogeneous mix of educational backgrounds and disciplinary perspectives. The formulation and execution of the team process and experience will determine if gerontology is operating as an interdisciplinary field, or if gerontology has begun to lay the foundation and lead the way for a transdisciplinary approach to care and services for older adults.

Limitations

This study builds upon previous work in professional identity development in gerontology and expands the research base on the characteristics of professionals in the aging services network. However, this study is not without its limitations. The participants for this study were not selected randomly from the larger population of those working with older adults, but rather represent a convenience sample of people that are networked through an email listserv held by this university. While we know that the survey was sent to about 7,000 people, there were also notices about the study sent from other email lists; an unknown number of the participants came from the other emailed invitations. The disadvantage of using a convenience sample is that it is not possible to know how many people saw, but

ignored, the survey. Therefore, an overall response rate is not available. In addition, a convenience sample can create a sample selection bias since it is possible that responses may have come only from those with a certain set of views or commitment to the field of aging which may not represent the broader community of professionals.

Next, there are limitations related to the self-report nature of the survey. This study uses a mono-method research design that relies on self-reporting, thus, these findings are based on time-bound responses that may not accurately predict future responses or behaviors such as commitment to a career. It is possible that professionals' reports about their future commitment to their career may differ from their actual choices and behaviors. This study more likely focuses on current attitudes toward working in the aging field and intentions to grow professionally within the field.

Finally, although we captured information on formal level of education, we are not aware of the level or type of training received by respondents. Many participants may have significant gerontological training despite not having any formal education in gerontology. Current results indicate that additional research on the differentiation between training and education would provide important information in the development of best-practices approaches.

Conclusions

In sum, this study makes a number of contributions to the field of gerontology by examining the characteristics that contribute toward professional identity, career commitment, and job satisfaction in aging-related jobs. This study provides evidence that will inform the development of best-practice approaches in recruiting and retaining qualified aging services employees, such as incorporating screening tools that account for the number

and types of motivations to work with older adults. In addition, this is the first study of its kind to take into account the effect of personal anxiety and attitudes about aging in relation to job satisfaction among those who are working in an aging-related setting or field. The implications of these finding is wide reaching and could potentially have an impact on the quality of care afforded to older adults. With a better understanding of professionals' personal fears of aging and attitudes about older adults, targeted hiring and training can be developed for both new students and employees and those who have been employed for years in the field of gerontology. This targeted training can use a broader, more reflective approach that raises awareness of personal fears and stereotypes that may impact satisfaction with a job and may negatively affect care to older adults. Gerontology, as a field, can begin to focus on ways to improve service delivery across the different communities of interest, and within the different networks of practice, that will ultimately lead to an infusion of organizational culture change that has the potential to ultimately impact and improve the quality of life of older adults.

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Appendix 1

Text of Email Invitation Notices

To Our Friends in Gerontology and Aging Services:

Your opinions are greatly needed!

Please take this opportunity to tell us about your **opinions about working with older adults**.

The questionnaire will take about 15 minutes to complete.
Please follow this link to the survey:
https://redcap.vcu.edu/rc/surveys/?s=NU4tds

Please feel free to pass along this survey link to people that currently, or have, worked with older adults!

Appendix 2

Consent Instructions

You are being invited to participate in a research study about the attitudes and practice of people working with older adults. This study is being conducted by Tracey Gendron, MSG from the Department of Gerontology at Virginia Commonwealth University. There are no known risks if you decide to participate in this research study. There are no costs to you for participating in this study. The questionnaire will take about 15 minutes to complete. This survey is anonymous and no IP addresses will be collected. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study. Should the data be published, no individual information will be disclosed.

If you have any questions or concerns while completing the questionnaires, please do not hesitate to contact Tracey Gendron at tlgendro@vcu.edu.

In the future, you may have questions about your participation in this study. If you have any questions, complaints, or concerns about the research, contact:

Tracey Gendron
Address: Dept of Gerontology
730 E. Broad Street
P. O. Box 980228
Richmond, VA 23298-2018
Phone: (804) 828-1565
E-mail:tlgendro@vcu.edu

If you have any questions about your rights as a participant in this study, you may contact:

Office for Research
Virginia Commonwealth University
800 East Leigh Street, Suite 113
P. O. Box 980568
Richmond, VA 23298
Phone: (804) 827-2157

You may also contact this number for general questions, concerns or complaints about the research. Please call this number if you cannot reach the research team or wish to talk to someone else. Additional information about participation in research studies can be found at Http://www.research.vcu.edu/irb/volunteers.htm.

I have read and fully understand the consent form. I understand that my participation is voluntary. By continuing with the questionnaire I am indicating that I freely and voluntarily agree to participate in this study.

If you wish to opt out of survey email reminders (maximum of 2 reminders) please respond to agingstudies@vcu.edu with OPT OUT as the subject line.

Appendix 3

Survey for Gerontological Professionals

Construct	Items
Screening Questions	1. With what age groups do you work with or on behalf of? (Check all that apply) o Infants o Children o Young adults (20-30) o Adults (30-65) o Older adults (65+) 2. Please select that age group that you PRIMARILY work with or on behalf of (work 50% or more of your time with) (Check one) o Infants o Children o Young adults (20-30) o Adults (30-65) o Older adults (65+)
Demographics	3. Are you employed in an aging-related job? (a job working with or for older adults or work that is related to aging or older adults) 4. Highest level of education o Did not complete high school o High School/GED o Some College o Bachelor's Degree o Master's Degree o Advanced Graduate Work or Ph.D. 5. Year of graduation 6. Are you currently pursuing a degree/certificate in Gerontology (Bachelors, Masters, or Doctoral degree or certificate)? 7. Do you have a degree/certificate in Gerontology (Bachelors, Masters, or Doctoral degree or certificate)? 8. If so, what is your highest level of Gerontology training? o Undergraduate Certificate o Bachelors in Gerontology o Graduate Certificate o Masters in Gerontology o Doctoral degree in Gerontology 9. Were you employed in an aging-related job prior to entering your gerontology program of study?

10. Do you think that education in gerontology (the study of aging) is :
    - Necessary for your job
    - Recommended for your job
    - Neutral/Don't Know
    - Minimally important for your job
    - Not necessary for your job
11. Have you taken any continuing education courses focused on aging-related issues?
12. If so, about how many training hours have you taken in the past year?
13. Does your occupation require continuing education credits?
14. During your educational training, did you ever do an internship, practicum, or service- learning project that involved working with older people (age 65+)?(Y/N)
15. Please indicate whether or not you are currently employed full-time or part-time or not employed? (FT/PT/NE,Retired, Student)
16. Please check the ONE category that best describes your current profession:
    - Advocacy/Policy planning
    - Assisted living administrator
    - Clinical/Counseling psychology
    - Companion/Personal care aide
    - Educator/Trainer
    - Faculty – University/College
    - Financial services
    - Geriatric care manager
    - Gerontologist
    - Health administrator
    - Hospital administrator
    - Human Resources
    - Management/Department director
    - Marketing
    - Non-profit administration
    - Nursing
    - Nursing home/SNF administrator
    - Occupational therapist
    - Office staff/assistant
    - Pharmacist
    - Physical therapist
    - Real Estate
    - Research
    - Small business owner

	○ Social services ○ Social worker ○ Therapeutic recreation ○ Other_____ 17. How long have you been in your current profession? 18. What is your current job title? 19. How long have you been in your current job? 20. Did your Gerontology/Aging training degree help you obtain a job? 21. Are you responsible for hiring employees in your agency/organization? 22. Gender (1 = Male identifying to 5 = Female identifying) 23. Please specify your race/ethnicity (check all that apply) a. White/Caucasian b. American Indian or Alaska native c. Asian d. Black or African American e. Latino/Hispanic f. Native Hawaiian or Pacific Islander g. Prefer not to say h. Other 24. Marital Status a. Single b. Married c. Divorced d. Partnered e. Widowed f. Prefer not to say 25. Age 26. Income Level (Personal income, not household total) a. Less than $10,000 b. 10,000 – 19,999 c. 20,000 – 29,999 d. 30,000 – 39,999 e. 40,000 – 49,999 f. 50,000 – 59,999 g. 60,000 – 69,999 h. 70,000 – 79,999 i. 80,000 – 89,999 j. 90,000 – 99,999 k. 100,000 – 149,999 l. More than 150,000 m. Prefer not to say 27. In what state do you currently live in?
Teamwork	28. Have you had any formal training in teamwork? In your job do you (Y/N)

Teamwork Value (1 =strongly disagree, 5 = strongly agree)	29. Attend training with people from other disciplines? 30. Participate in team meetings or work groups? (If no, then skip to 35) Please respond to the following 31. The team approach improves the quality of care to residents/patients/clients 32. Team meetings foster communication among team members from different disciplines. 33. Working on a team keeps most health professionals enthusiastic and interested in their jobs 34. Health professionals working on teams are more responsive than others to the emotional and financial needs of patients. 35. The give and take among team members helps the make better care decisions 36. The team approach makes the delivery of care/services more efficient 37. My current team makes the delivery of care/services more efficient 38. The team approach permits health professionals to meet the needs of family caregivers as well as residents/patients/clients 39. Having to report back to the team helps team members better understand the work of other health professionals 40. I enjoy working on the team with my team coworkers
Career Motivation	41. What were important factors in your initial interest in working in the aging field? (choose all that apply) o Career opportunities in the field o Desire to meet a societal need o Financial incentives (i.e., grants, tuition assistance, tuition waiver, etc). o Contact with an older relative (s) o Contact with an older person or people (non-relatives) o Personal reward/satisfaction o Professional role model/mentor in the field o Continuing education courses (non-degree training or education) o Your skill level in doing this work o Your knowledge about this population o A job was available working with the aging population o Other 42. What was the **most** important factor in your initial interest in working in the aging field? (choose one) o Career opportunities in the field o Desire to meet a societal need o Financial incentives (i.e., grants, tuition

	assistance, tuition waiver, etc). ○ Contact with an older relative (s) ○ Contact with an older person or people (non-relatives) ○ Personal reward/satisfaction ○ Professional role model/mentor in the field ○ Continuing education courses (non-degree training or education) ○ Your skill level in doing this work ○ Your knowledge about this population ○ A job was available working with the aging population ○ Other
(1 =strongly disagree, 5 = strongly agree)	43. Did career opportunities contribute to your decision to choose a career working in the aging field? 44. Did the desire to meet a societal need contribute to your decision to choose a career working in the aging field? 45. Did financial incentives contribute to your decision to choose a career working in the aging field? 46. Did contact with an older relative contribute to your decision to choose a career working in the aging field? 47. Did contact with an older adult (non-relative) contribute to your decision to choose a career working in the aging field? 48. Did personal reward/satisfaction contribute to your decision to choose a career working in the aging field? 49. Did a relationship with a role model or mentor contribute to your decision to choose a career working in the aging field? 50. Did continuing education contribute to your decision to choose a career working in the aging field? 51. Did skill level in doing this work contribute to your decision to choose a career working in the aging field? 52. Did your knowledge about the aging population contribute to your decision to choose a career working in the aging field? 53. Did an available job working with the aging population contribute to your decision to choose a career working in the aging field?
Job Satisfaction (1 =strongly disagree, 5 = strongly agree)	54. Generally speaking, I am very satisfied with my job 55. Most of the things I do in this job are useful and important to me 56. The work I do in this job is very meaningful to me 57. I feel a very high degree of personal responsibility for the work I do in this job. 58. I feel a great sense of personal satisfaction when I do my job well. 59. I feel a sense of achievement in my career. 60. I feel satisfied and happy when I discover that I have

	performed well in this job.
Career Commitment (1 =strongly disagree, 5 = strongly agree)	61. I am happy to develop my career working with older adults 62. I believe that a career with the aging population is a great career to work in. 63. I would be very happy to spend the rest of my career working with older adults. 64. I am proud to tell others about my career working with older adults 65. I am not thinking of shifting to another career that doesn't involve older adults. 66. I wish that I was working with a different age group.
Clarity of Professional Identity (1 =strongly disagree, 5 = strongly agree)	67. I have developed a clear career and professional identity. 68. I am still searching for my career and professional identity (reverse coded) 69. I know who I am, professionally and in my job. 70. I do not yet know what my career and professional identity is (reverse coded).
Career Identity in Aging	71. Please choose the best response below a. Being an gerontologist/aging specialist is at the core of my professional identity b. Being an aging specialist in an add-on to my professional identity c. Being an aging specialist is not a part of my professional identity
Aging Anxiety Scale (1 = strongly agree, 5 = strongly disagree)	Indicate the extent to which you agree or disagree with the following statements: 72. I enjoy being around old people. 73. I fear that when I am old all my friends will be gone. 74. I like to go visit my older relatives. 75. I have never lied about my age in order to appear younger. 76. I fear it will be very hard for me to find contentment in old age. 77. The older I become, the more I worry about my health. 78. I will have plenty to occupy my time when I am old. 79. I get nervous when I think about someone else making decisions for me when I am old. 80. It doesn't bother me at all to imagine myself as being old. 81. I enjoy talking with old people. 82. I expect to feel good about life when I am old. 83. I have never dreaded the day I would look in the mirror and see gray hairs. 84. I feel very comfortable when I am around an old person. 85. I worry that people will ignore me when I am old. 86. I have never dreaded looking old. 87. I believe that I will still be able to do most things for myself

	when I am old. 88. I am afraid that there will be no meaning in life when I am old. 89. I expect to feel good about myself when I am old. 90. I enjoy doing things for old people. 91. When I look in the mirror, it bothers me to see how my looks have changed with age.
Qualitative Questions	Why did you choose a career working with/ or on behalf of older adults? What are the reasons that you continue to work with/or on behalf of older adults? Do you believe team work is important for your job? Why?

Vita

Tracey Gendron was born on September 28, 1970 in Plainview, New York. She graduated from Herricks High School, New Hyde Park, New York in 1988. She received her Bachelor of Arts in Psychology with a certificate in Gerontology from University of Central Florida in 1992. She received her Master of Science in Gerontology in 1995 and her Master of Science in Psychology in 2012 from Virginia Commonwealth University. Tracey is an Assistant Professor in the Department of Gerontology at Virginia Commonwealth University and currently teaches the Biology of Aging, Research Methods and Grant Writing. Tracey's research interests include the professional identity development of Gerontologists, health disparities in the aging population and higher education through service learning and community engagement.