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## Impact of Aging Information on the Continuing Education Preferences of Behavioral Health Clinicians

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**Impact of Aging Information on the Continuing Education  
Preferences of Behavioral Health Clinicians**

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### Abstract

The United States population is aging rapidly and the behavioral health workforce is ill-prepared to meet the concurrent rise in demand for services for older adults. Clinicians specializing in working with older adults make up a very small portion of providers and the majority of service provision falls on general practitioners. The discipline of counseling has emphasized multicultural competencies in training and practice but has not specified standards of competence for work with older adults; little is known about the interests and training preferences of Licensed Professional Counselors (LPCs). This study examined the impact of receiving foundational information about aging on continuing education (CE) preferences of LPCs in Missouri. Participants were practicing LPCs in Missouri ( $N = 120$ ) recruited from a random sampling of the state registry. Inclusion criteria were being currently licensed and involved in provision of direct service. The study employed a three-group randomized controlled design with participants assigned to one of three conditions: an aging-specific reading, an Opioid Use Disorder-specific reading, and a CE requirement-specific reading. As an outcome, participants selected between an aging-specific CE or Motivational Interviewing-specific CE. Results showed that aging knowledge, ageism, and perceived competence did predict CE choice,  $F(3,108) = 5.68, p < .001, R^2 = .14$ . The inclusion of group classification into the model resulted in marginally significant improvement,  $F(4, 107) = 5.35, p < .001; R^2\Delta = .03, p = .05$ , such that those in the Aging-Reading condition were marginally more likely to select the aging-specific CE option than those in the other two conditions. Scores on the ageism measure were not statistically different between participants choosing either CE option,  $F(1, 116) = 1.73, p = .19$ . Higher aging knowledge was associated with greater perceived competence for working with older adults,  $r = .24, p = .01$ , but aging

knowledge was not significantly associated with ageism,  $r = -.07$ ,  $p = .44$ . Overall, the provision of educational reading on aging did raise interest in and choice of the aging-specific CE option. This result suggests that foundational knowledge on aging may increase practitioner's interest in gaining competency for working with older adults.

*Keywords:* Aging, Continuing Education, Counseling, Ageism

## **Impact of Aging Information on the Continuing Education Preferences of Behavioral Health Clinicians**

The United States is aging rapidly; the most current census estimates indicate that the number of individuals over 65 years old will nearly double from about 43 million in 2012 to an estimated 83 million in 2050 (Ortman, Velkoff, & Hogan, 2014). This increase will coincide with proportionally higher rates of older populations as well, with an estimated rise from 13.7% to 21.5% in the same time. Much of this change is driven by the aging of the “baby boomer” generation, with increased healthcare, life expectancy and immigration trends also being major factors. The growth rate of this age group is higher than any other age group (Stanziano, Whitehurst, Graham, & Roos, 2010).

Most older adults report experiencing many positive aspects of aging along with increases to subjective quality of life across domains, including stronger close relationships, social support, reminiscence, increased spirituality, and financial security (Van Leeuwen et al., 2019). The prevalence of the majority of mental health disorders, including depression and anxiety, decline with age but remain concerning for specific subgroups of older adults. Examining trends in psychiatric epidemiology is important and points to the need for more expertise in treating older adults. Older women have higher rates of anxiety and depression than older men, for example, while alcohol use disorder is very low among older adults, perhaps due to selective mortality (Hybels, Blazer, & Hays 2009). Anxiety and depression are highly comorbid and also are often seen with co-occurring medical illnesses and cognitive decline (Arean, Lenze, & Anguera, 2017; Wolitzky-Taylor et al., 2010). Although some trends in mental health and aging may be due to changes with age, cohort effects drive many differences. Specifically, the adults currently aging into older adulthood have been higher

utilizers of mental health care throughout their lives than the previous cohort, suggesting that the overall demand for services from older adults will also be higher (Karel, Gatz, & Smyer, 2012).

These factors highlight that historically lower rates of psychiatric disorders in older compared to younger adults does not mean that mental health work is less important for this group, or that strategies for working with younger adults can uniformly be applied to this group without knowledge of complicating factors. Fortunately, depression and anxiety, including among older adults, are treatable conditions. Many barriers exist, however, that prevent adequate accessibility and engagement with treatment. Older adults who meet criteria for a psychiatric disorder are less likely than their younger counterparts to engage in psychotherapy, in part because of fewer referrals from primary care as well as fewer older adults seeking out specialty care (Olson, Blanco, & Marcus, 2016).

Psychotropic drugs are more likely to be given to older adults than younger adults to treat depression, for example, despite older adults' reported preference for psychotherapy (Gum et al., 2006; Hanson & Scogin, 2008). Older adults, medical and mental health providers, and other stakeholders also hold many ageist misconceptions related to depression. Assumptions that late-life depression is dramatically different symptomatically than in younger years, necessarily chronic, more difficult to treat than in younger adults, and more often caused by psychological factors are long-lasting myths that continue to disrupt efficient care (Haigh, Bogucki, Sigmon, & Blazer, 2018). Additionally, older adults often present to primary care settings with psychiatric complaints rather than seeking out mental health providers (APA Guideline Panel for Depressive Disorders, 2018). These factors and the lack

of specialized training in assessment with older adults contribute to under-recognition and under-diagnosis of later-life psychiatric disorders and, therefore, undertreatment.

A related contributing factor to this undertreatment is the significant lack of mental health workers with aging-specific training. In 2002, only 4% of clinical psychologists surveyed stated that working with older adults was their primary focus (Qualls, Segal, Norman, Niederehe, & Gallagher-Thompson, 2002). In a recent study, this rate was even smaller, with a mere 1.2% of clinical psychologists identifying geropsychology as a specialty. At the same time, only 20.4% of the sample stated that they “never” work with older adults and a larger percentage (37.2%) of practitioners reported working with older adult clients either “frequently” or “very frequently” (Moye et al., 2019). Additionally, these few specialty clinical geropsychologists were more likely to be working independently and self-employed, of the white majority, and older. The supply of clinicians across physical and behavioral health care with specialty training in geriatrics is insufficient. Providing advanced training and certification to specialists as well as providing more basic training to general medical and mental healthcare professionals are essential components of strengthening the workforce in this regard (Hoge, Karel, Zeiss, Alegria, & Moye, 2015).

### **Competency for Mental Health Work with Older Adults**

In 1975, working with older adults was identified as an overlooked specialty area within the field of counseling (Salisbury, 1975). A gerontological counseling specialization existed between 1992 and 2008 but was discontinued when only two programs applied for accreditation (Bobby, 2013). In the most recent 2016 iteration, the Council for Accreditation of Counseling and Related Education Programs (CACREP) Standards do not include reference to aging or older adulthood. Likewise, no competency guidelines specific to

counseling older adults have been published. The field has a strong history of emphasizing and studying multicultural counseling competency (Sue, Arredondo, & McDavis, 1992). This term was originally applied to only racial and ethnic cultural differences, explicitly excluding age. Multicultural competence has continued to be a rich area of study within counseling, with scholars continuing to comment on the concept (Mollen & Ridley, 2021) and apply it to various facets of diversity including race (McMaster, Peeples, Schaffner, & Hack, 2020), ethnicity (Hawkins, Posadas, Manale, & Bean, 2021) veteran status (Geraci et al., 2020), sexual orientation and gender identity (McEwing, 2020), poverty (Clark et al., 2020), religion and spirituality (Mintert, Tran, & Kurpius, 2020). Papers specific to how multicultural competence addresses age or ageism, however, are missing.

In 2014, a committee was appointed to revise these competencies and the Multicultural and Social Justice Counseling Competencies (MSJCC) were created (Ratts, Singh, Nasar-McMillan, Butler, & McCullough 2016). In this revision, the intersection of dynamics of power, privilege, and oppression that impact the counseling relationship were explored. Domains of counselor self-awareness, client worldview, counseling relationship, and counseling interventions were identified as foundational to multicultural competence. These changes highlight the importance of intersectionality, which includes age, in cultural competence, and the potential impact of ageism as experienced by a marginalized client or counselor. Within the first three domains, aspirational competencies of attitudes and beliefs, knowledge, skills, and action are explored. These updated competency guidelines allow for the inclusion of age as an important variable, as described above, but do not explicitly mention age or ageism as important factors to consider. Still, these guidelines suggest a mechanism for advancing multicultural competency in the field; efforts to improve that



competency in counseling can be positioned within the aspirational competencies of attitudes and beliefs, knowledge, skills, and action.

Counseling competency guidelines suggest a framework for progression, but do not provide specific anchors for measuring change across their domains. Within the discipline of clinical psychology, there are specific published guidelines related to competency for working with older adults. The Pikes Peak Model for Training in Professional Geropsychology (Knight, Karel, Hinrichsen, Qualls, & Duffy, 2009) was developed with the knowledge that much of the training in psychological practice with older adults comes after graduate training -- the time period which is also the focus of this project. In that training model, it is proposed that most practitioners will see some older adults in practice and be able to adequately treat them without specialized training. For those who see many older adults or those with more complex issues, such as cognitive impairment or comorbid medical problems, the need for specialized competency training increases. With this assumption, the Pikes Peak model includes aspirational competencies in attitudes, knowledge, and skills across various training levels. These competencies are founded on the "Cube Model" for competency development (Rodolfa et al., 2005).

The Pikes Peak Model is not only open to, but encouraging of, training at different levels, including graduate, internship, and post-licensure. For those who seek specialized training throughout graduate and postgraduate training or those who design independent training programs to improve their competencies, six aspects of training are identified as key elements for clinical geropsychologists. First, an understanding of normal aging is needed to contextualize and present an alternative to abnormal aging experiences of clients. This emphasis can help prevent or counteract the myths of aging that often disrupt care for older

adults. Second, professional geropsychologists should serve as supervisors for those seeking these competencies. Next, examination of one's biases and reactions to aging should be a core component of this training. Additionally, training should be provided across settings where older adults may be treated, including primary medical practices and residential care. Training within interprofessional teams and in working with different professional work styles and disciplines is a separate and related emphasis area. Finally, the special legal and ethical issues related to working with older adults should be included in these training programs. Examples of these issues include end of life decision-making, elder abuse, and functional capacity issues.

In addition to the development of the Pikes Peak model, the Council of Professional Geropsychology Training Programs (CoPGTP) was established to oversee and to provide support and resources to training programs. An early priority for this group was to develop a tool with behavioral anchors so that trainees can thoughtfully and critically review their competencies. This competency assessment tool includes 50 items across nine knowledge and skill domains with scores ranging from Novice to Expert (Karel et al., 2012). Evidence from the validation study of this tool suggests that formal clinical training, as opposed to informal "on-the-go" training, contributed to higher perceived self-competence. Opportunities for this style of training diminish after licensure, suggesting that more training options are needed to create more ideal competencies among this group. Most clinical psychologists will not seek to fully specialize in geropsychology; CoPGTP has identified core knowledge needed to achieve the most basic "Exposure" level of proficiency based on Council of Specialties competencies. The recommended course of study for this "Exposure" level competency is fifteen total hours of CE credit consisting of 1.5 hours of attitudes about aging, 2.5 hours of general knowledge

about adult development and aging, 3.0 hours of knowledge and foundations of clinical practice with older adults, 3.5 hours of knowledge of foundations of assessment with older adults, 3.5 hours of knowledge of foundations of intervention, consultation, and other services with older adults, and and 1.0 hour of a topic in a domain of special interest to that professional with specific relevance to a subpopulation of older adults (Hinrichsen, Emery-Tiburcio, Gooblar, & Molinari, 2018). These competency standards may be a good starting point for establishing competency in professional counseling as well. As mental health providers, counselors are likely subject to similar biases and expectations as clinical psychologists. Because attitudes about aging are so foundational to competent work with older adults, the study of ageism is particularly relevant to the proposed research and will be addressed next.

### **Ageism**

Ageism was first labeled in the social sciences by Butler in 1969 and includes stereotypes, prejudice, and discrimination on the basis of chronological age or perception of being old. Ageism can be directed at younger or older people, but the two qualitatively differ, as ageism toward older adults is related to expectations of irreversible decay and decline (Iversen, Larsen, & Solem, 2009). As the population has aged, ageism has become one of the most prevalent forms of discrimination and stereotyping (World Health Organization, 2021). Anti-aging sentiments have also increased over the years, perhaps due to medicalization of aging and the growing population of older adults (Ng et al., 2015). At the same time, positive attitudes toward aging have paradoxically not risen, despite improved health outcomes for older adults, a larger proportion of the population being older, and increasing positive views of other stigmatized groups (Levy, 2017). One effect of this ageism was highlighted during

the COVID-19 pandemic, as negative age stereotypes were associated with older adults avoiding hospitalization for COVID-19 and dying at home with undiagnosed illness (Levy, Provolo, Chang, & Slade, 2020). Ageism is also a global problem, and evidence suggests that the impact of ageism on poorer health outcomes is even more significant in poorer countries (Chang et al., 2020). Still, ageism has remained vastly understudied relative to other “isms,” with over 1,000 fewer Psycinfo results than *racism* and *sexism* in a 2005 study (Nelson, 2005).

The coinciding rises in demand for social services for older adults and ageism of the workforce has impacted many professional disciplines and fields of work. Workforce deficits have been noted across fields of nursing (Ferrario, Freeman, Nellet, & Scheel, 2007), long-term care administration (Butler, Brennan-Ing, Wardamasky, & Ashley, 2014), and social work (Wang & Chonody, 2013), among other industries. As stakeholders identify these trends, researchers are interested in understanding why the workforce supply for older adults has dwindled as the demand has increased. Aging anxiety –fear of loss associated with one’s own aging – was found to be negatively associated with interest in working with older adults among undergraduate students (Boswell, 2012a). In the same dataset, students with less knowledge of aging and more anxiety about aging showed more ageism (Boswell, 2012b).

Aging knowledge, negative attitudes about aging, and ageist behaviors appear to be key variables related to the deficit in the workforce. Levy (2016) proposed the Positive Education about Aging and Contact Experiences (PEACE) Model as a theoretical approach to reducing ageism. In this model, attitudes about aging and older adults are expected to be improved through accurate education about aging and positive contact with older adults. The current study focused on the educational component of this theory. Key to the PEACE theory

is the finding that greater knowledge of aging is associated with more positive attitudes toward older adults (Wurtele & Maruyama, 2013). Education on aging is not required in most undergraduate or graduate professional programs, as developmental courses tend to focus on childhood and adolescence (McGuire, Klein, & Couper, 2005), a concern that has been raised by Hoge et al. (2015) in the call for strengthening Psychology's workforce for working with older adults.

### **Current Study Rationale and Aims**

The need to prepare the behavioral health workforce for the aging population is an important and under-discussed task. The workforce has a significant gap in coverage for working with older adults, such that much of behavioral healthcare is provided by generalist practitioners with little or no aging-related training. Trends in education and training suggest that this gap is not diminishing, and may be widening, based on studies of clinical psychologists conducted in 2002 (Qualls et al.) and 2019 (Moye et al.) that showed the percentage of clinicians identifying as geropsychologists had slipped from 4% to 1.2%. Continuing Education is a key avenue for influencing knowledge and competency in post-graduate training. This study sought to assess the current state of clinician attitudes and knowledge of aging as well as investigate a mechanism for potentially increasing competency for working with this population. The study included a behavioral outcome to expand beyond simply measuring attitudes, which are often fickle and do not always predict behavioral outcomes (Wilson, Dunn, Kraft, & Lisle, 1989). Instead, we measured participants' decision to enroll in a CE webinar specific to competencies for working with older adults, in addition to other important variables. This study utilized a three-group one-time survey of licensed professional counselors randomized into an experimental group receiving general education

on aging (Aging-Reading), a group receiving a similarly styled educational reading on Opioid Use Disorder (OUD-Reading), and a control group receiving reading on an unrelated topic of CE requirements for Missouri counselors (CE-Reading).

### **Research Aim 1**

Interest in aging-relevant CE may be influenced by general knowledge about aging, such that access to that more basic knowledge increases desire for learning more. This effect may be driven by information countering ageist stereotypes held by clinicians (e.g., that older adults are generally more impaired, sick, difficult to treat, and resistant to treatment than their younger counterparts). Information on normal aging, psychopathology in aging, and treatment options may help eliminate this stigma and create more interest in working with older adults. Part of the effect may also be driven by lack of previous exposure and self-reflection. Clinicians may not consider that they should have specialized training for working with older adults unless prompted to consider it carefully. The first aim of this study was to examine the effect of education about aging on clinician choice of and interest in an aging-specific CE option.

#### ***Hypothesis 1A***

Compared to participants in the Opioid Use Disorder (OUD) Reading and Continuing Education (CE)-Reading groups, participants in the Aging-Reading experimental group will be more likely to select the aging-specific CE option.

#### ***Hypothesis 1B***

Compared to participants in the OUD-Reading and CE-Reading groups, participants in the Aging-Reading experimental group will report a higher degree of interest in aging-specific CE.

**Research Aim 2**

The second aim of this study was to examine the degree to which self-reported ageism influences interest in selecting the aging-specific CE option. As discussed above, ageist attitudes held by behavioral health workers contribute to the coverage gap. Furthermore, knowledge on normal aging is theorized to reduce ageism. Still, those with stronger ageist beliefs may be more resistant to behavioral change from minor intervention, while those with less ageist beliefs may be easier to influence toward CE for competency for working with older adults.

***Hypothesis 2***

Across all conditions, participants with lower levels of explicit self-reported ageism will be more likely to select the aging-specific CE option.

**Research Aim 3**

Finally, this study provided an opportunity to examine factors that influence perceived competence for working with older adults. Aging knowledge and ageism are two related constructs relevant to the study that may be related to this perceived competency. Specific to psychology, training requirements for “Exposure” level competency for working with older adults have been identified (Hinrichsen et al., 2018) and they include CE time dedicated to knowledge about and attitudes towards aging. Measuring how these constructs affect perceived competence is important for supporting inclusion in the foundational competency paradigm.

***Hypothesis 3A***

Across all conditions, higher levels of aging knowledge will be related to higher perceived competency for working with older adults.

***Hypothesis 3B***

Across all conditions, lower levels of self-perceived ageism will be related to higher perceived competency for working with older adults.

**Methods****Participants**

This project used a random sampling of Missouri Licensed Professional Counselors (LPCs). Participants were recruited via direct mail sent to their name and mailing address as found on the downloadable listing of the Missouri state registry of LPCs (<https://pr.mo.gov/listings-cou.asp>). Participants were currently licensed LPCs in Missouri who spend at least some time in direct service provision (i.e., counseling/psychotherapy, assessment, case management) or supervision of direct service provision, as indicated by their response to specific items on the survey tool.

**Procedures**

A mailing list was obtained from the Missouri registry of LPCs in April 2020. A random sampling of 1000 clinicians was selected. In the first mailing sent in June 2020, potential participants were provided with some information about the project (i.e., “research project about continuing education (CE) interests of Missouri LPCs;” the full invitation letter is available in Appendix B) and a link to the online Qualtrics survey. Recipients were mailed a postcard reminder (available in Appendix B) three weeks later, and then again after another three weeks, for a total of three contacts. Participants completed informed consent online before entering the survey and were asked to respond using a computer, rather than a phone or tablet. Respondents who did not meet inclusion criteria (i.e., were retired, unemployed, or not engaged in direct service provision or supervision) were still invited to complete the survey



then were screened out for data analyses. All data were collected using the one-time Qualtrics survey, which included all demographic information, measures, and links listed below.

At the start of the study, all participants responded to several questions related to their work roles and status in 2019. Next, they noted their preferred CE option, selecting from aging-specific (“Working with Older Adults”) and MI-specific (“Motivational Interviewing for Beginners”) and also rated their interest in each option. Participants then responded to more questions about their work status as it related to older adults, including past training and percentage of time devoted to work with older adults, as well as items measuring theoretical orientation. All participants then completed the Facts on Aging Quiz, Pikes Peak Competency Tool, and Expectations Regarding Aging (ERA) questionnaire. One-third of the participants were then randomized into the Aging-Reading experimental group and directed to read the APA document “Older Adults’ Health and Age-Related Changes: Reality Versus Myth” (<https://www.apa.org/pi/aging/resources/guides/myth-reality.pdf>) following their completion of those earlier survey items. This pdf is freely available through the APA Office on Aging website along with other resources and was embedded within the Qualtrics survey. This document was selected due to its comprehensive coverage of general aging and statistics and the direct response to common misconceptions in aging. Reading this document served to improve knowledge of aging and perhaps limit some of the ignorance-related ageism that may drive some of the disinterest in aging-related CE. Another third of the participants were randomized into the OUD-Reading group and had this similarly styled and length reading on treatment approaches for drug addiction, which served as an MI-biased educational topic (<https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/drugfacts-treatmentapproaches.pdf>). The final third of the participants in the CE-Reading group were provided reading on CE

requirements for counseling

(<https://pr.mo.gov/boards/counselors/continuingeducationreminder.pdf>), a topic unrelated to the CE choices. Two simple questions were included after each reading to check for successful completion of the reading.

Finally, all participants were re-assessed for their preferences for CE and asked to select one of two webinars as compensation for participating: Working with Older Adults or Motivational Interviewing for Beginners offered through Missouri Institute of Mental Health (MIMH). Participants also responded to prompts regarding their reasoning for choice of CE option to address potential confounds in the study, such as barriers to Medicare reimbursement. After these data were collected, participants received one of three messages depending on their experimental condition, with the only difference being the specific coupon code tied to each experimental condition (e.g., Code1, Code2, Code 3). Specifically, the exit screen read: “Thank you for completing the survey. As compensation, we are providing you with a complimentary coupon code for one of two specific CE courses from Missouri Institute of Mental Health. Your coupon code is **Code1** (this is case sensitive, so remember to use capital letters). To register for the course "Motivational Interviewing for Beginners" (2 CEs) follow this link <https://mimh.configio.com/pd/569/motivational-interviewing-for-beginners-17601> OR to register for the course "Working with Older Adults" (2 CEs) follow this link <https://mimh.configio.com/pd/2100/working-with-older-adults>. You will have one month to complete the course with the coupon code. Please make note of the code and link, as you will not be able to log back in to this page to retrieve them. Thank you again for your participation in our study.” De-identified data were received from the Professional Training department of the Missouri Institute of Mental Health in March 2021 regarding which codes

were used for which courses, which allowed for analysis of follow-up completion of courses by experimental condition.

## **Materials**

### ***Demographics***

Participants responded to survey items assessing relevant demographics and professional characteristics. Participants reported their age, gender identity, highest degree earned, year they earned that degree, employment status, employment setting, percentage of their time dedicated to direct service provision and supervision of direct service provision, percentage of work with older adults, and previous training for working with older adults (graduate or post-graduate), among other items. Additionally, theoretical orientation was assessed using five items from the Development of Psychotherapists Common Core Questionnaire (Orlinsky et al., 1999) related to how much their practice is influenced by cognitive, behavioral, humanistic, psychodynamic, and systems orientations. Demographic and professional background items are listed in Appendix A.

### ***Ageism***

Ageism is a multi-faceted and understudied construct, which can make it difficult to capture quantitatively. Ageism includes stereotypes, prejudice, and discrimination, can be directed toward others or oneself, can be positive or negative, implicit or explicit, and has an evolving definition (Iversen, Larsen, & Solem, 2009). To address this confusion, a 2019 review examined the psychometric properties and scopes of commonly used ageism scales (Ayalon et al., 2019). In that systematic review, The Expectations Regarding Aging Questionnaire (ERA) was the only scale with adequate ratings across content validity, structural validity, and internal consistency. At the time of the review, it had been used in six

empirical studies and has 38-item (ERA-38; Sarkisian, Hays, Berry, & Mangione, 2002) and 12-item (ERA-12; Sarkisian, Steers, Hays, & Mangione, 2005) versions, each containing three subscales of expectations of physical health, mental health, and cognitive functioning.

The 20 general items pertaining to expectations about older people in general from the ERA-38 were used in this study. Participants responded with choices of “Definitely True,” “Somewhat True,” “Somewhat False,” and “Definitely False” to items about their expectations of aging and these were scored as 1-4, respectively. Sample items include “It’s an acceptable part of aging to have trouble remembering names” and “It’s normal to be depressed when you are old.” The measure produces a total score summed across the items. This section of the ERA has demonstrated high internal consistency in a previous study (Blieszner & Roberto, 2010;  $\alpha = .90$ ). In the current study, the first two items of the measure were spoiled in the coding of the survey, leaving 18 usable items. Specifically, the first two items were combined into one item on the survey. The total score was calculated in the same way. These 18 items had a good internal consistency ( $\alpha = .89$ ) and scores were evenly distributed (skew =  $-.04$ ), but poor variance ( $SD = 7.67$ ), leading to low utility in this study.

### ***Knowledge***

Aging knowledge was assessed using Palmore’s First Facts on Aging quiz (FAQ1; Palmore, 1977). This measure has become the gold standard for measuring knowledge and misconceptions about aging. The measure includes 25 true/false items about general aging topics. Test scores tend to increase with education and gerontology-specific education and have been shown to be a much better indicator of aging knowledge than attitudes (Palmore, 1998). Since its creation, the only standard modification has been the inclusion of a “don’t know” option in addition to the true/false responses (Palmore, 1998). This change provides

more clarity by differentiating incorrect responses from misconceptions and ignorance. Examples of items on this measure include “Physical strength tends to decline in old age” and “The majority of old people have incomes below the poverty line.” Total scores were calculated as number of correct responses. In the current study, the Facts on Aging quiz had a fairly low internal consistency, although this is to be expected for a scale with only 3 response options ( $\alpha = .60$ ). The scores were normally distributed ( $\text{skew} = -.02$ ).

### ***Perceived Competence***

The Pikes Peak Geropsychology Knowledge and Skill Assessment Tool was discussed earlier as a tool developed to evaluate progress in developing competencies in work with older adults (Karel et al., 2010). The tool was designed to be both self-administered and used by a supervisor to assess trainees. In the current study, the self-assessment in Part I of the tool was used to assess self-perceived knowledge about adult development, aging, and the older adult population. Participants rated their competency across domains of models of aging, demographics, aspects of normal aging, and diversity in the aging experience on a scale that included, in order, Novice, Intermediate, Advanced, Proficient, and Expert, with anchors described on the tool. For example, ratings of “Novice” suggests entry-level skills requiring intensive supervision, whereas an “Expert” serves as a resource consultant to others and is recognized as having expertise. All 21 items were rated, and these ratings were coded as quantitative scores from 1-5, with higher scores indicating more expertise. Part I of this tool has previously demonstrated high internal consistency ( $\alpha > .91$ ). In this study, the items had extremely high internal consistency ( $\alpha = .98$ ) and scores were moderately negatively skewed ( $\text{skew} = -.86$ ).

### ***Manipulation Check***

After being prompted to complete the reading, participants responded to three questions to assess their level of attention to the experimental manipulation of completing the reading. Those in the Aging-Reading group were asked “Did you read the PDF “Older Adults’ Health and Age-related Changes: Reality versus Myth?” with response options of “yes” and “no.” They also had two True/False questions. First, “according to the PDF, most older adults are living in nursing homes” to which the correct answer was false. Second, “according to the PDF, older adults are still capable of learning new skills” to which the correct answer was true.

For those in the OUD-Reading condition, the same initial Yes/No question was asked with their PDF’s title instead. Next, they also had two True/False questions: “according to the PDF, there are no effective behavioral therapies for opioid use disorder” (correct answer false) and “according to the PDF, two effective purposes for medications are detoxification and maintenance (correct answer true).

The final third of participants in the CE-Reading group had the same first question with “Continuing Education Overview” in place of the title. The first True/False question was “according to the PDF, the specifics of my CE activity do not need to be reported for licensure renewal” and the correct answer to this question was false. The second question was “according to the PDF, licensees are eligible to obtain at least twenty (20) hours of self study continuing education” and the correct answer was true.

### ***CE Preferences***

Participants’ preference and interest in the CE courses provided were assessed pre-manipulation (i.e., before reading the assigned PDF; T1) with several questions embedded

within professional demographic items. Specifically, they were asked “As described in the consent form, your compensation for participating is CE credits. Which of these Continuing Education options would you be more likely to select?” with choices of “Working with Older Adults” and “Motivational Interviewing for Beginners.” Next, they were instructed “Using a 1-5 scale (1 = not interested at all, 5 = extremely interested), rate your level of interest in each of these CE course options.”

After completing the survey (i.e., demographics, professional characteristics, Expectations Regarding Aging (ERA), Facts on Aging (FoA), and Pikes Peak Competency Tool) and being exposed to their experimental condition of their assigned reading, participants completed these items a second time (T2). They also rated areas that contributed to their interest and choice of CE, responding on the same 1-5 scale on factors of Medicare reimbursement limitations, interest prior to study, interest developed during the study, and relevance to their work.

As described in the Procedures section, data were also received from the Professional Training department of the Missouri Institute of Mental Health regarding completion of CE courses. Specifically, these data showed how many participants from each condition (as shown by the coupon code they used which was specific to their experimental condition) completed each CE course.

## **Data Analysis Plan**

### **Preliminary Analyses**

All analyses were conducted using SPSS. Statistical significance was defined as  $p < .05$ . Effect sizes were also calculated and reported for all analyses. Relevant demographic and professional characteristics were examined in real time to ensure proper randomization.

Variables were analyzed using Pearson correlations to ensure that those significantly correlated with the dependent variables were controlled for in subsequent analyses. We also checked for a non-linear relationship between age of participant and ageism before conducting analyses.

### **Hypothesis 1A and 1B**

Compared to participants in the two control groups, participants in the Aging-Reading experimental group A) will be more likely to select the aging-specific CE option and B) will report a higher degree of interest in aging-specific CE. Hypothesis 1 was tested with hierarchical logistic regression and hierarchical linear regression, respectively, with A) choice of CE option and B) interest in the CE option as the dependent variables. Independent variables were perceived competence, aging knowledge, and self-perceived ageism in step one, followed by group (pooled MI and unrelated vs. aging education) in step two. Experimental group was valued as -.5 (pooled control groups) and .5 (Aging-Reading) for analyses. We expected group, as the primary predictor, to add predictive power to the choice of CE above and beyond the contributions of the other independent variables. We also ran these analyses with ageism as a moderator variable to see to what extent ageism moderates the relationship between group and CE choice. In addition, a simple 3 x 2 Chi-Squared analysis was run examining group by the choice of CE option, alone. We expected to see higher rates of aging-specific CE option choice among the experimental group.

### **Hypothesis 2**

Across all three group conditions, participants with lower levels of explicit self-reported ageism will be more likely to select the aging-specific CE option. Self-reported



ageism is a continuous variable, while choice of CE is categorical. Therefore, a one-way Analysis of Variance (ANOVA) test was performed to test hypothesis 2.

### **Hypotheses 3A and 3B**

Across all three group conditions, A) higher levels of aging knowledge and B) lower levels of self-perceived ageism will be related to higher perceived competency for working with older adults. These hypotheses were tested with Pearson correlations using the pooled sample, as all included variables are continuous.

### **Power Analysis**

A power analysis was conducted to determine the necessary sample size to detect the expected medium effect size. A multiple linear regression with 4 independent variables (research aim 1) requires a sample size of 84 (Cohen, 1992). An ANOVA with two groups requires a sample size of 64. For hypothesis 3, a sample size of 85 was needed. All analyses utilized a  $p < .05$  significance level.

## **Results**

### **Preliminary Analyses**

#### ***Missing Data: Demographics***

A total of 139 individuals opened the survey, agreed to participate, and stated that they had not previously completed the survey; this constitutes 13.9% of those invited to participate. Of those who joined, 15 were removed from analyses due to having incorrect or missing data on all three control items in the survey and having extensive missing responses. Another 3 participants were removed due to not responding to questions regarding the reading manipulation and one was removed because they were retired and had not provided direct

service in the past year. The final sample of 120 constitutes 12% of those initially invited to participate.

***Missing Data: Study Variables***

Across all 120 participants and 25 items on the Facts on Aging quiz (i.e., 3000 data points), there were 10 items of missing data (i.e., .003% of items missing). No participant had more than one missing response and the pattern of responses was Missing Completely at Random (MCAR;  $\chi^2(216) = 222.28, p = .37$ ). Missing items were replaced with Available Item Analysis (AIA), wherein missing items within a scale are replaced with the mean value of that participant's other items from that scale. This method is different from mean substitution, for example, which replaces missing data with the mean of all participants. The AIA method uses participant data to fill missingness and has been shown to perform as well or better than more advanced statistical methods for missing items (Parent, 2013).

On the ERA, there were 15 missing items among the 18 usable items for the 120 participants (.007% of the 2160 data points). One participant was missing the first 7 of these items and was excluded from analyses that included this measure. No other participant accounted for more than 2 of the remaining missing 8 items. Missing items were not MCAR,  $\chi^2(118) = 155.30, p = .01$ , but it is the case that the missing items constituted just 0.0037% of data points. On the basis of this low missingness, missing values were replaced with AIA (Parent, 2013).

Across all 120 participants and 21 items on the Pikes Peak competency tool (i.e., 2520 data points), there were 19 missing items of data constituting .008% of the data points. No participant had more than two missing responses. Missing items were again MCAR,  $\chi^2(136) = 148.65, p = .22$ , and replaced with AIA.

There were 119 responses to choice of CE at T1, of which 70 chose Working with Older Adults (58.82%) and 49 chose Motivational Interviewing for Beginners (41.18%). At T2, there were also 119 responses to choice of CE and 78 chose Working with Older Adults (65.55%) and 41 chose Motivational Interviewing for Beginners (34.45%). Interest in the Working with Older Adults CE was also measured on a 1-5 scale (with 5 being “very interested”) was also collected. There were 118 responses to this item at T2. The comparable item measuring interest in the Motivational Interviewing for Beginners CE had 117 responses.

### ***Randomization check***

Participants in the three experimental conditions did not vary on demographic variables of gender ( $\chi^2(2) = 1.89, p = .39$ ), age ( $F(2, 114) = .27, p = .76$ ), years since their highest degree ( $F(2, 109) = .25, p = .78$ ), highest degree earned ( $\chi^2(4) = 2.45, p = .65$ ), proportion of time in 2019 dedicated to working with older adults ( $F(2, 117) = 2.11, p = .13$ ), or the degree to which their theoretical orientation is guided by cognitive ( $F(2, 116) = .16, p = .85$ ), behavioral ( $F(2, 115) = 2.29, p = .11$ ), humanistic ( $F(2, 110) = 1.51, p = .23$ ), psychodynamic ( $F(2, 113) = .23, p = .80$ ), and systems ( $F(2, 114) = .45, p = .64$ ) frameworks. The groups also did not vary on study variables of knowledge of aging ( $F(2, 117) = .52, p = .60$ ), ageism ( $F(2, 116) = .11, p = .90$ ), and competence for working with older adults ( $F(2, 117) = .14, p = .87$ ). Scores for these study variables by experimental group are available in Table 1. Thus, it appears that randomization was successful in equating the experimental conditions on key demographic and other variables related to study outcomes. Correlations and descriptive statistics of quantitative study variables are available in Table 2.

**Table 1***Study Variable Scores for Each Group*

Variable	Aging-Reading	OUD-Reading	CE-Reading
	Mean (SD)	Mean (SD)	Mean (SD)
Facts on Aging <sup>a</sup>	14.69 (2.82)	13.99 (3.09)	14.39 (3.17)
ERA (Ageism) <sup>b</sup>	51.45 (7.57)	52.23 (8.35)	51.58 (7.32)
Pikes Peak <sup>c</sup>	53.87 (20.37)	51.81 (20.39)	54.00 (19.98)

<sup>a</sup>FoA = Facts on Aging; <sup>b</sup>ERA = Expectations Regarding Aging; <sup>c</sup>Pikes Peak = Pikes Peak

## Competency Tool

**Table 2***Correlations of Study Variables*

Measure	1	2	3	4	5	6	7	8
1. Age								
2. Years since degree	.56***							
3. Work % OA	.15	.14						
4. Aging CE Interest	.27**	.13	.16					
T1								
5. Aging CE Interest	.22*	.05	.08	.81***				
T2								
6. FoA total	.23*	.23*	.15	.07	.04			
7. ERA total	.08	.10	.06	-.01	.04	-.07		
8. Pikes Peak total	.27**	.12	.43***	.29**	.24**	.24**	-.08	

Number of Responses	117	112	120	117	118	120	119	120
Mean	62.66	28.51	7.46	3.47	3.68	14.37	51.73	53.28
Standard Deviation	9.98	10.26	12.54	1.20	1.23	3.02	7.67	19.98
Range	30-79	2-51	0-85	1-5	1-5	7-25	29-71	21-103
Skew	-.94	-.46	2.95	-.46	-.70	-.02	-.04	.28
Kurtosis	1.16	.46	12.64	-.65	-.54	.33	.22	-.86

<sup>a</sup>FoA = Facts on Aging; <sup>b</sup>ERA = Expectations Regarding Aging; <sup>c</sup>Pikes Peak total = Pikes Peak Competency

Tool

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### ***Manipulation Check***

Of the 41 participants in the Aging-Reading condition, 38 indicated they had completed the reading (92.68%), 40 answered both true/false questions correctly (97.56%) and one answered one incorrectly. Of those in the OUD-Reading condition, 35 out of 37 stated they completed the reading (94.59%), 31 answered both questions correctly (83.78%), and 6 answered one incorrectly (16.22%). All but one of the 42 participants in the CE-Reading condition stated that they completed the reading (97.62%). The first true-false question appears to have been too difficult, as only 20 answered it correctly (47.62%); the second true-false question was answered correctly by 40 of the participants (95.24%). Participants were excluded from primary analyses involving group placement (Hypotheses 1A and 1B) if they did not indicate that they had completed the reading. Chi-squared analysis indicated that groups did not significantly differ in proportion of participants who had adequate engagement with the experimental manipulation ( $\chi^2(2) = 3.41, p = .18$ ).

### ***Sample Characteristics***

The 120 participants ranged in age from 30 to 79 years ( $M = 62.66$ ,  $SD = 9.98$ ). Participants were overwhelmingly white (91.67%) and heterosexual (92.50%) and mostly female (67.50%). Exactly two-thirds of the participants were Master's level clinicians and about one-fourth were licensed professional counselors who had earned a doctoral degree (23.33%). Details about these doctoral degrees were not collected, so it is unclear how many of these Doctoral degrees were in a behavioral health discipline. Over half of the participants spent 0% of their time working with older adults in the previous year (51.67%) and the mean proportion of time was 7.46%. Average time since licensure for participants was 28.51 years ( $SD = 10.26$ ) and time ranged from two years to 51 years. Participants reported receiving training in aging informally (51.67%) and through workshops (45.00%), on-the-job training (42.50%), and graduate training (30.00%), and less frequently from practica (9.17%) and postgraduate training (8.33%). They were mostly working as employees (48.33%) or self-employed (40.83%); several participants were retired or semi-retired but still provided clinical services in the past year (6.61%). Summaries of demographic information and work characteristics are available in Tables 3 and 4, respectively. No imputation was completed as no demographic data were used in analyses.

**Table 3**

*Descriptive Statistics of Respondents (N=120)*

Variable	N (%)	Range	Mean (SD)
Age		30-79	62.66 (9.98)
Race			
White	110 (91.67)		
Black, African American, or Negro	5 (4.17)		
American Indian or Alaskan Native	1 (0.83)		

Asian	0 (0.00)
Native Hawaiian or Pacific Islander	0 (0.00)
Other	3 (2.50)
Biracial/Multiracial	1 (0.83)
Gender	
Female	81 (67.50)
Male	39 (31.67)
Sexual Orientation	
Heterosexual or Straight	111 (92.50)
Gay	3 (2.50)
Lesbian	1 (0.83)
Bisexual	1 (0.83)
Asexual	1 (0.83)
No Label or Prefer not to say	1 (0.83)

**Table 4***Work Characteristics of Respondents (N=120)*

Variable	N (%)	Range	Mean (SD)
Years since Degree		2 – 51	28.51 (10.26)
Highest Degree			
Master's Level	80 (66.67)		
Master's Plus (e.g., ED.S)	11 (9.17)		
Doctoral Level	28 (23.33)		
Employment Status			
Working (paid employee)	58 (48.33)		
Working (self-employed)	49 (40.83)		
Retired or semi-retired	8 (6.61)		
Prefer not to answer	2 (1.67)		
Not working (looking for work)	1 (0.803)		
Roles			
Assessment	65 (54.17)		

Consultation	42	(35.00)
Clinical Supervision	31	(25.83)
Psychotherapy	30	(25.00)
Case Management	29	(24.17)
Teaching/Professional Training	28	(23.33)
Administration	21	(17.50)
Clinical Support Services	13	(10.83)
Residential/Inpatient	7	(5.83)
Outreach/Marketing	7	(5.83)
Research	5	(8.26)
Medication Management	2	(4.17)
Other	1 each	(0.83)
Assessing medical guidelines		
Call center		
Chaplaincy		
Crisis Intervention		
Clinical Hypnotherapy		
Public presentations		
Treatment planning		
Writing		
Vocational Planning		
Work Setting		
Private Practice/Self-employed	57	(47.50)
School or University	14	(11.67)
Nonprofit	12	(10.00)
Community Mental Health Center	9	(7.50)
Hospital (non-state)	7	(5.83)
Department of Corrections	6	(5.00)
HMO/Corporate Health Service	3	(2.50)
Other State Agency	2	(1.67)
Military Base	2	(1.67)



Juvenile Office	2	(1.67)	
Other	1 each	(0.83)	
Missouri Department of Mental Health			
Church			
Drug and Alcohol Rehab			
Private Residential			
Proportion of Time with Population			
Children			24.72 (35.79)
Adult			50.51 (39.03)
Older Adults			7.46 (12.54)
Past Training in Aging			
Graduate Training	36	(30.00)	
Practicum	11	(9.17)	
Postgraduate	10	(8.33)	
Workshop	54	(45.00)	
On-the-job	51	(42.50)	
Informal	62	(51.67)	
Theoretical Orientation			
Cognitive			4.15 (0.94)
Behavioral			3.83 (1.11)
Humanistic			3.31 (1.25)
Psychodynamic			2.46 (1.49)
Systems			2.87 (1.47)

### Hypothesis 1A and 1B Results

*Hypotheses 1: Compared to participants in the two control groups, participants in the Aging-Reading group A) will be more likely to select the aging-specific CE option at Time 2 and B) will report a higher degree of interest in aging-specific CE at Time 2.*

Hierarchical logistic regression was used to test hypotheses 1A. Hypothesis 1A was examined by testing a regression model with Time 2 choice of CE (i.e., Working with Older Adults vs. Motivational Interviewing for Beginners) as the dependent variable. Total score on the Facts on Aging quiz (FoA; knowledge), Expectations Regarding Aging (ERA; ageism) and Pikes Peak competency (competency) tools were in step one of the model, while experimental group was added in step two, with both control groups (OUD-Reading and CE-Reading) pooled together compared to the Aging-Reading experimental group. Results are available in Table 5 and showed that aging knowledge, ageism, and perceived competence did predict CE choice,  $F(3,108) = 5.68, p < .001, R^2 = .14$ . The inclusion of group into the model resulted in marginally significant improvement,  $F(4, 107) = 5.35, p < .001; R^2\Delta = .03, p = .05$ . Competency for working with older adults, as measured by Pikes Peak total score, was the only significant predictor in step 1 ( $B = -.32, p < .001$ ). In step 2, competency ( $B = -.32, p < .001$ ) was significant and group ( $B = -.18, p = .05$ ) was marginally significant. Participants who rated themselves as more competent for working with older adults were more likely to choose the aging-specific CE, and participants in the Aging-Reading condition were marginally more likely to choose the aging-related CE.

**Table 5**

*Hierarchical Logistic Regression Analyses for Choice of CE (N = 112)*

Predictor Variables	$\beta$	<i>R</i>	$R^2 / \text{Adj } R^2$	$\Delta R^2$	<i>F</i>	$\Delta F$
Step 1		.37	.14 / .11		5.68***	
<i>FoA Total<sup>a</sup></i>		-.02				
<i>ERA Total<sup>b</sup></i>	.15					
<i>Pikes Peak Total<sup>c</sup></i>	-.32***					

Step 2	.41	.17 / .14	.05	5.35***	3.92
<i>FoA Total</i>	-0.01				
<i>ERA Total</i>	.14				
<i>Pikes Peak Total</i>	-.32***				
Experimental Group	-.18				

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<sup>a</sup>FoA = Facts on Aging; <sup>b</sup>ERA = Expectations Regarding Aging; <sup>c</sup>Pikes Peak Total = Perceived Competency measure

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

The same analyses were run excluding the ERA ageism measure due to the poor distribution. In this model, step 1 did significantly predict CE choice at T2,  $F(2, 110) = 7.37$ ,  $p = .001$ ,  $R^2 = .12$ , and competency was the only significant predictor ( $B = -.33$ ,  $p < .001$ ). The addition of group to the model added predictive power to the model,  $F(3, 109) = 6.52$ ,  $p < .001$ ;  $R^2\Delta = .03$ ,  $p = .04$ . Competency ( $B = -.33$ ,  $p < .001$ ) and group ( $B = -.19$ ,  $p = .04$ ) were both significant predictors in this model.

Hierarchical linear regression analyses were run to test hypothesis 1B, with the continuous Time 2 dependent variable of interest in the aging-specific CE ( $M = 3.65$ ,  $SD = 1.23$ ). Results are available in Table 6 and showed that aging knowledge, ageism, and perceived competence had marginal significance in predicting interest in the aging-specific CE,  $F(3, 107) = 2.70$ ,  $p = .05$ ,  $R^2 = .07$ . Perceived competence was the only significant predictor ( $B = .27$ ,  $p = .01$ ). The inclusion of experimental group to the analyses did result in a significant model and added predictive power over and above the first step of analyses,

$F(4,106) = 3.41, p = .01; R^2\Delta = .04, p = .02$ . Perceived competency ( $B = .27, p = .01$ ) and experimental condition ( $B = .21, p = .02$ ) were the only significant predictors in step 2.

Participants who had higher self-perceived competence for working with older adults and those who were in the Aging-Reading condition reported higher interest in the aging-related CE option.

**Table 6**

*Hierarchical Regression Analyses for Interest in Aging-Specific CE (N = 111) (Hypothesis 1B)*

Predictor Variables	$\beta$	R	$R^2 / \text{Adj } R^2$	$\Delta R^2$	F	$\Delta F$
Step 1		.27	.07 / .04		2.70	
<i>FoA Total<sup>a</sup></i>	-.05					
<i>ERA Total<sup>b</sup></i>	.02					
<i>Pikes Peak Total<sup>c</sup></i>	.27**					
Step 2		.34	.11 / .08	.04	3.41*	5.23*
<i>FoA Total</i>	-.07					
<i>ERA Total</i>	.03					
<i>Pikes Peak Total</i>	.27**					
Experimental Group	.21*					

<sup>a</sup>FoA = Facts on Aging; <sup>b</sup>ERA = Expectations Regarding Aging; <sup>c</sup>Pikes Peak total = Pikes Peak Competency Tool

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

Again due to poor scale distribution, these same analyses were run excluding the ageism measure. In this model, step 1 did significantly predict interest in the aging-specific CE at T2,  $F(2, 109) = 4.63, p = .01, R^2 = .08$ , and competency was the only significant predictor ( $B = .29, p = .003$ ). The addition of experimental group to the model added predictive power to the model,  $F(3, 108) = 4.88, p = .003; R^2\Delta = .04, p = .03$ . Competency ( $B = .29, p = .003$ ) and group ( $B = .20, p = .03$ ) were both significant predictors in this model.

Analyses were also run for Hypotheses 1A and 1B including participants who had not indicated that they had adequately attended to the manipulation (i.e., did not say they did the reading or responded incorrectly to both true/false questions). Results followed a similar pattern, with marginal significance changing to statistical significance in both cases.

A 3x2 Chi-Square analysis was run examining experimental condition by Time 2 CE preference. The Chi-Squared test was significant,  $\chi^2(2) = 8.50, p = .01$ . Visual scanning of data seen in Table 7 suggests that those in the aging experimental condition were more likely to choose the aging-related CE than participants in the other two conditions. Interestingly, the CE requirements group was the only group more likely to choose the Motivational Interviewing CE.

**Table 7**

*Group by Time 2 CE choice Table*

<u>Group</u>	<u>Working with Older Adults</u>	<u>Motivational Interviewing</u>	<u>Total</u>
Aging-Reading	30 (78.95%)	8 (21.05%)	38
OUD-Reading	24 (70.59%)	10 (29.41%)	34
CE-Reading	20 (48.78%)	21 (51.22%)	41
Total	74 (65.49%)	39 (34.51%)	113

Additionally, a 3-way Chi-Square of Condition x T1 CE choice x T2 CE choice was run to further examine this relationship and data are available in Table 8. All Chi-square analyses were significant at the  $p < .000$  level. Visual scanning of the table suggests that the Aging-Reading group was the only group in which there was substantial change from T1 to T2, with 23 (60.53%) of participants choosing the aging-specific CE at T1 and 30 (78.94%) choosing the aging-specific CE at T2.

**Table 8**

*Chi-Square of Group x T1 CE choice x T2 CE choice*

Group	CE choice T1		CE choice T2		Total
			Older Adults (%)	MI for Beginners (%)	
Aging-Reading	CE choice T1	Older Adults	23 (100.00)	0 (0.00)	23
		MI for Beginners	7 (46.67)	8 (53.33)	15
	Total		30 (78.94)	8 (21.05)	38
OUD-Reading	CE choice T1	Older Adults	21 (95.45)	1 (4.55)	22
		MI for Beginners	3 (25.00)	9 (75.00)	12
	Total		24 (70.59)	10 (29.41)	34
CE-Reading	CE choice T1	Older Adults	19 (95.00)	1 (5.00)	20
		MI for Beginners	1 (4.76)	20 (95.24)	21
	Total		20 (48.78)	21 (51.22)	41
Total	CE choice T1	Older Adults	63 (96.92)	2 (3.08)	65
		MI for Beginners	11 (22.92)	37 (77.08)	48
	Total		74 (65.49)	39 (34.51)	113

## Hypothesis 2 Results

***Hypothesis 2: Across all three group conditions, participants with lower levels of explicit self-reported ageism will be more likely to select the aging-specific CE option.***

Hypothesis 2 was tested with a one-way ANOVA and was not supported. There was no significant difference in self-perceived ageism between participants who chose the Working with Older Adults CE option ( $M = 50.99$ ,  $SD = 7.61$ ) and those who chose the Motivational Interviewing CE option at Time 2 ( $M = 52.93$ ,  $SD = 7.70$ ;  $F(1, 116) = 1.73$ ,  $p = .19$ ).

## Hypotheses 3A and 3B Results

***Hypothesis 3: Across all three group conditions, A) higher levels of aging knowledge and B) lower levels of self-perceived ageism will be related to higher perceived competency for working with older adults.***

Pearson correlations using the pooled sample were used to test hypotheses 3A and 3B and data are available in Table 9. As hypothesized, aging knowledge, as measured by total score on the FoA ( $M = 14.37$ ,  $SD = 3.02$ ) was positively associated with perceived competence for working with older adults, as measured by the Pikes Peak total score ( $M = 53.28$ ,  $SD = 19.98$ ;  $r = .24$ ,  $p = .01$ ). This result shows that, across all participants, greater knowledge of aging is associated with more self-perceived competence for working with older adults.

Hypothesis 3B was not supported. Self-perceived ageism, as measured by total score on the ERA ( $M = 51.73$ ,  $SD = 7.67$ ) was not significantly associated with Pikes Peak total score ( $r = -.07$ ,  $p = .44$ ). This result shows that participants' self-perceived ageism was not related to their self-perceived competence for working with older adults.

**Table 9***Correlations of Study Variables*

Measure	1	2	3
1. FoA Total <sup>a</sup>	1		
2. ERA Total <sup>b</sup>	-.07	1	
3. Pikes Peak Total <sup>c</sup>	.24*	-.08	1

<sup>a</sup>FoA = Facts on Aging; <sup>b</sup>ERA = Expectations Regarding Aging; <sup>c</sup>Pikes Peak total = Pikes

Peak Competency Tool

\* $p < .05$

**Secondary Analyses**

Using a pooled sample, a paired-samples t-test was run comparing interest at T1 and T2. Interest in the aging-specific CE was significantly higher at T2 ( $M = 3.70$ ,  $SD = 1.21$ ) than at T1 ( $M = 3.46$ ,  $SD = 1.20$ ;  $t(114) = -3.51$ ,  $p < .001$ ). Interest in the MI-specific CE did not significantly change from T1 ( $M = 3.09$ ,  $SD = 1.15$ ) to T2 ( $M = 3.00$ ,  $SD = 1.23$ ;  $t(113) = 1.55$ ,  $p = .12$ ). Interest in the aging-specific CE was higher than the MI-specific CE at both T1,  $t(112) = 2.36$ ,  $p = .02$ , and at T2,  $t(114) = 3.84$ ,  $p < .001$ .

Data were also received from the Professional Training department of the Missouri Institute of Mental Health regarding follow-through of completing CE courses with the coupon codes provided as compensation for completing the survey. A summary of CE choice among those who completed an actual course by condition is available in Table 10. The Chi-Squared test examining proportion of participants in experimental groups to use their coupon code to access the actual CE training was not significant,  $\chi^2(2) = .13$ ,  $p = .94$ . Data on CE



completion by experimental condition of all study participants is also available in Table 11.

This Chi-Squared analysis was significant,  $\chi^2(2) = 12.48, p = .002$ .

**Table 10**

*CE Choice Through MIMH by Experimental Condition*

<u>Group</u>	<u>Working with Older Adults</u>	<u>Motivational Interviewing</u>	<u>Total</u>
Aging-Reading	19 (67.86%)	9 (32.14%)	28
OU-Reading	8 (72.73%)	3 (27.27%)	11
CE-Reading	14 (66.67%)	7 (33.33%)	21
Total	41 (68.33%)	19 (31.67%)	60

**Table 11**

*Actual CE Completion by Experimental Condition for All Study Participants*

<u>Group</u>	<u>Completed CE</u>	<u>Did not Complete CE</u>	<u>Total</u>
Aging-Reading	28 (65.12%)	15 (34.88%)	43
OU-Reading	11 (26.83%)	30 (73.17%)	41
CE-Reading	21 (50.00%)	21 (50.00%)	42
Total	60 (47.62%)	66 (52.38%)	126

In our sample, participants who reported 0% of their time working with older adults the year prior still rated their interest in the aging-specific CE at 3.22 on a 1-5 scale, which was significantly less than those with some service provision to older adults ( $M = 3.74, t(115) = 2.39, p = .02$ ), but still above the middle point of the scale (3).

Data regarding factors that contributed to participants' interest and choice of CE were also collected for Medicare reimbursement limitations, interest prior to study, interest developed during the study, and relevance to their work. These factors were rated on a 1-5 scale with 1 being "not at all important" and 5 being "extremely important." Medicare reimbursement limitations were rated as the least important ( $M = 1.83$ ,  $SD = 1.33$ ). Other factors were rated as more important, including interest developed during the study ( $M = 3.13$ ,  $SD = 1.26$ ), interest before study ( $M = 3.31$ ,  $SD = 1.33$ ), and relevance to their work ( $M = 3.56$ ,  $SD = 1.25$ ). Specific to interest developed during the study, participants in the Aging-Reading group rated this as a more important factor ( $M = 3.49$ ,  $SD = 1.27$ ) than those in the other conditions ( $M = 2.95$ ,  $SD = 1.22$ ;  $t(117) = 2.27$ ,  $p = .03$ ).

### Discussion

This study investigated the impact of receiving foundational information about aging on Missouri LPCs' choice of pursuing Continuing Education related to working with older adults. Additionally, the study examined how factors of perceived competence for working with older adults, knowledge about aging, and self-perceived ageism interact with each other and on choice of continuing education content. Results showed that higher perceived competence for working with older adults predicted choosing an aging-related CE course, as well as rating of interest in that CE. Furthermore, exposure to educational reading on aspects of mental health and aging - compared to reading on substance abuse treatment or CE requirements for LPCs - also increased interest in the aging-related CE, above and beyond the other predictors. Self-perceived ageism and knowledge of aging were not shown to be related to choice of CE or interest in the aging-specific CE among participants. Among all participants, those with greater knowledge of aging had higher perceived competence for

working with older adults, while self-perceived ageism was not significantly associated with perceived competence for working with older adults. In addition to participants' stated choices and interest in the CE options, we were able to compare data on CE completion. While proportion of CE completers choosing the aging-specific CE were roughly similar across participants in all three groups, those in the Aging-Reading group had a much higher likelihood of following up and completing a CE.

### **Sample**

Our sample had a return rate of 13.9% for participation. A study investigating similar constructs of multicultural competence and experiences working with older adults used email links to online surveys and reported a return rate of 21.1% (McBride & Hays, 2012). The authors did not report any participation incentives, however, and their sample included graduate trainees. In a study of methods for contacting study participants across multiple contact attempts, return rates for mail-only responses increased to 32.1% after three contacts (Beebe et al., 2018). We expected a similar or somewhat higher return rate, given a strong incentive for participating (CE credits). A workforce study of doctoral-level psychologists had a 14.5% return rate using one e-mail message (Moye et al., 2019). One major factor that may have affected our return rate was the COVID-19 pandemic, as mailings were sent in summer 2020. Mailings were sent to the work address listed on the Missouri registry. As many individuals across fields transitioned to working from home over the past year, it is possible that some of the mailings were missed or overlooked at the workplace.

To examine potential influences of COVID-19 on the responses, we collected data on how work characteristics changed from 2019 to 2020. These items were largely qualitative and qualitative analyses of responses did not indicate substantial differences. Additionally,

participants were asked to rate the impact of COVID-19 on their responses to the survey using a 1-5 scale. The modal response from about three-fourths of the participants (73.3%) was 1 (not at all) and no participant responded with 5 (a great deal). There may have been an impact of COVID-19 on our sampling, or on responses, however, without participants having explicit awareness of that impact. For example, much media attention has focused on the susceptibility of older adults to COVID-19, it is likely that some participants had worked with clients who had lost parents or grandparents, or some older adults may have sought counseling due to concerns related to the pandemic.

Our sample was fairly old, with an average age of 62.66 years, which raises interesting implications both for sampling and results. Relative to the method of recruitment, this may suggest that older participants are more likely to respond to mailed invitations or to CE credits as an incentive. Age also correlated with many other study variables, including years interest in the aging-specific CE at T1 and T2, knowledge of aging, and perceived competence. Therefore, we may have seen different results with a younger sample of counselors. Interestingly, some of the older participants may have had higher scores on the Facts on Aging quiz (i.e., higher scores on knowledge of aging) due to knowledge generated from their own lived experience, whereas younger participants would not have this same information.

### **Competence for Working with Older Adults**

Perceived competence, as measured by the Part 1 of the Pikes Peak Geropsychology Knowledge and Skill Assessment Tool, was a significant predictor in all steps of regression models predicting CE choice and interest. Score on this measure also correlated with many other quantitative variables in the study, such that participants who rated themselves as more competent for working with older adults were older, had significantly higher proportion of

their work in 2019 with older adults, had more interest in the aging-specific CE at T1 and T2, and had higher aging knowledge. Years since earning highest degree was not significantly associated with perceived competence. Collectively, these findings highlight that perceived competence for working with older adults is indeed associated with interest in pursuing aging-specific CE.

This study was intended to capture generalist practitioners because of the need for increasing competency for working with older adults among generalist practitioners with workforce shortages for those specializing in working with older adults (Hoge et al., 2015). Only two of the participants reported 50% or more of their direct service time working with older adults, with a mean proportion of 7.46%, suggesting that participants in this study were not specialists in aging. Still, among non-aging-specific counselors, perceived competence in working with older adults explained much of the variance in their CE choice and interest. While completion of training, education, and practica related to aging were recorded, we did not gather time spent on these activities, and so we cannot quantify that prior training experience.

These results also highlight a potential divide between individuals with some interest and perceived competency for working with older adults versus those with no interest and perceived competency. Specifically, in our sample, participants who reported 0% of their time working with older adults reported less interest in the aging-specific CE than participants who did work with older adults, although their interest was still above the middle point of the scale. Even for individuals with no intent to directly work with older adults, factors related to aging are certain to play a role in their work at some point. Issues of caring for older parents or grandparents, anticipatory or actual grief and bereavement, grandparents raising

grandchildren, planning for retirement and older adulthood, etc. are topics likely to be faced by counselors working with children and younger and middle-aged adults. For these counselors, although an aging-specific CE may not be a priority, some foundational knowledge on mental health and aging would still be beneficial.

### **Ageism**

Ageism was measured in this study with 18 items from the Expectations Regarding Ageism (ERA) scale. The scale had very low variance, and therefore low correlations and impact in hypothesis testing. As with perceived competence, the scale is based on self-report, and therefore subject to biases from participants. Unlike perceived competence, however, there is likely more social desirability to respond in a way that shields oneself from ageism versus lower competence in working with older adults. Meta-analysis has shown that even anonymous, online surveys are subject to social desirability bias (Dodou & de Winter, 2014).

The low variance of scores on this measure in our study lead to limited ability to measure the impact of ageism on participants' CE choice and interest, as well as how ageism is associated with other study variables in this sample. Future studies could include tests of ageism through use of an implicit association test (Greenwald, McGhee, & Schwartz, 1998), which has been used to measure ageism in the past (Levy & Banaji, 2002). These are important relationships to examine and would certainly provide more nuance for considering implications of these data.

### **Implications**

#### ***Access and Barriers to Continuing Education***

A strength of this study was its use of a behavioral outcome (i.e., choice of CE) and access to follow-up data on this outcome. Although this was a forced-choice between an

aging-specific CE and a Motivational Interviewing CE, data showed that even before any experimental manipulation or prompting of aging-related information, the aging-specific CE was a popular choice with high interest. An interesting follow-up could examine interest among a larger group of options, or within a free response questionnaire. Part of the rationale for this study was that mental health practitioners are generally uninterested in increasing their competency in working with older adults in part due to ageist stereotypes that can be alleviated through foundational knowledge. Based on the high interest in the aging-specific CE at T1 of this study, an alternative explanation may be that practitioners just do not know that they want this type of CE until it is offered, or that they do not have access to it. Therefore, a major part of increasing the competency for working with older adults among generalist practitioners may be increased advertising and offerings of trainings and CE, in addition to focusing on reducing ageism.

Based on data received from the Professional Training department of the Missouri Institute of Mental Health, about half of all participants followed through with completion of either CE. Information about what factors influenced participants completion of CE are unavailable because these data were not tied to their survey data. The literature on this type of participation incentive is relatively underdeveloped. This study may help to establish some baseline for CE completion as a study incentive. Furthermore, if future studies reveal that our follow-through participation was relatively higher or lower than normal, this might be reflective of the power of the experimental manipulation, or of the aging content as part of the CE incentive.

Regarding factors that participants reported to have had an impact on their interest in the CE choice, Medicare reimbursement issues were not rated as very impactful. Recent

research suggests that most practicing counselors have been directly affected by Medicare reimbursement barriers in counseling and that advocacy regarding this barrier is a priority for some of those who have been affected (Fullen, Lawson, & Sharma, 2020). Despite this, participants were interested and reported other factors that were more crucially impacting their CE choice (i.e., interest prior to and developed during study, relevance for work). Of course, increased advocacy for Medicare reimbursement coverage is a worthwhile and meaningful endeavor for counselors and change in this area could lead to more pursuit of or availability of CE options related to aging. However, the present data suggest that sufficient interest in CE already exists and would be seen as meaningful to LPCs.

### ***PEACE Model***

The Positive Education about Aging and Contact Experiences (PEACE) Model proposed by Levy (2016) was a theoretically important contributor to the aims of this study and suggests that attitudes about aging and older adults are expected to be improved through accurate education about aging and positive contact with older adults. This study focused on the accurate education aspect of the theory and attempted to provide that education as a means of improving attitudes towards aging and interest in pursuing further education in aging. Access to the aging education did indeed increase choice of and interest in the aging-specific CE. However, the specific mechanism of this effect is unknown. This model suggests that it may be due to a change in attitudes from that education, but other factors such as salience of the reading condition or a sense of duty to serve older adults while still holding negative attitudes, for example, could also contribute to this effect. Future studies could measure these attitudes to further investigate other factors that mediate the relationship between access of education and interest in aging-related education.



### **General Limitations**

This study employed a randomized group design with an experimental manipulation. Only participants who indicated that they had completed the experimental condition and who demonstrated appropriate attention to that reading were included in analyses. Outcome data demonstrated that the experimental manipulation did have a significant impact on the outcome data of choice of and interest in the aging-specific CE option. Still, the exact mechanism for that impact is unknown. Although readings were chosen because of their similarity in length and structure, the Aging-Reading may have simply been more aligned with the aging-specific CE than the OUD-Reading was with the MI-specific CE, which may have partly contributed to the present results. The aging-specific CE was explicitly related to the aging content in the Aging-Reading; however, Motivational Interviewing was mentioned as a viable treatment in the OUD-Reading, but was not the focus of the work. Additionally, the title of “Motivational Interviewing for Beginners” as the MI-specific CE option may have turned away some counselors who believed the topic to be too introductory.

Additionally, the choice CE as the primary outcome is stronger than a measure of attitude in many ways. Attitudes are fickle and do not necessarily predict behavioral outcomes (Wilson, Dunn, Kraft, & Lisle, 1989), whereas choice to engage in a CE is a behavior in itself. The Pikes Peak Model for Training in Professional Geropsychology and the PEACE model, which are foundational models to measure competency and reduce ageism (and increase workforce), respectively, both define attitudes of aging as central components. Given that the study focused on the behavior and not on attitudes, it is unclear what impact our experimental manipulation had on these attitudes, either in short- or long-term and to what extent those who

followed through with the aging-specific CE continued in pursuit of increasing their competence for working with older adults.

Finally, as previously discussed, our sample was fairly old and overwhelmingly white and heterosexual. Data on the statistics of race, sex, and age of Missouri LPCs are not available, so it is unclear how normal or divergent our sample is from that population. Results may look different with a more heterogeneous sample, either due to different methods of sampling from the same population or specifically younger or ethnic minority counselors. Regarding the age of participants, the older sample may have biased the sample. With a younger or more heterogeneous age, there may have been a more equal distribution of interest in the aging-specific CE, particularly at T1.

### **Future Directions**

Based on the findings from this study and implications for the field of behavioral health and aging, future research in this area is warranted. As discussed, self-report is subject to bias and a behavioral measure of ageism may result in more robust results related to that construct. Additionally, there was no objective measure of competence for working with older adults in this study, as the present measure was based on self-rated perceived competence. The Council of Professional Geropsychology Training Programs (CoPGTP), which established the Pikes Peak tool, is currently in the process of creating a rated, measurable tool to assess competence across various domains to supplement the self-report measure used in this study. Studying competence for working with older adults using more objective measures is an important future direction for this work.

Future studies could also provide more context on choice of aging-specific CE content. In our study, participants were given a forced choice of Working with Older Adults

versus Motivational Interviewing for Beginners. While interest and choice of the aging-specific CE was relatively high, and our experimental manipulation enhanced that interest and choice, results may vary meaningfully if participants are given a wider range of CE options. Furthermore, it is unknown to what extent clinicians may seek out aging-specific CE following foundational knowledge if the course was not provided directly to them for free. Future research could provide valuable information on the amount of information and access to CE options needed to create a difference on competence for working with older adults for generalist practitioners.

### **Conclusions**

The behavioral health field, like many other professional fields, is woefully underprepared to serve the growing number of older adults. As our aging population increases, practitioners specializing in working with older adults is decreasing. This workforce gap has resulted in a call to action within Clinical Psychology and identification of core competencies required for an “Exposure” level of competency that is acceptable for generalist practitioners who will be meeting the majority of the growing demand from older adults for mental health services (Hinrichsen, et al., 2018).

The field of Professional Counseling has a rich history of incorporating themes of multicultural competence and discussions of intersectionality (Sue et al., 1992). Considerations of aging have been absent from many of these writings and guidelines. This absence is likely tied in part to Medicare reimbursement for LPCs in working with older adults, as well as hints of societal-level ageism that is pervasive across industries, including behavioral health.

This study sought to investigate the how factors of perceived competence for working with older adults, knowledge of aging, and internalized ageism, in addition to other demographic variables, were related to interest in aging-specific Continuing Education content. An experimental manipulation was used which employed use of a brief educational reading on aging (compared to similar reading on Opioid Use Disorder or Continuing Education requirements) to attempt to increase interest in pursuing aging-specific CE. Participants were offered choice of an aging-specific CE or Motivational Interviewing-specific CE as compensation for the study, which served as a behavioral choice outcome. As hypothesized, those in the Aging-Reading group were more likely to choose the aging-specific CE and reported higher interest in the aging-specific CE than participants in the other two groups.

These results suggest that providing brief education can influence our choice of and interest in CE options. Participants did report a fairly high level of interest in the aging-specific CE, and indeed preferred it to the MI-specific CE even prior to the experimental manipulation. These results also suggest that practitioners may be interested in this type of CE when offered, but are unable or unwilling to receive this education.

These findings raise important implications regarding increasing availability of and access to aging-specific CE across fields, as well as providing more foundational education in school and training programs, in addition to formal CE courses. Given ongoing demographic changes, behavior health fields must act to prepare for increased demand. This study suggests that practitioners may be open to the work required to reach that competency and eager to learn more, if given the opportunity.

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## Appendix A

### Demographics Questions

**1. In 2019, In what setting/for whom did you work? (Select the 1 best option)**

- |  |  |
|--|--|
| <input type="checkbox"/> Missouri Department of Mental Health          | <input type="checkbox"/> Hospital (non-state)          |
| <input type="checkbox"/> Missouri Department of Mental Health Provider | <input type="checkbox"/> School- University            |
| <input type="checkbox"/> Community Mental Health Center                | <input type="checkbox"/> Skilled Nursing Home/Facility |
| <input type="checkbox"/> Private Practice or Self-Employed             | <input type="checkbox"/> HMO/Corporate Health Service  |
| <input type="checkbox"/> Missouri Department of Corrections            | <input type="checkbox"/> Nonprofit Agency              |
| <input type="checkbox"/> Missouri Department of Corrections Provider   | <input type="checkbox"/> Other: _____                  |
| <input type="checkbox"/> Other State Agency/Hospital                   |  |
| <input type="checkbox"/> Department of Veterans Affairs                |  |

**2. Which statement best describes your employment status at the end of 2019?**

- Working (paid employee)
- Working (self-employed)
- Not working (temporary layoff from a job)
- Not working (looking for work)
- Not working (retired)
- Not working (disabled)
- Not working (other)
- Prefer not to answer

**3. In 2019, in which roles did you work? (check all that apply)**

- \_\_\_\_\_ Direct Service/Client Contact– Assessment
- \_\_\_\_\_ Direct Service/Client Contact – Psychotherapy
- \_\_\_\_\_ Direct Service/Client Contact – Case Management

- \_\_\_\_\_ Direct Service/Client Contact – Medication Management
- \_\_\_\_\_ Direct Service/Client Contact –Residential/Inpatient support/Floor coverage
- \_\_\_\_\_ Clinical Support Services
- \_\_\_\_\_ Administration/Administrative support
- \_\_\_\_\_ Clinical Supervision of other professions in direct service roles
- \_\_\_\_\_ Professional Consultation
- \_\_\_\_\_ Outreach/Marketing
- \_\_\_\_\_ Teaching/Professional Training
- \_\_\_\_\_ Research
- \_\_\_\_\_ Other, please specify: \_\_\_\_\_

**4. In 2019, if you provided or supervised direct clinical services, what proportion of service time was concentrated on specific populations? (must add to 100%)**

- \_\_\_\_\_ % Children/Adolescents
- \_\_\_\_\_ % Adults (ages 18-64)
- \_\_\_\_\_ % Older Adults (ages 65+)
- \_\_\_\_\_ % N/A: Do not currently provide or supervise direct clinical services

**5. In 2019, if you provided or supervised direct clinical services to older adults (ages 65+), which of the following services did you provide (check all that apply).**

- \_\_\_\_\_ Assessment
- \_\_\_\_\_ Psychotherapy
- \_\_\_\_\_ Care management
- \_\_\_\_\_ Medication Management
- \_\_\_\_\_ Other (please specify \_\_\_\_\_)

\_\_\_\_\_ I do not provide or supervise direct clinical services to older adults

**6. Please mark option C**

A

B

C

D

**7. Have you received previous training for work with older adults?**

(Select **all** that apply)

Graduate coursework specific to aging

Practicum/internship placement specific to aging

Postgraduate formal training position specific to aging

Workshop(s)/Webinar (SE)/ CE trainings specific to aging

On-the-job training

Informal experience

Other: \_\_\_\_\_

**8. Using a 0-5 scale (0 = not at all, 5 = very greatly), how much is your current**

**therapeutic practice guided by each of the following theoretical frameworks?**

\_\_\_\_\_ Cognitive

\_\_\_\_\_ Behavioral

\_\_\_\_\_ Humanistic

\_\_\_\_\_ Psychodynamic

\_\_\_\_\_ Systems



## Demographics Questions Part 2 (after experimental manipulation and collection of T2 data)

1. **In what year were you born?** \_\_\_\_\_
2. **How do you describe yourself?**
  - Female
  - Male
  - Trans Female/Trans Woman
  - Trans Male/ Trans Man
  - Genderqueer/ Gender Nonconforming
  - I prefer to use language not listed. Preferred language: \_\_\_\_\_
3. **Do you consider yourself to be: (Select 1 best answer)**
  - Heterosexual or straight
  - Gay
  - Lesbian
  - Bisexual
  - Asexual
  - Not listed above (please specify): \_\_\_\_\_
4. **Are you of Hispanic, Latino or Spanish origin?**
  - No, not of Hispanic, Latino or Spanish origin
  - Yes
5. **In what year were you awarded your highest degree?** \_\_\_\_\_
6. **What is your identified race? (Select as many as apply)**
  - White
  - Black, African American or Negro

American Indian or Alaska Native

Asian

Native Hawaiian or Pacific Islander

Other race (please print): \_\_\_\_\_

**7. What is the highest degree that you have received? \_\_\_\_\_**

## Appendix B

Dear Clinician:

Our research lab in the Department of Psychological Sciences at the University of Missouri-St. Louis is inviting you as a Licensed Professional Counselor to participate in a research project about continuing education (CE) interests of Missouri LPCs. This study is part of the dissertation research of Nicholas Schmidt, MA MS and approved by the University of Missouri-St. Louis Institutional Review Board (1501384-1).

You were specifically chosen as part of our random sampling of individuals listed on the Missouri state registry of Licensed Professional Counselors, available online.

The consent form and additional information are available at the site listed at the bottom of the page, but I will tell you some details about the project now. This study is 100% online and your participation is voluntary. If you choose to participate, **you will receive a coupon for complimentary online CE training** (2 hours CE) worth \$39 through the Missouri Institute of Mental Health. The total time of the study is expected to be no more than 20 minutes and would involve completing a brief online survey followed by some questionnaires related to professional background and interests and a short educational reading on a specific topic. To be eligible, you must be a currently licensed LPC in Missouri who spends at least some time in direct service provision (i.e., counseling/psychotherapy, assessment, case management) or supervision of direct service provision. That's it! You will not be contacted for any follow-up following your 20-minute participation, but you will receive a coupon for free CE training.

If you are interested, please type the following link into your web browser, read the consent form, and complete the study at your earliest convenience.

**<https://bit.ly/UMSLCE>**

Thank you and feel free to contact us with any questions,

Nicholas Schmidt, MA MS  
Graduate Student, Clinical Psychology  
University of Missouri – St. Louis  
neschmidt@mail.umsl.edu

Ann Steffen, PhD  
Professor, Department of Psychological Sciences  
University of Missouri – St. Louis  
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314-516-5382

Postcard Front:

**UMSL** | Psychological  
Sciences  
University of Missouri–St. Louis

Our research lab is following up on our request for your participation in our study of Licensed Professional Counselors.

If you are:

- A currently licensed LPC in MO
- Who spends at least some time in direct service provision
- Interested in 2 free CE credits worth \$39 through Missouri Institute of Mental Health...

Follow this link ([bit.ly/UMSLCE](https://bit.ly/UMSLCE)) for full details and consent form.

The study is 100% online, voluntary, and takes about 20 minutes.

If you have already completed the survey, thank you and please ignore this postcard.

Postcard Back:

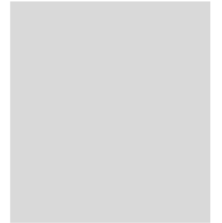
If you have any questions, feel free  
to contact us:

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steffena@umsystem.edu  
314-516-5382

[bit.ly/UMSLCE](http://bit.ly/UMSLCE)

Thank you for your  
consideration!



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