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# Training for Research and Teaching in Geropsychology: Preparing the Next Generation of Scholars and Educators

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# Training for Research and Teaching in Geropsychology: Preparing the Next Generation of Scholars and Educators

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## Abstract

For geropsychology to flourish in the years ahead, we need scientists to advance knowledge and teachers to draw new professionals into the field. In this project the authors surveyed 100 geropsychologists who completed a doctoral degree in clinical or counseling psychology about their experience with training for research and teaching. The majority were currently conducting some degree of research (38%) and some form of teaching (45%). The majority of ratings for components of research training were in the “very good to excellent” range, whereas elements of teacher training were rated in the “poor to good” range, though there was variability among persons and components. Qualitative comments revealed enthusiasm for research and teaching roles and a need to enhance our training of geropsychologists as educators. The authors provide several suggestions that could enhance research and teacher training for current and future students of professional geropsychology.

### Keywords

aging; education; science

## INTRODUCTION

Professional geropsychologists are health service psychologists who have completed a doctoral degree in clinical or counseling psychology focusing on the behavioral health care of older adults (Karel, Gatz, & Smyer, 2012). Psychologists in a variety of doctoral

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programs may focus on older adults (e.g., developmental, experimental); the term *professional* geropsychology is used to denote doctoral training in clinical or counseling psychology, also called health service psychology, which is the focus of this article. In addition to clinical services, many geropsychologists conduct science—generating new knowledge—and/or provide education—teaching others that knowledge. Yet training to conduct these research and teaching activities is variable, despite the growing need need (Qualls, Segal, Norman, Niederehe, & Gallagher-Thompson, 2002). Indeed, the future of geropsychology and its continued contributions to the care of older adults depends on developing a cadre of well-trained researchers to expand the science and teachers to bring new professionals into the field.

The Pikes Peak model for training in professional geropsychology (Knight, Karel, Hinrichsen, Qualls, & Duffy, 2009) identifies attitude, knowledge, and skill competencies for entry-level geropsychology. Although the Pikes Peak model was informed by the "Older Boulder" scientist–practitioner framework of psychology (Santos & VandenBos, 1982), the model focused competencies for geropsychology clinical practice and did not specify competencies for research, training, and administration (Karel, Knight, Duffy, Hinrichsen, & Zeiss, 2010).

The Gerontology Competencies for Undergraduate and Graduate Education (Association for Gerontology in Higher Education Competency Work-group [AGHE], 2014) provides another aging-specific lens on the issue of training research and teaching competencies (Burdick, 2012). This text focuses on gerontology education at the associate, undergraduate, and/or master's-level competencies and is not meant to be applied to other disciplinary programs such as geropsychology. Nevertheless it is important as a core aging-related competency text that emphasizes "research, application, and evaluation" as a contextual competency across fields of gerontology. In this document, teaching competencies are referenced in the context of capacities to educate older adults and aging professionals.

In focusing on either clinical but not scientific competencies, and rarely on teaching competencies, these texts cue key issues in geropsychology research and teacher training. As further described below, these issues include the relationship between science and practice, the appropriate scope of research training for health service practitioners, and the common exclusion of teacher training within doctoral and postdoctoral education.

## Research Training

The American Psychological Association's Standards of Accreditation in Health Service Psychology (APA; 2015) requires stage-appropriate competencies in research and supervision (but not teaching) at the doctoral, internship, and fellowship levels. In these standards, science and practice are equal partners in training in professional psychology (APA, 2013), setting the ambitious goal for doctoral, internship, and postdoctoral programs in health service psychology to train students to be prepared for licensed professional practice and for research careers. The emphasis on science in psychology training is also evident in the efforts of the Association for Psychological Science (APS), which promotes the interests of scientifically oriented psychology. Further still, the Academy of Psychological Clinical Science (APCS) is an alliance of scientifically oriented doctoral and

internship programs that provides accreditation to programs that emphasize clinical science. All of these professional organizations strive to infuse research into psychology training, and geropsychology training programs are held to the same standards.

Although the principles of accreditation emphasize that science and practice are not "opposing poles," very often there has been intradisciplinary tension between training in science versus training in practice in psychology. There is much to be learned by students of psychology during training; becoming a competent clinician and skilled researcher is a demanding expectation. Some compromise in one or another domain may not be surprising, even if people strive for competence in both. Moreover, across training programs there can be wide variability in research opportunities available to trainees and, even within programs, trainees may choose to focus their energy in different directions.

Training for scientific careers also occurs in the context of a declining funding environment. The overall funding success rate at National Institutes of Health (NIH; 2014) has dropped, from 33% in 2000 to 19% in 2012, in the setting of a 72% increase in grant applications. It is unclear what that reality has done to perceptions among trainees regarding their potential for success as researchers. Also unknown is the impact of observing faculty struggle in the tight funding climate and whether that adds to pessimism about research careers among trainees.

Additionally, training programs must adapt to new paradigms including "dissemination and implementation research" (Brownson, Colditz, & Proctor, 2012) and "patient-centered outcome research" (Gabriel & Normand, 2012), as well as methodologies relevant for health service applications including program evaluation and quality improvement (Health Service Psychology Education Collaborative, 2013). In many ways these new paradigms reconcile tensions between scientists and practitioners, as they focus on applied research that more directly translates to practice. At the same time, as research designs and statistical methods have become more varied and sophisticated, it has meant trainees have a much more broad body of knowledge to master.

All of these tensions play out in training programs with an emphasis on aging, as they do in every training program. Yet within geropsychology there is an urgent need to train more scientists. The evidence base to inform practice is not as robust as it is for other populations. There is still a dearth of evidence to inform assessment and treatment of older adults who are multimorbid, particularly older adults who are culturally diverse as well as those older than age 80 who are the most rapidly growing segment of the older population (Vincent & Velkoff, 2010). Historically, few graduates of professional geropsychology postdoctoral programs pursue science careers, (Karel, Molinari, Gallagher-Thompson, & Hillman, 1999), even though a majority (64%) continues to pursue scientific work in nonacademic settings. To encourage more geropsychology trainees to pursue research, and to train them expertly, we need to know about any barriers they see to their advancement as scientists and gaps they see in their training.

## Teaching Training

In geropsychology, teaching can take many different forms: traditional academic classroom instruction, continuing education offerings to licensed clinicians, and presentations to other

professionals and the public. Although the modes, media, and methods are likely to vary, in all these contexts, teaching involves skills in developing curricula and materials, delivering information effectively to an audience, and evaluating student/audience learning outcomes. National accreditation bodies of graduate and postdoctoral programs mention teaching in curricular standards but offer few specific directives regarding the development of teaching competencies, although AGHE's gerontology guidelines include teaching of older adults. Likewise, accreditation requirements for psychology programs expect that teaching will be part of training but are not prescriptive about what that might involve (APA, 2013; Psychological Clinical Science Accreditation System, 2011). As a result, several surveys have documented wide variability in the extent to which graduate students of psychology receive formal teacher training (Buskist & Benassi, 2012; Lumsden, Grosslight, Loveland, & Williams, 1988; Meyers & Prieto, 2000). Some graduate programs offer systematic courses on pedagogy and teacher preparation (Benassi & Fernald, 1993; Rickard, Prentice-Dunn, Rogers, Scogin, & Lyman, 1991), though those offerings vary across institutions and in their intensity. For other students, their exposure to teaching may be singularly through teaching assistantships that involve inconsistent instruction and supervision about the best ways to teach. To our knowledge, there has been no systematic survey about teacher training specifically for students in health service psychology programs with a geropsychology emphasis. As others have commented, there is a serious need for more consistency in teaching training practices across institutions and for more research on teacher training (Buskist, 2013).

In view of the geriatric mental health workforce shortage (Hoge, Karel, Zeiss, Algreia, Moye, 2015; Institute of Medicine, 2012), there is an urgent need to recruit and train vibrant teachers of the next generation of geropsychologists. In addition, as geropsychologists work in concert with health care teams we need them to be strong teachers about aging to other medical professionals.

In this study we aimed to replicate, update, and expand a previous survey of geropsychology graduates (Karel et al., 1999). We replicated previous items on clinical training and expanded content to include career paths to geropsychology, professional society involvement, and research and teaching training. The focus of this article is to describe the research and teaching training experiences, current roles, and perceive research and teaching training needs of geropsychologists.

## METHOD

### Sample Selection

Clinical or counseling psychology predoctoral training programs with aging tracks and postdoctoral fellowship programs with a geropsychology focus were identified from three sources. First, we selected graduate and postdoctoral training programs that are members of the Council of Professional Geropsychology Training Programs (CoPGTP). Second, we identified graduate programs with an “aging” emphasis in the Insider's Guide to Graduate Programs in Clinical and Counseling Psychology (Norcross & Savette, 2013). Finally, we selected postdoctoral training programs through an online search of programs in the

Association of Psychology Postdoctoral and Internship Centers (APPIC); criteria included a "full-time" postdoctoral experience with supervised experience in "geropsychology."

## Recruitment

Directors of clinical training (DCT) for each program were sent an e-mail explaining that the purpose of the study was to gather information about training from graduates of aging programs. We requested that the DCTs forward our e-mail to program graduates who completed their degree from 1990 to 2013. We offered to e-mail the graduates directly if preferred by the DCT (five graduate programs and three fellowship programs so requested). We requested that the DCT "carbon copy" the research assistant for the purposes of tracking. DCTs were provided up to three e-mail reminders and one phone contact from the study team. In all, we contacted 24 doctoral programs and 21 postdoctoral programs; 16 DCTs indicated they had sent the survey to graduates (either by copying the research assistant or by verbal report) and eight DCTs indicated that they would forward information to trainees but did not copy the research assistant. The remaining DCTs indicated that they do not have a geropsychology emphasis, did not have required information about trainees, or did not respond to our request.

Interested individuals could take the online survey by clicking on the link included in our e-mail message. The beginning of the survey included a consent form. At the conclusion of the survey, participants were offered the opportunity to get one of four gift cards for their participation in this study. All procedures in this study were approved by the Washington University Institutional Review Board (IRB).

## Participants

One hundred individuals completed the survey in full, comprising 87 psychologists and 13 current postdoctoral fellows. Responses from those still in training were utilized for questions about training experiences but not current professional roles. Responses from individuals who started but did not complete the survey, as well as seven individuals trained as a psychologist but not currently working as a psychologist, were excluded. Because our IRB procedures specified that the DCTs would forward materials to graduates, we do not know the number of individuals who received the survey link at baseline and are not able to calculate a response rate.

Participants ranged in age from 27 to 68 ($M = 38.5$, $SD = 5.8$; see Table 1) and were an average of 8 years postdoctoral degree. Most were female (74%); none identified as transgender. The majority identified as non-Hispanic White (84%), with a PhD as their terminal degree (81%).

## Measure

Participants completed an online survey with components to address the quality of training rated on a Likert-type scale ranging from 1 (*poor*) to 5 (*excellent*). Items were developed to be consistent with a previous geropsychology training survey and expanded to consider the additional domains of research and teaching. The survey draft was reviewed and edited by

the research team and by five external expert consultants for comprehensiveness, clarity, and brevity.

In the area of research, seven items assessed perceptions of the quality of training for using specific behavioral anchors (or descriptive components) of research. For data analytic purposes we created a total scale score, summing seven items, and an "average" item rating in which the total scale score was divided by seven items. The internal consistency reliability for the research subscale was $\alpha = .96$. Open-ended questions expanded upon ratings: "If you are not much interested in doing research, can you say more about why you are not interested in research"; "If you are interested in doing research, can you explain further what drives you to do so, what was the most positive and/or most useful aspect of your research training"; "What was the most negative and/or least useful aspect of your research training"; "When doing research, what do you find most challenging/ difficult"; "When doing research, what resources or support would help you be more successful?"

In the area of teaching, four items assessed perceptions of the quality of training for specific behavioral anchors (or descriptive components) of teaching. For data analytic purposes we created a total scale score, summing four items and an "average" item score in which the total scale score was divided by four items. The internal consistency reliability for the teaching subscale was $\alpha = .97$.

Similarly, open-ended items expanded upon ratings, "If you are not much interested in teaching, can you say more about why you are not much interested in teaching"; "If you are interested in teaching, can you explain what you find most rewarding about teaching;" "What was the most positive and/or most useful aspect of your teaching training"; "What was the most negative and/or least useful aspect of your teaching training"; "When doing teaching, what do you find most challenging/ difficult"; "When doing teaching, what would help you be more successful?"

### Data Analyses

Data analyses were primarily descriptive in nature (frequencies, medians), complemented by simple measures of association (Pearson correlation, chi-square) and Student's *t* tests for group differences. Textual responses were reviewed by the investigators to provide examples and insights into ratings for the research component and teaching component.

## RESULTS

### Current Employment

Of individuals who had completed training ($n = 87$), most (67%) reported working in a medical center or clinic; 32% stated they were in university or college settings; 26% also reported having a private practice either separate from or in addition to other positions. Participants reported they spent the highest number of hours per week in the provision of clinical care ($M = 28.5$, $SD = 11.8$ hours), about one half of which were focused on older adults (see Table 2). Although responses ranged widely, participants also noted a substantial number of hours per week spent in research ($M = 14.7$, $SD = 12.3$), teaching ($M = 6.4$, $SD = 7.2$), and administration ($M = 8.8$, $SD = 8.3$).

## Research

**Activities—**About one third (38%) are engaged in research. More than one half (56%) wanted to be doing more research, whereas many (40%) were satisfied with the amount of research they are doing. Of those not engaged in research, most cited insufficient time (79%) or practical barriers such as insufficient skills (18%) or lack of funding (37%). Fifteen individuals expanded on their responses in qualitative comments: six stated that they are interested in research but lack infrastructure or adequate training, five noted they prefer clinical to research work (e.g., “It's not that I am disinterested in research, but I am more interested in clinical work”).

Of those engaged in research, most described doing secondary data analysis (64%) or survey research (52%). About one third report being involved in intervention trials (39%), qualitative research (37%), or program evaluation (34%), with fewer involved in experimental studies (23%). Their number of publications in the past 5 years ranged from 0 to more than 25 ($M = 5.2$, $SD = 7.0$), with a modal response of 0 ($n = 26$) and most respondents (60%) reporting three or fewer publications.

Most respondents had no research funding, although 33% reported they had received peer-reviewed funding from NIH or Veterans Administration (VA), internal, or foundation sources. The number of publications in the past 5 years was associated with time since graduation ($r = .31$, $p = .002$), but not with whether the person had peer reviewed funding ($r = .14$, $p = .17$). Not surprisingly the number of publications was positively associated with the number of hours per week spent in research activities ($r = .68$, $p < .001$), as was having funding ($r = .40$, $p = .02$), whereas the number of hours spent in clinical activities was negatively associated with total publications ($r = -.51$, $p < .001$) and having peer reviewed funding ($r = -.28$, $p = .02$).

The most commonly cited motivation for doing research ($n = 13$) was to enhance understanding of conditions to better help older adults. For example, one respondent noted, “I want to use my training and skills to expand the knowledge base for older adult interventions in a variety of areas.” A number of responses reflected adherence to the scientist–practitioner model such as, “Research informs my clinical work (and vice versa).”

**Evaluation of Research Training—**Participants had favorable perceptions of training for the identification of research questions (65% reporting “very good” or “excellent” training), research design (62% “very good” or “excellent”), implementation of a study (67% “very good” or “excellent”), and presentation of data (67% “very good” or “excellent”). Least favorable ratings were provided for writing grant applications (37% “very good” or “excellent”) (see Figure 1). Moderately favorable ratings were provided for data analyses (58% “very good” or “excellent”) and writing papers (54% “very good” or “excellent”). Participants had the most “poor” and “fair” ratings for the items about writing grants and writing papers The overall perceived quality of research training was positively associated with years since training ($r = .23$, $p < .05$), number of publications in the past 5 years ($r = .66$, $p < .001$), having peer reviewed funding ($r = .40$, $p < .001$), and having attended a PhD program versus a PsyD program, $t(97) = 7.06$, $p < .001$. The median research training rating was 2.71 reflecting a “good” to “very good” range of training overall.

In response to open-ended questions, participants said training in statistical analyses ($n$ = 16) and research design ($n$ = 10) was most helpful. A number of respondents pointed to general aspects of their research training, such as the process of doing a dissertation ($n$ = 10), the training in "critical thinking" ($n$ = 5), and mentorship ($n$ = 11). Participants also mentioned the opportunity to receive training writing manuscripts ($n$ = 5), writing grants ($n$ = 4), and making presentations ($n$ = 4) as most helpful. Regarding postdoctoral training, many of the positive aspects were similar to skills and activities taught in graduate school. However, some content was different. Individuals pointed to the valuable experience of collaborating with multi-disciplinary teams, such as "the opportunity for interdisciplinary collaboration on a research project."

In describing negative aspects of their research training, about one in five pointed to a desire for more or different statistical training, such as, "Stats courses that are disconnected from actual data collection. I understood stats better when I could apply it to my own research." Others expressed a desire to learn more pragmatic skills for writing grants ($n$ = 5) and manuscripts ($n$ = 3). About one half of the comments provided regarding postdoctoral training commented on the limited time available for research. Some commented that they wished they could develop their own project rather than working on a mentor's project ($n$ = 3), whereas others commented they wished they could have joined an ongoing project rather than having to develop their own ($n$ = 3). Clearly, some tailoring to the needs and preferences of the trainee would be useful.

**Research Challenges and Successes Postlicensure—**The most common research challenge cited was finding time to do it ($n$ = 22). The following sentiment was common, "I struggle with finding (and protecting) the time to do research! Disciplining myself to write up my results also is a struggle–that often gets put below other clinical responsibilities." Some respondents noted that the issue of time was interspersed with one of motivation and isolation. Toward that end, several individuals commented that a writing support group may be helpful, for example, "some sort of support group for writing; when working on my dissertation, I found online support." The most commonly cited resource wish ($n$ = 19) was to find collaborators, for example, "local and national networks of others interested in designing, conducting and evaluating research with older adults." Many spoke about the desire to have team members or mentors, for discussions "... [to] bounce ideas off of," or shared data collection, such as "national subject pool of older adults." Still others cited interests in continued support to grow skills in manuscript and grant writing, additional assistance selecting journals and identifying funding sources, as well as access to statistical consultation or coursework in applied statistics.

## Teaching

**Activities—**More than one third of respondents (42%) stated that they are currently involved in some sort of teaching activity (other than clinical supervision) with students and/or professional staff. Among those who are teaching, they spend an average of 6.4 hours per week in this activity ($SD$ = 7.2 hours). On average, 39% of that teaching time is focused on content related to older adults, but variability was quite high ($SD$ = 45%, range = 0%–100%). Of those surveyed, nearly one half (46%) stated they wanted to be doing more

teaching, 49% were satisfied with their current amount of teaching, and 5% wished to be doing less.

Of those currently not teaching, barriers included insufficient time (40%), irrelevance to current work responsibilities (26%), a lack of funding (7%), undervaluing of teaching in the work setting (5%), and insufficient skills (3%). A synthesis of qualitative comments provided by 24 individuals suggested that respondents were not teaching because they lacked opportunities (e.g., “I am interested in teaching, but my current position affords me no real opportunity to do any”), because they would have to pursue teaching on their own time and it would compromise their work/life balance (e.g., “I am interested in teach [sic], but lack the time and do not want to spend my weekends or evenings teaching when I could be with family”),poor pay for adjunct teaching (e.g., “I am VERY interested in teaching but adjunct pay combined with the huge number of hours makes it not worth my time”), and lack of support from their current workplace or supervisor (e.g., “I am very interested in teaching but I am not allowed to”).

Among participants who were teaching, they provided instruction at a variety of levels: 30% to undergraduates, 53% to graduate students, 62% to interns or fellows, 26% as part of continuing education activities, and 35% as part of interdisciplinary staff training. Several participants were also involved in teaching medical students and residents and providing presentations to community organizations. Commenting on the rewards of teaching, participants cited general and geropsychology-specific satisfactions. For example, respondents mentioned the joy of sharing knowledge (e.g., “Exposing students to new ideas”), helping students grapple with challenging concepts (e.g., “Engaging students in difficult dialogues about disparities and privilege”), and cultivating new professionals (e.g., “Contributing to students’ growth” and “Helping to ensure high quality clinical skills in the next generation of clinicians”). Many commented that they enjoy broadening others’ knowledge about older adults (e.g., “Aiding people to think about how the care of geriatric patients is different and unique when compared to other patient populations”) and attracting more people to geropsychology (e.g., “hopefully sparking interest in aging”). They also mentioned that they themselves learn from their students and that teaching promotes their own continuing education (e.g., “expanding my own knowledge by sharing it with others”).

**Evaluation of Training for Teaching—**Ratings of the quality of teaching training that respondents received are summarized in Figure 2 (ratings are on a 5-point scale from 0 (*poor*) to 4 (*excellent*)). Ratings were most favorable for training in preparing lectures and teaching exercises (37% reporting “very good to excellent” training), and least favorable for training in employing various teaching methods (28% reporting “very good to excellent”) and developing objectives/ syllabus (29% “very good to excellent”). The majority of participants rated their training on each aspect of teaching preparation as fair or poor. The overall quality of teaching training was not associated with years since graduation ($r = .08$, $p = .47$), but was associated with having attended a PhD program versus a PsyD program, $t(97) = 2.26$, $p \leq .03$. The median teaching training rating was 1.50 reflecting a “poor” to “fair” range of training overall.

In response to open-ended questions regarding what was most and least useful regarding their teaching training, respondents said they appreciated having had a specific course focused on teaching or being able to attend workshops on teacher preparation. Others cited as valuable opportunities to develop and teach their own courses or guest lectures and receiving personalized feedback from observers. Conversely, respondents were disappointed when they had no formal, structured preparation for teaching or were given no opportunities for classroom experience.

**Teaching Challenges and Successes Postlicensure—**Challenges in current teaching activities that were mentioned included difficulty knowing how to develop curricula and evaluate students, how to prepare lectures that are at the appropriate level for an audience, keeping learners engaged, and being aware of different learning styles and incorporating that awareness into teaching. When asked what resources might help them be more successful in their teaching, respondents pointed to a need for training in teaching methods, protected time for teaching preparation and execution, support from more seasoned teachers, and better funding for teaching pursuits.

## DISCUSSION

We surveyed 100 professional geropsychologists who completed training in clinical or counseling psychology to examine the quality of training for research and teaching activities. Our results indicate relative strength in research compared to teaching training, and a number of specific opportunities to prepare trainees better for the multiple responsibilities in their careers.

### Limitations

Interpretation of the study responses is limited by the lack of information on response rate and response characteristics. We contacted 24 doctoral programs and 21 postdoctoral programs with geropsychology emphasis, but we do not know from how many or from which programs participants responded. It is possible and indeed likely that more long-standing training programs (i.e., with longer histories and/or larger class sizes) are over-represented. In addition, we do not know the response rate, neither regarding the number of individuals who received the forwarded survey link and chose to respond or not, nor the total universe of individuals trained in the targeted programs since 1990. It may be that individuals who are currently more engaged in geropsychology professional activities were more likely to respond. We have many responses from individuals who completed doctoral and/or postdoctoral training more recently; it is likely that DCTs may not have accurate e-mail addresses for those who completed in the more distant past. Results should be considered in the context of these sampling limitations.

### Training for Research

About one third of respondents engage in research activities, even when their primary responsibilities involve extensive clinical work. The oft discussed “scientist–practitioner gap” (Lilienfeld, 2010) was not evident in the responses of those who completed this survey, nor were negative attitudes about research. Indeed, participant comments reveal a strong

positive regard for the role of research in advancing clinical care. It may be that people with more negative attitudes about research would be less likely to complete our survey, though the survey was broad in nature, asking about training experiences across the spectrum, including questions on clinical activities.

Similarly, participants have generally positive ratings about the quality of research training, though responses varied and those trained more recently rated the quality of their training as lower than those with more years since training. Training in statistical methodology is seen as an asset, and many participants desire more of such training. The chief criticisms of contemporary training in research were a desire for more experience writing manuscripts and grants—skills critical to academic success. In addition, research training at the postdoctoral level is often limited by time constraints, suggesting further consideration of the role and goals of research training at that level. Postdoctoral training for many represents a major transition from academic to applied work, and research training might therefore need to focus more extensively on the challenges of doing research in applied settings, such as writing grants to gain protected research time, developing collaborations, and navigating institutional review processes.

Low pay-lines for grant funding especially at the federal level may be steering a cohort of scientist–practitioners into the practice realm. Nevertheless, given the strong enthusiasm for research among these respondents across settings, there appears to be a missed opportunity for collaboration, more clinically focused and more scientifically focused psychologists. Time, resources, and isolation are challenges noted in participants' research efforts. If there were a manner to link practitioners in shared research collaborations this might reduce isolation while advancing data about treatment effectiveness. The challenges of such collaborations are substantial and would require funding to support infrastructure and leadership. Nevertheless, the availability and enthusiasm of research-trained geropsychologists would also seem to create an opportunity for research paradigms that view clinicians as consumers and participants in research.

## Training for Teaching

Comparable themes arise when geropsychologists reflect on their current teaching activities and training. More than one third (42%) are currently teaching, though not always about aging-related content. The reason for the relatively lower appeal of traditional academic teaching is unclear, but it may be that practice activities "trump" teaching because clinical work generates more income than teaching positions, especially adjunct jobs. Nonetheless, there is great diversity in the kind of teaching respondents are doing, ranging from traditional undergraduate classroom teaching to presentations for other professionals. Consequently, one element of effective training appears to be preparing future teachers for the variety of audiences they will teach, with implications for curriculum development, presentation style, sensitivity to learning preferences, and outcome evaluation.

These geropsychologists say they enjoy teaching, and nearly one half express the desire to do more. They highlight the multiple gratifications of teaching, such as sharing knowledge and nurturing an interest in older adults among the next generation. These are satisfactions that might be more openly articulated by current teachers, to deliver a more explicit message

to trainees about the joys of teaching. At the same time, most in this sample say they lack the time to teach given their other responsibilities or have ended up in jobs where formal teaching is simply not part of their job duties. To seek teaching opportunities outside their regular job would mean sacrificing their personal time, often for very low pay that is typically available to adjunct faculty. This situation presents a problem for the teacher pipeline: who will excite the next generation of health service professionals in aging if there are few people to do that teaching?

One source of the problem may be the relative lack of emphasis on teacher training in graduate school and postdoctoral settings. Indeed, geropsychologists in this survey, as a group, say their training to be teachers was minimal or nonexistent. They had little guidance in almost every aspect of teaching: developing syllabi, preparing lectures, implementing different teaching methods, and evaluating student learning. Overall the quality of training in teaching was not associated with years since graduation, with relatively low ratings of training across all cohorts. Geropsychologists in this sample with more positive views appear to have had formal training in this area, taking a course or at least a workshop focused on teaching. To expect trainees to be good teachers without guided instruction on the complicated process of teaching is unrealistic; it sets up untrained teachers for failure and compromises what students deserve from their teachers—a disservice to all parties in the classroom.

Potential solutions include several initiatives to promote the teaching of psychology, including the active Society for the Teaching of Psychology (http://teachpsych.org), the Committee of Psychology Teachers at Community Colleges (http://www.apa.org/ed/precollege/undergrad/ptacc/committee.aspx), and the Committee of the Teaching of Psychology in Secondary Schools (http://www.apa.org/ed/precollege/topss/index.aspx). The Association for Psychological Science also has resources to support innovation in teaching psychological science (http://www.psychologicalscience.org/index.php/members/teaching). Resources specifically for geropsychologists are sparser, but APA Division 20 (Adult Development and Aging) includes syllabi and teaching tips on its website (http://www.apadivisions.org/division-20/education/index.aspx). More generally, creating new or making use of existing opportunities for teaching training at the pre- and postdoctoral level via workshops and critical observation may be useful given the responses in this sample. It is not clear whether gero-specific teaching initiatives are needed, although it would be desirable if funding were available to support training for teaching health service professionals within underserved populations such as professional geropsychology, (e.g., from Health Resources and Services Administration).

## CONCLUSIONS

Given the rapidly expanding numbers of older adults, a substantial proportion with underserved behavioral health needs, we must train scientists to provide the empirical base to inform efficient and effective clinical treatment. Respondents to this survey suggest doctoral programs are doing a good job training researchers but might shift their emphasis toward pragmatic skills for research success. The more intriguing aspect of participants'

responses regarding research was the strong positive regard for the role of research, and eagerness to find mechanisms to collaborate.

Similarly, given the geriatric mental health workforce crisis, there is an urgent need to train educators to teach future generations of geropsychologists. In contrast to research training, it appears the profession needs to focus more attention on training psychologists to be teachers within clinical and counseling psychology programs. The need for highly trained teachers is especially glaring. As it will not be possible to fill the workforce shortage entirely with specialty trained geropsychologists, those with such specialty training will need to have increasing roles in training generalists within health service psychology and across other health professions about aging and how to deliver competent care to older clients.

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## REFERENCES

American Psychological Association. Guidelines and principles for accreditation of programs in professional psychology. Author; Washington DC: 2013.

American Psychological Association. Standards of accreditation in health service psychology. Author; Washington DC: 2015. Retrieved from http://www.apa.org/ed/accreditation/about/policies/standards-of-accreditation.pdf

Association for Gerontology in Higher Education Competency Workgroup. Gerontology competencies for undergraduate and graduate education. Association of Gerontology in Higher Education; Washington DC: 2014.

Benassi VA, Fernald PS. Preparing tomorrow's psychologists for careers in academe. Teaching of Psychology. 1993; 20:149–155. doi:10.1207/s15328023top2003_4.

Brownson, RC.; Colditz, GA.; Proctor, EK., editors. Dissemination and implementation research in health. Oxford University Press; New York City, NY: 2012.

Burdick D. Taking stock and moving forward: Advancing gerontological education, research and practice through consideration of accreditation. Gerontology & Geriatrics Education. 2012; 33:1–5. doi:10.1080/02701960.2012.642779. [PubMed: 22289062]

Buskist W. Preparing the new psychology professoriate to teach: Past, present, and future. Teaching of Psychology. 2013; 40:333–339. doi:10.1177/0098628313501047.

Buskist, W.; Benassi, VA. Effective college and university teaching: Strategies and tactics for the new professoriate. Sage; Thousand Oaks, CA: 2012.

Gabriel SE, Normand ST. Getting the methods right — The foundation of patient-centered outcomes research. New England Journal of Medicine. 2012; 367:787–790. doi:10.1056/NEJMp1207437. [PubMed: 22830434]

Health Service Psychology Education Collaborative. Professional psychology in health care services: A blueprint for education and training. American Psychologist. 2013; 68:411–426. doi:10.1037/a0033265. [PubMed: 23915400]

Hoge MA, Karel MJ, Zeiss AM, Alegria M, Moye J. Strengthening psychology's workforce for older adults: Implications of the institute of medicine's report to congress. American Psychologist. 2015; 70:265–278. doi:10.1037/a0038927. [PubMed: 25844650]

Institute of Medicine. The mental health and substance use workforce for older adults: In whose hands?. National Academies Press; Washington, DC: 2012.

Karel MJ, Gatz M, Smyer MA. Aging and mental health in the decade ahead: What psychologists need to know. American Psychologist. 2012; 67:184–198. doi:10.1037/a0025393. [PubMed: 21942364]

Karel MJ, Knight BG, Duffy M, Hinrichsen GA, Zeiss AM. Attitude, knowledge, and skill competencies for practice in professional geropsychology: Implications for training and building a geropsychology workforce. Training and Education in Professional Psychology. 2010; 4:75–84. doi:10.1037/a0018372.

Karel MJ, Molinari V, Gallagher-Thompson D, Hillman SL. Postdoctoral training in professional geropsychology: A survey of fellowship graduates. Professional Psychology: Research and Practice. 1999; 30:617–622. doi:10.1037/0735-7028.30.6.617.

Knight BG, Karel MJ, Hinrichsen GA, Qualls SH, Duffy M. Pikes peak model for training in professional geropsychology. American Psychologist. 2009; 64:205–214. doi:10.1037/a0015059. [PubMed: 19348521]

Lilienfeld SO. Can psychology become a science? Personality and Individual Differences. 2010; 49:281–288. doi:10.1016/j.paid.2010.01.024.

Lumsden EA, Grosslight JH, Loveland EH, Williams JE. Preparation of graduate students as classroom teachers and supervisors in applied and research settings. Teaching of Psychology. 1988; 15:5–9. doi:10.1207/s15328023top1501_1.

Meyers SA, Prieto LR. Training in the teaching of psychology: What is done and examining the differences. Teaching of Psychology. 2000; 27:258–261. doi:10.1207/S15328023TOP2704_03.

Norcross, JD.; Savette, MA. Insider's Guide to Graduate Programs in Clinical and Counseling Psychology. 2012/2013 ed.. Guilford; New York: 2013.

National Institutes of Health. NIH data book. 2014. Retrieved from http://report.nih.gov/nihdatabook/

Psychological Clinical Science Accreditation System. Accreditation review standards and criteria. 2011. Retrieved from http://www.pcsas.org/review.php

Qualls SH, Segal DL, Norman S, Niederehe G, Gallagher-Thompson D. Psychologists in practice with older adults: Current patterns, sources of training, and need for continuing education. Professional Psychology: Research and Practice. 2002; 33:435–442. doi:10.1037/0735-7028.33.5.435.

Rickard HC, Prentice-Dunn S, Rogers RW, Scogin FR, Lyman RD. Teaching of psychology: A required course for all doctoral students. Teaching of Psychology. 1991; 18:235–237. doi:10.1207/s15328023top1804_10.

Santos, JF.; VandenBos, GR., editors. Psychology and the older adult: Challenges for training in the 1980's. American Psychological Association; Washington, DC: 1982.

Vincent, GK.; Velkoff, VA. The next four decades: The older population in the United States: 2010 to 2050.. Current population report. 2010. Retrieved from http://www.census.gov/prod/2010pubs/p25-1138.pdf

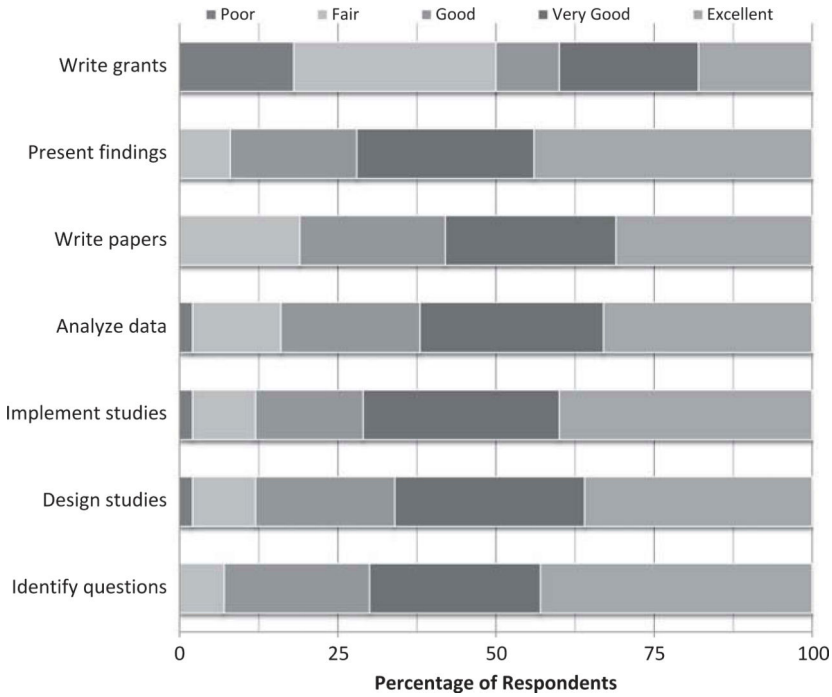


**FIGURE 1.**
Ratings of quality of training in research.

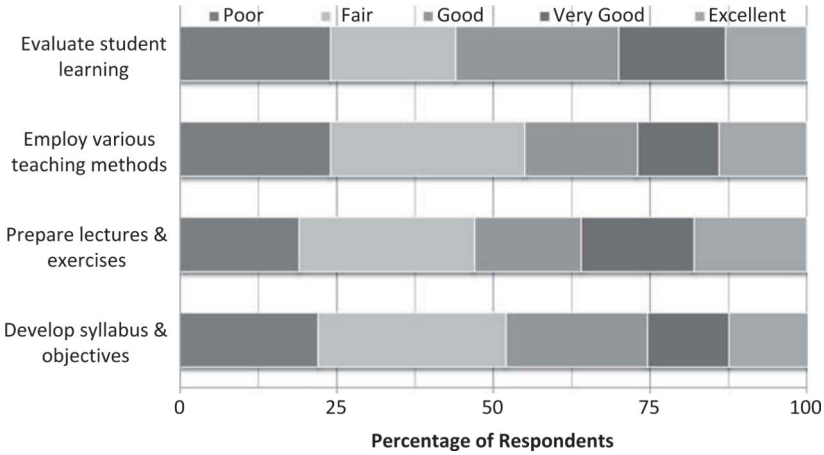


**FIGURE 2.**
Ratings of quality of training in teaching.

## TABLE 1

Participant Characteristics

| | Total (*N* = 100) | | Psychologists (*n* = 87) | | Fellows (*n* = 13) | |
|---|---|---|---|---|---|---|
| | ***M* (*SD*)** | **Range** | ***M* (*SD*)** | **Range** | ***M* (*SD*)** | **Range** |
| Age | 38.5 (5.8) | 27–68 | 39.0 (5.8) | 29–68 | 35.6 (4.6) | 27–38 |
| Years since degree | 8.2 (5.1) | 1–22 | 9.1 (4.9) | 2–22 | 2.2 (0.9) | 1–4 |
| | *n* | % | *n* | % | *n* | % |
| Gender | | | | | | |
| Male | 26 | 26.0 | 23 | 26.4 | 3 | 23.1 |
| Female | 74 | 74.0 | 64 | 73.6 | 10 | 76.9 |
| Race/Ethnicity | | | | | | |
| Black | 2 | 2.0 | 2 | 2.3 | 0 | 0 |
| Asian | 6 | 6.0 | 5 | 5.8 | 1 | 7.7 |
| White, Hispanic | 3 | 3.0 | 3 | 3.4 | 0 | 0 |
| White, Non-Hispanic | 84 | 84.0 | 73 | 83.9 | 11 | 84.6 |
| Other | 5 | 45.0 | 4 | 4.6 | 1 | 7.7 |

## TABLE 2

Hours Reported Spent in Various Professional Activities

| | | | Hours | | |
|---|---|---|---|---|---|
| **Type of Activity** | ***n*** | **%** | **Range** | ***M* (*SD*) any** | ***M* (*SD*) older adults** |
| Provision of clinical care | 71 | 81.6 | 1–60 | 28.5 (11.8) | 54.8 (40.5) |
| Research/research training of others | 38 | 43.7 | 1–40 | 14.7 (12.9) | 63.0 (42.5) |
| Clinical supervision | 46 | 52.9 | 1–20 | 5.3 (3.6) | 55.0 (44.8) |
| Teaching | 42 | 48.3 | 1–40 | 8.0 (10.1) | 37.3 (44.8) |
| Administration | 45 | 51.7 | 1–37 | 8.8 (8.3) | 37.0 (43.7) |