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Best Practices for Occupational Therapy Fellowship and Physical Therapy Residency Programs: A Mixed Method Study

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Best Practices for Occupational Therapy Fellowship and Physical Therapy Residency Programs: A Mixed Method Study

Abstract

ABSTRACT

Purpose: The purpose of this sequential mixed methods study was to investigate occupational therapy fellowship and physical therapy residency directors' perceptions of components of a successful residency program. **Methods:** A pilot survey was administered to occupational therapy fellowship and physical therapy residency directors prior to the study. A 17-item self-report survey was used to gather fellowship and residency director perceptions on the success of their respective programs. Directors of approved occupational therapy fellowship programs and accredited physical therapy residency programs were invited to participate. Following completion of the survey, follow-up interviews were conducted to deepen the understanding of director perceptions. Quantitative data was entered into Statistical Package for the Social Sciences (SPSS) and descriptive statistics were conducted. Qualitative data underwent thematic analysis. **Results:** Fellowship and residency director surveys (n=76) and interviews (n=7) highlighted program components that attributed to program success. While engagement in research was reported as only somewhat important, the other six components examined were rated as either important or very important. Research was not valued as highly as other components due to the nature of fellowship and residency programs and their focus on practical application of didactic components translating to clinical skill enhancement. Components not highlighted by the authors in the survey were then supplied by program directors in interviews: administration time, resident feedback, networking opportunities, rotation through the healthcare continuum, the opportunity to assist with teaching in an entry level program, and consistent feedback from mentors. Three themes emerged from interview data: importance of program components, fellow/resident characteristics, and program evaluation/changes. **Conclusion:** While some differences between occupational therapy fellowship and physical therapy residency programs were found, there were more similar components that contributed to program and participant success. Further research is necessary for the continued development and quality assurance of fellowship and residency programs.

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Keywords: residency, fellowship, resident, fellow, curriculum, post-graduation education

INTRODUCTION

Occupational therapy (OT) fellowships and physical therapy (PT) residency programs are structured educational experiences which are designed to advance knowledge, skills, and overall expertise in a specialty area for novice practitioners. An OT fellowship is an elective program to be completed by a licensed professional; it is required to entail at least 1,400 hours over the course of 9-24 months depending upon the program design.¹ Similarly, a PT residency is defined as an optional clinical or nonclinical program completed post-professionally that is commonly pursued by a recent PT program graduate.² A PT resident must be licensed prior to entering a residency and is expected to complete 1,500 hours of work during their residency, usually spread out over a range of 9-36 months. Both OT fellowship and PT residency programs must go through an approval or accreditation process by their respective governing bodies (Table 1).^{1,3,4}

Table 1. AOTA Fellowship and ABPTRFE Residency Standards

AOTA Fellowship ^{1,3,a}	ABPTRFE Residency ^{4,b}
Minimum 24% total hours practicing with mentor	Employment of qualified program director to oversee program and ensure quality
Both didactic (e.g., classroom learning, research, etc.) and clinical instruction	Can be clinical or non-clinical based
Helps fellows work toward meeting AOTA Board Certification-based learning objectives	"Curriculum up-to-date and derived from the most recent version of the Description of Residency Practice (DRP), the Description of Fellowship Practice (DFP), or an ABPTRFE-approved method of analyzing current practice"
Site visit required	Site visit required
Sites go through applicant, candidacy and approved phases	Have "developing" sites in candidacy stage and "accredited" sites that are approved
Program approval is for 10 years	Program approval is for 5 years

^a Classified using AOTA fellowship program brochure and AOTA fellowship program policy manual^{1,3}

^b Classified using ABPTRFE processes and procedure

Historically, fellowship and residency programs have been researched in professions such as medicine and nursing. These types of programs are relatively new to the professions of OT and PT. The first PT residency was established in 1997 and the first OT fellowship was established in 2015.⁵ At the start of this study, there were 16 approved OT fellowship programs and 239 accredited PT residency programs.^{6,7} There is not a consistent format used across fellowship and residency programs for didactic or clinical experiences.⁸ However, there is an increasing demand for therapists to gain advanced clinical knowledge related to patient care. The numbers of OT fellowships and PT residency programs are rapidly increasing.⁵ As a result, there is a need to identify essential components across existing OT fellowships and PT residency programs to produce successful and competent practitioners.

Research has been conducted on fellowship and residency programs in many healthcare professions, but the administrative, clinical, and didactic components that constitute a fellowship or residency curriculum are not well described in the literature. Research concluded that mentorship and direct feedback were critical and essential for residency programs.^{5,9,10,11,12} In addition, some researchers identified communication as an important component.^{11,13,14} Program evaluation was another important aspect to improve the program.^{11,15} Despite finding these common themes in the research, the themes were minimal and a great amount of variance remains among the components of fellowship and residency programs.

Outcomes of fellowship and residency programs vary. High-quality fellowship and residency education results in positive outcomes evidenced by significant improvement in practitioners' knowledge, higher probability of achieving better patient outcomes, and practitioners' self-report of being more confident in delivering patient care.^{13,16} Moreover, individuals who participated in fellowship and residency programs demonstrated greater leadership abilities and professional skills and reported higher incomes.¹⁷ Further research could potentially lead to standardization or increased consistency of didactic and clinical curriculums across fellowship and residency programs that would ensure these positive outcomes.

This study was designed to inform the successful formation of OT fellowship programs. However, due to the novelty of these programs, it was important to reference other professions with similar structures for guidance in program development. Therefore, PT residency programs were determined to provide the best guidelines for the development of OT fellowships based on the

comparable goals of these programs and type of education provided. The purpose of this sequential mixed methods study was to investigate OT fellowship and PT residency directors' perceptions of components of a successful fellowship or residency program.

METHODS

Prior to the study, the Institutional Review Board approved the study. A sequential mixed methods approach was used to investigate what residency directors/coordinators perceived as components of a successful OT fellowship and PT residency program. Researchers used this design to collect and analyze data through quantitative methods before gaining in-depth information through qualitative interviews.¹⁸ The study consisted of a survey with both close and open-ended questions and was followed up by an optional interview in which fellowship and residency directors could elaborate on items related to the survey. This design allowed researchers to explain the initial quantitative results in more detail using qualitative data.¹⁹

Participants

Researchers used a purposive sampling method to recruit directors of approved OT fellowship programs and accredited PT residency programs in the United States. Inclusion criteria for the study was that they served as the director of either an OT fellowship or PT residency program. Exclusion criteria included directors of the following: applicant and candidate OT fellowship programs, and candidate and developing PT residency programs, PT fellowships, and pilot study OT fellowship and PT residency programs. Researchers obtained e-mail addresses of directors of the 16 approved OT fellowship programs and 239 accredited PT residency programs from the American Occupational Therapy Association (AOTA) and the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE) web pages respectively.^{6,7} Four programs were not reached as a result of the e-mail address for their contact person being invalid. The total sample size for the survey was 251. However, due to some directors being the contact point for multiple fellowship or residency programs, the sample size was adjusted to 227.

Instruments and Materials

The *OT Fellowship and PT Residency Director Perceptions of Program Success*, a self-report survey, was used for the online survey (Table 2). The survey was administered through Qualtrics, an online survey platform, and consisted of seventeen items. Qualtrics allowed the survey to be administered to participants through an anonymous link. There were two questions relating to director demographic characteristics and 11 questions related to the demographics of the fellowship or residency program (i.e. size, type, organization of residency and fellowship programs, etc.). The survey contained open-ended questions and close-ended questions. A Likert scale was used to rank how important fellowship and residency program directors felt certain components were to the program on a scale of one to five (1= not important, 5 = very important). A sixth response was available for participants to respond "N/A" if the component did not apply to their program. Additionally, an open text box at the end of the survey allowed for any additional feedback from directors. The final question of the survey allowed participants to volunteer for a follow-up interview. The interview was self-developed for the purpose of the study and consisted of ten questions designed to allow participants to elaborate on survey responses (Table 3).

Table 2. OT Fellowship and PT Residency Director Perceptions of Program Success

1.	Do you agree to participate in the survey?
2.	Please indicate if you are an occupational (OT) therapy or physical (PT) therapy residency program director/coordinator.
3.	How many years have you been in your current role of residency director/coordinator?
4.	What type of residency program are you director/coordinator of?
5.	Please indicate the length of your residency program (i.e., 6 months, 1.5 years, etc.)
6.	How many residents does your program accept yearly?
7.	What is the average required amount of hours residents must spend with their mentor per week?
8.	What is the average number of hours a resident spends in clinical practice/skill development per week? (number only)
9.	What is the average number of hours a resident spends in didactic coursework (online, face-to-face, etc.) per week? If none, please type N/A.
10.	Please describe the didactic components of your residency program. If none, please type N/A.
11.	Rank how important you feel each of the following residency components are regarding the success of your residency program. (1=not important, 2=less important, 3=neutral, 4=important, 5=very important, N/A)
a.	Quality of communication between mentor & resident
b.	Regularly scheduled meetings with mentors
c.	Mentor feedback provided to resident
d.	Clinical experiences/skill development opportunities

an interview. Interviews were conducted by phone, digitally recorded, and transcribed. In order to maintain anonymity, no names were associated with interview responses during analysis.

Qualitative data from the interviews and open-ended survey questions was analyzed using the same process as interviews. First, researchers hand coded the data independently. The researchers compared codes and analyzed them to not only determine themes but also to determine what data did not fit a theme and could be disregarded.¹⁹ All data collected during this study was stored in a secure OneDrive account and network.

RESULTS

The survey was sent to 227 participants with 76 responses, resulting in a response rate of 33.5%. Survey responses from 76 participants (8 OT and 68 PT) provided an initial description of common components of fellowship and residency programs and what directors believed made them successful. Follow up in-depth interviews were conducted with seven participants (3 OT and 4 PT) to gain a greater understanding of the specific components in various programs and how the components benefited or hindered success. Additional feedback was provided through interviews regarding components currently in programs that were not included in the survey.

Quantitative Results

The survey portion of the study yielded quantitative data. Fellowship and residency directors reported the type of program they oversee, with orthopedic and neurology being the two most common at 39.5% and 25% respectively (Table 4). The average length of fellowship and residency programs reported was 12.65 months. Participants reported the time fellows and residents spend engaged in various components of the program. On average, fellows and residents spent 29.07 hours on clinical practice/skill development and 5.97 hours on didactic coursework per week. Fellows and residents were required to spend an average of 4.09 hours with their mentor each week. Participants were asked to use a five-point Likert scale (1 = not important, 5 = very important) to indicate how important they believed seven components of a fellowship or residency program were to their respective program (Table 5). Six of the seven components had an average above four, indicating their importance to the program. Engagement in research was the only component that averaged below a score of four at 3.67, indicating that it is somewhat important.

Table 4. Categories of Fellowship and Residency Programs

Types of Programs	Number of Programs
Acute Care	1
Burns	0
Cardiovascular and Pulmonary	2
Clinical Electrophysiology	0
Faculty	0
Geriatrics	4
Hand Therapy	2
Mental Health	3
Neurology	20
Orthopedics	32
Pediatrics	10
Physical Rehabilitation	1
Sports	10
Women's Health	4
Wound Care Management	0
Other	0

Table 5. Importance of each Component within the Fellowship and Residency Programs

Components	Average
Mentor feedback provided to resident	4.99
Quality of communication between mentor & resident	4.96
Clinical experiences/skill development opportunities	4.84
Mentor Training	4.68
Regularly scheduled meetings with mentors	4.63
Didactic experiences (lectures, labs, online content, etc.)	4.54
Engagement in research	3.67

1=not important, 2=less important, 3=neutral, 4=important, 5=very important

Qualitative Results

Open-ended questions provided participants an opportunity to elaborate on responses to close-ended questions. Follow-up interviews allowed researchers to collect additional qualitative data to further explore components related to fellowship and residency success.

Results from Open-ended Items in Survey

Additional data was collected from the survey via open-ended questions. Common didactic components of the programs included online courses, the opportunity to serve as a teaching assistant for lower level classes, research and journal clubs, Leadership Education in Neurodevelopmental and Related Disabilities (LEND) training, and overall a combination of face-to-face interaction, self-study, and online work. Additionally, participants were also able to add components of fellowships and residencies that had not previously been addressed in the close-ended survey items. Participants expressed the importance of administration time, resident feedback, networking opportunities, rotation through the healthcare continuum, the opportunity to assist with teaching in an entry level program, and consistent feedback from mentors. Participants listed characteristics that they felt were important for a fellow or resident to have to be successful, such as ethics, flexibility, leadership, and the ability to work interprofessionally. Finally, face-to-face meetings between fellows and residents and their mentors were most frequently reported to occur on a weekly basis.

Qualitative Results from Interviews

Three themes emerged from the interview data: program components, fellow and resident characteristics, program evaluation and changes.

Importance of Program Components

In response to being asked what components were part of their respective programs, five out of seven directors indicated all seven components listed in the survey were important to the success of their programs. Two participants indicated that all components except for research were incorporated into their program. Analysis was completed to reveal specific perceptions about the various components that lead to successful fellowship and residency experiences. In regard to important components of the programs, common themes among all participants included the importance of regularly scheduled mentor meetings as well as performance feedback from the mentor to the fellow or resident. Some aspects that were reported as less important included engagement in research, didactic components, and formal mentor training prior to serving as a mentor. Vision, clear structure, positive mentor/mentee relationships, communication, and understanding the value of the mentor/mentee relationships were cited by respondents as successful aspects of their respective programs. When asked why quality of communication between mentor and fellow or resident is an important program component, one director stated:

“The mentoring relationship is kind of the bedrock of the learning experience. The ability to communicate with each other is kind of paramount in them (fellows/residents) being able to synthesize and learn.”

When asked why fellow and resident engagement in research is not as highly valued as a critical component of programs, another program director stated:

“We have two research scientists on staff that are PTs. They have ongoing research projects they are involved in, so when our residents come in, we tell them ‘listen we aren’t asking you to come in with a research project in mind because you might have a great idea but by the time it gets to IRB and everything you’re going to be ready to graduate. Because we do have projects that are already ongoing, we plug them into that. For us, what we want the resident to learn from that component is how to do research in a clinical setting.”

Fellow/Resident Characteristics

Participants commented on characteristics they felt made a successful fellow or resident. Reported characteristics included initiation to engage in self-directed learning, organizational skills, and ability to effectively incorporate and provide feedback. The following two quotes exemplify the characteristics:

"The resident needs to understand that this is an opportunity to learn and grow and the fellowship provides the for that to happen but it's the resident's responsibility to get that to happen. For example, I might say 'you need to do a research project.' The resident will have to come to me and say, 'these are my ideas.' They have to get their own connections or get us to help them. It's on them to get their education."

"... someone who takes feedback really well and incorporates it, but also gives feedback on what is working or what is not working."

Program Evaluation and Changes

Participants shared any changes made to their programs. OT fellowship directors concluded that no major revisions had been made, but PT residency directors reported making changes based on resident feedback upon completion of the program and new technology as it is introduced to the profession. Additionally, residency directors reported using follow up surveys and resident reported outcome measures to inform and implement changes within their programs. The following are two quotes from program directors related to program evaluation and changes between OT fellowships and PT residencies:

"Only my second year, no substantial revisions."

"We survey all past residents on a yearly basis in order to assess what their outcome has been and what successes they have had as they have gone on. Also, any feedback on changes that they feel like now that they're out working that would have been helpful if they had known... Formal committee meeting once a year that reviews the curriculum for the residency and the feedback that we have received, and a plan is made for changes for the following residency."

DISCUSSION

The purpose of this study was to compare and contrast OT and PT fellowship and residency programs in order to identify successful components to assist in the further development of program curriculum throughout the country. There were some variations in responses between the two types of programs. Generally, participants associated with OT fellowships commented that it was helpful to start a program where a PT residency was already in place. However, it may be a downfall when trying to highlight the specific differences between the professions. OT fellowship directors also commented that due to the short length of time their programs had been established, there had not been adequate time to make significant revisions.

Interview responses from participants showed more similarities than differences. In this study, it was found that the quality and frequency of mentorship was a significant part of the fellows' and residents' success in these programs. This aligns with a previous study that found constructive and regular feedback as well as time set aside each week to meet with the residents as being essential components of program success.¹⁹ The researchers in this study also found that a successful fellow or resident demonstrates characteristics such as initiation to engage in self-directed learning, organizational skills, and the ability to effectively incorporate and provide feedback. A previous survey found that characteristics such as dependability, self-motivation, work ethic, and critical thinking were imperative to achieve success in the program and throughout their career.²⁰

Limitations

Because of the novelty and minimum number of approved OT fellowships, there were limitations to the study. OT fellowship programs had fewer fellows and less ability to gauge their overall success. OT fellowship sites may base their fellowship programs on established PT residency programs, potentially resulting in unique OT concepts being overlooked. However, through this study, it is not possible to determine which participating fellowship sites have both an OT fellowship and PT residency due to anonymity of responses. Additionally, an unequal distribution of fellowships and residencies caused an imbalance in responses, and thus, many more responses were elicited from the field of PT than OT. Another limitation is the lack of generalization of this research. Although most information from OT can be generalized to PT and vice versa, it may not be generalizable to other health care programs, such as nursing, pharmacy, or medicine. Finally, a limitation of this study was the method of contacting program directors. Many directors were the point of contact for multiple fellowships and residencies located at the same facility. When responding, they self-selected which program they reported, further decreasing the number of possible data points from fellowship and residency programs.

Recommendations for Further Research

A similar study could be conducted to look at OT fellowship programs that exist at the same site as PT residency programs in order to examine the pros and cons of using a residency to guide the development of new fellowships. Additionally, future research should be conducted with OT fellowship programs only to work towards establishing consistency among these professional programs. The research should specifically focus on mentor training and preparation, as this was a component that many OT programs did not currently address. It might be beneficial to repeat this same study when a greater number of OT fellowships are approved, so that their unique components are clearly highlighted. Finally, it would be beneficial to examine how programs determine at the application stage when a fellow or resident is a match for the program.

CONCLUSION

This study was the first of its kind to examine the successful components of OT fellowship and PT residency programs. Because of the novelty of OT fellowship programs, there was a lack of data to be collected from these programs, but directors were still able to give suggestions for components they felt were successful. Some key findings included the importance of mentor/mentee relationships, resident or fellow ability to be self-directed, and a variety of learning techniques. Key findings were consistent across multiple OT fellowship and PT residency programs. Although several consistent components were noted by participants as being important and successful, further research is recommended to promote and enhance continuous evaluation and refinement of both OT fellowship and PT residency programs.

Reference List

1. American Occupational Therapy Association (AOTA). Fellowship program brochure. AOTA Inc. <https://www.aota.org/~media/Corporate/Files/EducationCareers/Advance/Fellowship-Program-Brochure.pdf>. Published 2017. Accessed January 27, 2019.
2. Smiley T. Residences and fellowships part 1 – navigating the basics. *The Pulse*. October 12, 2016. <http://www.apta.org/Blogs/Pulse/2016/10/ResFell/>. Accessed January 27, 2019.
3. American Occupational Therapy Association (AOTA). AOTA fellowship program policy manual. AOTA Inc. <https://www.aota.org/~media/Corporate/Files/EducationCareers/Advance/Fellowship-Policy-Manual.pdf>. Published 2017. Accessed January 27, 2019.
4. American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE). ABPTRFE processes and procedures. American Physical Therapy Association. http://www.abptrfe.org/uploadedFiles/ABPTRFEorg/For_Programs/ABPTRFEProcessesAndProcedures.pdf. Published 2018. Accessed January 27, 2019.
5. Furze JA, Tichenor CJ, Fisher BE, Jensen GM, Rapport, M. Physical therapy residency and fellowship education: reflections on the past, present, and future. *Physical Therapy*. 2016;96:949-960
6. American Occupational Therapy Association (AOTA). Approved, candidate, and applicant fellowship sites. AOTA Inc. <https://www.aota.org/Education-Careers/Advance-Career/fellowship/fellowship-sites.aspx>. Published 2017. Accessed April 3, 2017.
7. American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE). Directory of residency programs. American Physical Therapy Association. <http://www.abptrfe.org/apta/abptrfe/Directory.aspx?navID=10737432672>. Published 2017. Accessed April 3, 2017.
8. American Occupational Therapy Association (AOTA). AOTA residency program information and application. AOTA Inc. <https://www.aota.org/~media/Corporate/Files/EducationCareers/Advance/Residency-Program-Application.pdf>. Published 2016. Accessed January 30, 2017.
9. Homa K. Coaching physicians in training to lead improvement in clinical microsystems: a qualitative study on the role of the clinical coach. *The International Journal of Clinical Leadership*. 2008;16:37-48.
10. Van der Leeuw MR, Schipper MP, Heineman, MJ, Lombarts, KH. Residents' narrative feedback on teaching performance of clinical teachers: analysis of the content and phrasing of suggestions for improvement. *Postgraduate Medical Journal*. 2016;92(1085):145-151.
11. Wynn K. Under your wing mentoring in the profession. *PT: Magazine of Physical Therapy*. 1998;6(2):42-49.
12. Aghaipour N, Gonin A, Duncan A, Hebert, D. The occupational therapy students moving and handling residency: program evaluation. *American Journal of Safe Patient Handling & Movement*. 2012;2(3):102-110.
13. Brat MM. Nurse residency program: best practices for optimizing organizational success. *Journal for Nurses in Professional Development*. 2013;29(3):102-110.

14. Crist PA, Cooper RG. Evaluating clinical competence with the new fieldwork evaluation. *American Journal of Occupational Therapy*. 1988;42(12):771-773.
15. Ander DS, Davis B, Geist K, Johanson MA, Rossi A, White M. The physical therapist's expertise in the emergency medicine residency curriculum: an academic model for integrated health care education. *Journal of Physical Therapy Education*. 2016;30:17-23.
16. Bellah C, Godges JA, Jones S. Comparison of professional development and leadership activities between graduates and nongraduates of physical therapist clinical residency programs. *Journal of Physical Therapy Education*. 2008;22:85-88.
17. DePoy E, Gitlin L. Mixed method designs. In: *Introduction to Research: Understanding and Applying Multiple Strategies*. 5th ed. St. Louis, MO: Elsevier; 2016:173-179.
18. Creswell JW. Mixed methods procedure. In: *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th ed. Thousand Oaks, CA: SAGE Publications; 2014:215-240.
19. O'Donnell AE. *Effective mentoring in physical therapy: approaches for residency training*. Davie, Florida: Nova Southeastern University; 2012.
20. Jellinek-Cohen S, Cohen V, Rab S, Likourezos, A. Characteristics that define a successful pharmacy resident as perceived by residency programs. *Hospital Pharmacy*. 2015;50(10):876-883