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Using a Job Crafting Model to Examine the Job Tasks of Program Coordinators in Graduate Medical Education

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Abstract

Graduate medical education (GME) is essential to preparing physicians for independent practice in the United States. Oversight of GME programs requires strict attention to accreditation requirements, state and federal regulations, and high educational standards. Residency program coordinators are an essential part of GME administration. Program coordinators play a critical role in GME residency programs, provide essential, non-medical administration functions, and are positions that are required by the Accreditation Council for Graduate Medical Education. This study examined the job tasks of residency program coordinators using a job crafting framework.

This mixed methods study used a job crafting scale developed by researchers in the Netherlands and qualitative interviews to develop a profile of the program coordinator job and determined that program coordinators do engage in job crafting behaviors. Data from this study can be used to improve the employment status of program coordinators, further integrate program coordinators into critical residency functions such as recruitment and identification of struggling residents, and improve residency program outcomes.

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Dedication

Dedicated to my sons, Michael and Robert.
If you have patience, strength, and passion, you can achieve your dreams.

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CHAPTER 1

INTRODUCTION

Residency program coordinators are an essential part of the structure of allopathic (medical schools offering MD degrees) graduate medical education (GME) in the United States. The administration and oversight of a medical residency program requires a complex organization with many stakeholders. Accreditation of allopathic GME programs is the responsibility of the Accreditation Council of Graduate Medical Education (ACGME). The ACGME sets common program requirements and specialty specific requirements for medical residency program accreditation and the position of program coordinator is required for every residency program. Program directors are specialty board certified physicians who are ultimately responsible for the residency program, the residency program coordinator is the administrative, non-medical position that is responsible for many critical tasks related to program accreditation, resident recruitment, and program management such as scheduling. Before 2000, program coordinators were generally viewed as program secretaries (Mateo, 2014); now program coordinators are viewed as the central hub for the daily administration of a residency training program (McCann, Knudson, Andrews, Locke, & Davis, 2011). As ACGME accreditation requirements have increased, so have the expectations and job responsibilities for program coordinators.

Medical education comprises two parts: undergraduate medical education (UME) and graduate medical education (GME). UME must be completed before GME can be undertaken. GME was developed with the recognition that graduated medical students, referred to as residents, must work in a clinical setting in order to learn both skills and judgment needed to be licensed physicians. While in residency, physicians learn "the habits and approaches that they

carry with them throughout their careers" (Ludmerer, 2015, p. xii). As GME has evolved, residency training has come to be viewed as a cycle "from uncertainty to confidence and responsibility" (Cooke, Irby, & O'Brien, 2010, p. 240). What was once seen as a process-based system based upon time served as a resident has evolved to an outcomes-based system that evaluates a resident's functioning abilities and assesses readiness for independent practice (Ludmerer, 2015).

Residency training is known as a period of intense strain and overwhelming responsibility (Ludmerer & Johns, 2005). Burnout among medical residents is common (Prins, Gazendam-Donofrio, Tubben, Van der Heijden, Van de Wiel, & Hoekstra-Weebers, 2007) and occurs more frequently than in other professions (Ludmerer, 2015). This has led to residency applicants choosing a medical specialty based upon lifestyle and work environment factors. Surveys of both residents and residency applicants have found that both groups place a value upon a strong, supportive residency program environment (Nuthalapaty, Jackson, & Owen, 2004); central to providing this support system are program coordinators. Residents and residency applicants are fully aware of the importance of program coordinators. Residency applicants view program coordinators as important indicators of quality at residency programs during the interview process (Nawotniak & Grey, 2006); coordinators are viewed as "key liaisons" (p. 1) between residents and residency program administrators and organizations (Norwood, Hicks, Thrush, Woods, & Clardy, 2006) and residents frequently acknowledge program coordinators in graduation remarks at the end of their residencies (McCann et al., 2011).

This study examined the job tasks of the program coordinator through the job design model of job crafting to learn how program coordinators actively develop both tasks and social relationships to carry out the responsibilities of their positions and these behaviors' impact on

residency programs' performance. Wrzesniewski and Dutton (2001) defined job crafting "as the physical and cognitive changes individuals make in the task or relational boundaries of their work" and wrote that organizations should be motivated to develop an environment that supports enterprising job crafting (p. 179). Job crafting contributes to work engagement and job satisfaction for individuals, but also benefits organizations through increased job performance and improvement of organizational outcomes (Wrzesniewski, LoBuglio, Dutton, & Berg, 2013). Studying job crafting is additionally important because it occurs without the knowledge of management (Lyons, 2008); employees rather than managers or supervisors must be studied to determine evidence of job crafting behaviors. An examination of job crafting by program coordinators could assist residency program directors in understanding work behavior that may or may not benefit the residency program and could improve orientation and training for new program coordinators.

Graduate medical education could benefit from a greater understanding of how a program coordinator completes job tasks. As the responsibilities of a program coordinator have increased, job descriptions have not changed accordingly (Mateo, 2014). Both coordinators and program directors find it difficult to list all the tasks a program coordinator performs during the academic year. A better understanding of program coordinator job tasks and how they are completed would assist program directors and institutions sponsoring residency programs in hiring, managing, and integrating program coordinators within the residency program structure.

Purpose of the Study

The purpose for conducting the study was to describe the job crafting practice of Graduate Medical Education program coordinators. The study collected data that was used to better define the job tasks and responsibilities of the residency program coordinator. A mixed

methods research design was used to define the job tasks and to develop a narrative of the role of program coordinator.

Research Questions

1. What is the profile of Graduate Medical Education program coordinators?
2. To what extent do Graduate Medical Education program coordinators engage in job crafting?
3. If Graduate Medical Education program coordinators engage in job crafting, what behaviors do they employ?
4. How can self-identified job crafting behaviors of Graduate Medical Education program coordinators be used by Graduate Medical Education program directors to better understand the daily tasks and effort of program coordinators to improve the residency program?
5. How can job descriptions and job expectations of Graduate Medical Education program coordinators in residency be revised to better reflect actual job tasks?

Assumptions

The underlying assumption of the study was that the position of program coordinator is poorly defined and not understood by program directors. This was based on the assumption that the job description of program coordinator has not changed to meet the new responsibilities and expectations that have come with increased ACGME accreditation requirements. A second assumption was that the job crafting model is an appropriate one to use to study the behaviors of program coordinators and how these behaviors can be used by program directors to better understand the job of program coordinator and improve residency program outcomes. Finally, it

is assumed that a mixed methods research design is the appropriate research design to study job crafting behaviors.

Limitations and Delimitations

Although the job crafting scale has been validated in multiple studies, it still relies on self-reported behaviors and some participants may be reluctant to reveal behaviors that they feel might be perceived as negative. Qualitative interviews can inhibit participants if sensitive questions are asked or personal information is disclosed. The researcher attempted to reduce the likelihood of both by reassuring participants of anonymity and the protection of the information shared.

A second limitation was the professional relationship that the researcher has had with the majority of the participants. The researcher was dispassionate when asking questions and did not prompt responses to encourage participants to provide a specific viewpoint. The semi-structured format also reduced, but did not eliminate, this possibility.

Definitions

Allopathic: Medical education that results in a medical doctor (MD) degree as opposed to osteopathic medical education which results in a doctor of osteopathic medicine (DO).

Graduate Medical Education: A period of educational training that occurs after medical school graduation that lasts for three to eight or more years with the purpose of preparing physicians for independent medical practice.

Program Coordinator: An ACGME required administrative position that supports the residency program, resident recruitment, and residency program accreditation. As the majority of program coordinators are women, the she pronoun will be used to refer to program coordinators.

Program Director: An ACGME required position that is solely responsible for the oversight and operation of the residency program. A program director must be a board-certified physician in the residency program specialty (ACGME, 2011).

Resident: A physician currently in an accredited graduate medical education program (ACGME, 2011).

Residency program: A post-graduate medical education program that specifically trains physicians in a particular specialty.

Undergraduate medical education: The education of medical students which occurs in medical schools for four years.

Significance of the Study

Although there is extensive literature across medical specialties about how program directors, faculty, and GME administrators have approached the increasing and changing requirements in graduate medical education, there is little written about the role of the residency coordinator in meeting accreditation standards and the many roles a program coordinator fills within a residency training program (Grant, Murphy, & Murphy, 2008). This study provides information on how program coordinators craft their job tasks to assist in the essential requirements of residency program accreditation. Job crafting behaviors by employees can result in employees feeling greater job satisfaction, improved outcomes for the employer (Tims & Bakker, 2010), and can contribute to improved organizational quality and employee retention (Leana, Appelbaum, & Shevchuk, 2009). Job crafting has been found to occur with more than 75% of employees (Lyons, 2008), positively affects quality of work and efficiency of task completion, and occurs in work environments that allow discretion in tasks and provide higher levels of job complexity (Ghitulescu, 2006). While the pressures of residency administration

differ from the business world, all organizations need employees who work at capacity and are fully engaged in their work (Lu, Wang, Lu, Du, & Bakker, 2013). Many studies of employees and jobs focus on aggregate groups of employees and not individuals; the job crafting model focuses on employees independently modifying their jobs to improve job satisfaction and work output (Tims, Bakker, & Derks, 2013). This was especially important in researching program coordinators as coordinators tend to work independently and tend to be in small numbers at any one medical school or hospital.

The number of program coordinators at one institution can be as small as one to as high as 150 (ACGME, 2014) resulting in a greatly differing range of networking, collaboration, and learning opportunities for program coordinators. This study provides some additional knowledge of how program coordinators craft their work which can be used to inform other coordinators at both large and small institutions. This application of the job crafting model to program coordinators informs residency program directors about how program coordinators adapt their jobs on the local level and increases understanding of the program coordinators' roles in graduate medical education.

A better understanding of the importance and role of the program coordinator also benefits residents. Studies have already found that residency applicants view program coordinators as an important indicator of residency program quality when making rank lists (Nawotniak, 2006). Coordinators provide social support services to residents that are frequently hidden (McCann et al., 2011). One study showed coordinators can predict residency applicants who will not match into a residency position (Robinson, Roberts, & Dzara, 2013). Each of these studies was limited to a specific specialty or program, however. This study at more than one

institution with a diversity of residency programs provides further insight into the central role of program coordinators and their impact upon both the residency program and the residents.

Improving residency outcomes can make a significant impact upon GME and individual residents. The high cost of residents that fail is a significant concern to residency programs and GME institutions; any additional information than helps programs improve the resident selection process is important. The majority of residents successfully complete their residency training with little academic difficulty, while other residents have difficulties that result in some kind of discipline. Although the number of residents in difficulty per program is not high, Dupras et al. (2012) reported that within the Internal Medicine specialty (representing 6% of all residents nationally), 73.5% of programs reported having at least one resident in difficulty at any one time; these can include difficulties with medical knowledge, professionalism issues, or communication with patients, students, physicians, and other healthcare providers. A subsequent study by Dupras, Edson, Halvorsen, Hopkins, and McDonald (2012) found nearly identical results. A study of neurology programs and problem residents found that 81% of programs had a problem resident at the time of the study (Tabby, Majeed, & Schwartzman, 2011). Other studies have found that 7% to 28% of residents will require remediation of some kind during GME training (Reamy & Harman, 2006; Schwind, Williams, Boehler, & Dunnington, 2004; Yao & Wright, 2000).

The financial costs and staff time of helping a failing resident (Roberts & Williams, 2011) as well as the cost to the program in resident morale, scheduling challenges, and additional faculty (Brenner, Mathai, Jain, & Mohl, 2010) have been documented in the literature. Even one problem resident can significantly alter the program of study for other residents with residents expected to cover shifts with the resident in difficulty, faculty spending more time mentoring and

teaching the resident and as a result spend less time with normally progressing students, and diverting educational or counseling staff from regular teaching to work closely with the resident. These costs lead many programs to focus on the resident selection process in order to recruit residents who are most likely to succeed during residency (Lee et al., 2007; Naylor, Reisch, & Valentine, 2008; Brenner et al., 2010; and MacLean & Pato, 2011). This places an importance upon program coordinators for two reasons: coordinators are often the first point of contact for resident applicants (Nawotniak & Gray, 2006) and personal stressors are the cause of resident poor performance 48% of the time (Tabby et al., 2011). Program coordinators are often the first to be aware of residents experiencing personal problems and hear about resident personal problems regularly (McCann et al, 2011). These findings and other literature regarding GME and program coordinators suggest that this study of program coordinators could assist program directors and administration in improving residency accreditation, having a faster response when residents are in trouble, and developing a more smoothly running program.

CHAPTER 2
LITERATURE REVIEW

There is the potential to improve residency programs through the study of program coordinators. The purpose of this study was to apply the job crafting model to residency program coordinators at two community based medical schools with residency programs to gain a better understanding of how the job requirements of the positions are completed. This literature review is divided into three parts: 1) context of medical education and residency program administration, 2) the role of the residency program coordinator, and 3) organizational behavior and job crafting.

The literature review was conducted online through the University of Arkansas's web portal. A search was first conducted in PubMed for literature regarding residency program coordinators and residency program administration. As this topic has long been of interest to the researcher, several articles had been identified prior to the literature search for this study. These articles were used as the starting point for the literature search. EBSCO and Web of Science databases were used next to broaden the scope of the journals to be searched. A search was also conducted using ProQuest Theses and Dissertations. The literature for both program coordinators and job crafting is fairly limited so it was possible to review every article and dissertation found. The researcher has worked professionally in graduate medical education for more than ten years and has kept up with emerging literature and books on medical education and maintained a habit of regularly reading the medical journal articles relating to medical education, which assisted in keeping up with newly published articles and books on these topics.

Context of Medical Education and Residency Program Administration

Over a century ago, Abraham Flexner developed the first blueprint for modern medical education that standardized medical education in the United States and Canada, a model that is

still closely followed today (Cooke, Irby, & O'Brien, 2010). Flexner's model of medical education included four years of undergraduate medical education (UME) that is divided into basic sciences (two years) and clinical training (two years) (Flexner, 1910) followed by graduate medical education or residency training that could last anywhere from three to eight years or more. Residency programs are the specialty training that medical school graduates complete upon earning a Doctor of Medicine (MD) or Doctor of Osteopathic Medicine (DO) degree. All 50 states in the United States require at least one year of residency training before granting a physician a permanent or full license to practice medicine. In 2010, 111,903 residents were enrolled in medical residency programs in the United States (Jolly, Erikson, & Garrison, 2013). Residency applicants obtain residency positions through the National Resident Matching Program (NRMP), more commonly known as the Match.

After applying and interviewing with residency programs, applicants enter their program preferences in ranked order; residency programs also rank applicants. The NRMP uses a complex algorithm to match residents with residency programs favoring the preferences of the applicants. It is possible for applicants to not match with residency programs and for residency programs to not match with applicants for all of the program's available positions. Applicants and residency programs can then enter the Match Week Supplemental Offer and Acceptance Program (SOAP), a time consuming and stressful process. This process is intended to allow applicants and program directors to make match decisions in a less pressured environment (NRMP, 2014). Residency programs want to avoid the SOAP process as it has been found that residents who do not match during the main residency match but obtain a position after the match perform less favorably than residents who did match (Blonski & Rahm, 2003; Wetz, Seelig, Khoueiry, & Weiserbs, 2010). Residency programs have dual motivations for filling all

positions in the match: to avoid SOAP and to recruit residents who will be able to succeed in residency.

Graduate medical education and its formalization as work post-MD degree did not appear until the 20th century (Stevens, 1978). Prior to World War I, residency training was not an important part of medical education; education was considered sufficient after four years of medical school. As a dramatic increase in "medical knowledge, techniques, and practices" (Ludmerer & Johns, 2005, p. 1083) occurred, there was a recognition that more education was needed beyond the four years of medical school. Flexner did not spend much time on post-graduate training in his medical education model; he viewed residency training as a "handicraft" rather than "science" (Stevens, 1978, p. 6). As residency training began to be tied to hospitals rather than medical schools in the 1940s, residency programs dramatically grew in numbers in the 1950s (Stevens, 1978). The 1960s brought a renewed focus on the educational component of GME which moved GME beyond the need of hospitals to have a pool of cheap labor (Ludmerer & Johns, 2005).

In 1965, the Medicare Bill was approved by Congress. This bill provided governmental support for graduate medical education and began the era of both government and physicians and their member associations recognizing that the residency requirements needed formalization and institutional oversight (Taradejna, 2007). After originally organizing under the name of Liaison Committee for Graduate Medical Education, the Accreditation Council for Graduate Medical Education (ACGME) became the organization for the oversight and accreditation of allopathic residency training programs in 1981 (Taradejna, 2007). As the ACGME was created, accreditation by this council became the requirement for government GME funding through the Medicare Act (Batalden, Leach, Swing, Dreyfus, & Dreyfus, 2014) and licensure in all 50 states.

Reflecting a general understanding that GME needed to change to reflect changing demands of healthcare and education, the ACGME began a review of GME programs, requirements, and education processes in 1994. This review led to the development of the ACGME General Competencies and an increased focus on educational outcomes (Batalden et al., 2014). One consequence of the heightened ACGME requirements has been an increase in program coordinator responsibilities. Norwood et al. (2006) stated that program coordinators "play an increasingly complex administrative, managerial, and educational role with tasks that may range from managing confidential program or resident data to organizing travel, lodging, and catering during resident recruitment season" (p. 1).

The position of program coordinator is particularly unique in that it is a job that is specific to an industry (graduate medical education) and is a position that an individual cannot prepare for with specific education or training. Although large cities such as Los Angeles, Chicago, and Washington, D.C. have multiple independent institutions that sponsor residency programs, most residency programs are located in communities where there is one institution that sponsors residency training. This results in organizations having fewer opportunities to recruit fully trained program coordinators and a small number of program coordinator positions available in one community. These factors result in most program coordinators learning on the job rather than coming to the job with a set of skills specific to residency programs. Additionally, although program directors directly supervise program coordinators, program directors have not served in the role of program coordinator which decreases their understanding of how program coordinators complete their required tasks. Finally, program coordinators also provide continuity to residency programs given that the turnover of program directors is 16% per year (Grant et al., 2008).

Publications in scholarly journals regarding program coordinators are scant; most articles are descriptive rather than research based. Articles specifically addressing residency coordinators did not appear until 2003 which is when the ACGME requirements significantly changed to focus on resident outcomes and increased accreditation requirements. Otterstad (2003) wrote from the perspective of a radiology program coordinator and described the specific duties of a program coordinator including a timeline of responsibilities based upon the academic year. Otterstad listed several main categories of job responsibilities and skills: communication and interpersonal skills, organizational skills, data collection and reporting, accreditation, resident recruitment, evaluation process, appointment process and credentialing, conferences and teaching material, distribution of schedules and information, resident research, budget and payroll, coordination of resident functions, and communications with societies and organizations. This comprehensive discussion provided an overview of the job of a program coordinator and highlighted the diversity of job tasks within the position. Although the article was written by a radiology coordinator, most of the duties and responsibilities listed could be applied to other programs.

Collins (2005) also wrote from the perspective of a radiology program coordinator, but rather than providing a descriptive list of job responsibilities and calendar, the author placed these tasks within the context of the program highlighting the central role a coordinator plays. Collins noted the increased importance of the program coordinator and stated that the position "requires operational management at a higher level of independence and administrative discernment than was true several years ago" (p. 1033). Several essential traits necessary for an effective coordinator were identified and included sensitivity to diverse cultures, a high level of confidentiality, and multi-tasking and flexibility. Coordinators also must be able to adapt to and

mitigate unexpected changes with residents that could adversely affect the residency program. Collins further provided a more detailed list of program coordinator responsibilities than Otterstad and incorporated a discussion of the "information management responsibilities of the coordinator" (2005, p. 1036). These responsibilities included maintaining resident files, accreditation updates and reviews, duty hours, and resident procedure documentation.

Assisting residency programs in assessing program coordinator performance, Nawotniak (2006b) suggested evaluating program coordinators using the framework of the ACGME general competencies for residents (patient care, medical knowledge, practice-based learning and development, interpersonal and communication skills, professionalism, and systems-based practice) adjusted to the responsibilities of the program coordinator. Nawotniak also emphasized the unique, multi-functional role a program coordinator has within the residency program structure. Referring to coordinators as a "den parent" (2006b, p. 143) to residents, Nawotniak stated that coordinators serve as "counselor, advocate, resource, and advisor" (p.144) to both residents and the program director. Nawotniak also supplied a series of questions a program director can use to evaluate the performance of a program coordinator and stated that a responsibility of program directors is to contribute to and support the professional development of coordinators.

In a separate article, Nawotniak (2006a) emphasized the importance of coordinator certification by the National Board for Certification for Training Administrators of Graduate Medical Education Programs (TAGME). TAGME was created in response to the increased requirements of the ACGME and in recognition of the increased demands upon program coordinators necessitating "a higher level of skills, ability, and knowledge" (Nawotniak, 2006a, p. 55). TAGME conducted a job analysis of program coordinator job descriptions and developed

an assessment process that measures coordinators' abilities to use available resources to resolve an issue or question. Coordinators must meet certain criteria to apply to take the certification exam:

1. Three years of on the job experience.
2. A total of 10 hours of Educational Credits (EC's) through attendance at one national, regional, state, or institutional meeting within the past three years.
3. A minimum of two personal professional development experiences within the past three years. (TAGME, 2012)

Besides meeting the many responsibilities related to residency administration and accreditation, coordinators also have a significant impact on residents and residency programs through soft skills that are rarely spelled out in job descriptions. Nawotniak and Gray (2006) found that program coordinators play a significant role in resident recruitment beyond scheduling interviews and making arrangements. Their survey of residency applicants found that when coordinators seemed uninterested or unfocused on interview days, it left a lasting negative impression on the applicants. Applicants felt that when program coordinators missed important details or seemed uninterested that the program as a whole was likely to also be uninterested in residents' well-being or in taking care of the many small details of residency training. This is significant in that residency interviews are intended to sell applicants on the program as much as to interview the applicants themselves.

A study of family and community medicine programs (McCann et al., 2011) found that the central role program coordinators play in residency program administration extends to providing social support to residents that is frequently unrecognized. Residents regularly confide personal problems and interpersonal problems to program coordinators who are often viewed as

a "second Mom" (p. 552). Program coordinators provide an average of six hours per week of social support to residents and serve as an important conduit of information. The author suggests using these results when developing job descriptions for the program coordinator and in the selection of program coordinators.

Grant et al. (2008) developed a representative profile of orthopaedic program coordinators through a survey to support program coordinators in their jobs and in professional development. Grant et al. (2008) found that the literature was sparse regarding the program coordinator's role within a residency program, but confirmed the findings of Nawotniak (2006) and Otterstad (2008) that program coordinators had a significant scope of responsibilities. Grant el al. (2008) further noted the importance of professional development opportunities for coordinators and the need to expand the literature addressing the program coordinators' role and their role in meeting the ACGME requirements.

Graduate medical education administrators at the University of Arkansas developed a program to provide professional development to program coordinators (Norwood et al., 2006). A Program Coordinators' Organization (PCO) was created, providing monthly sessions on different, relevant topics. Each session also provided time for coordinator networking as coordinators' offices tend to be spread across hospitals and medical buildings. After implementation, program coordinators were surveyed regarding their impression of the PCO. Coordinators reported that the PCO had a positive influence on their jobs as well as increasing their feelings of wellbeing. Researchers stated that future research "should be directed at better understanding this group as a whole" (Norwood et al., 2006, p.4).

Research studies have found that program coordinators can be particularly perceptive about the performance or potential performance of residents and residency applicants. Program

coordinators were able to predict which residents were most and least likely to complete required paperwork in a timely fashion and could do this with knowledge gained as early as during new resident orientation (Matheny, 2014). A study by Tabby et al. (2011) found that in neurology programs with a resident in trouble, program coordinators were the first identifiers of the problem resident 35% of the time. Late paperwork and late medical records can affect hospital Medicaid reimbursement and can compromise patient safety.

Robinson, Roberts, and Dzara (2013) found that a program coordinator could accurately predict which residency applicants were unlikely to match into a residency program. Match status is considered a predictor of performance in residency (Blonski & Rahm, 2003) making the stakes high for programs to match all available positions in the main residency match. The study suggested that program coordinators should be incorporated into the residency applicant selection process as they were able to assess non-cognitive attributes of applicants that could impact performance in residency. These studies suggest that strong program coordinators can provide program directors with assistance in the selection and recruitment of new residents. If program coordinators can serve as early predictors of poor performance of residents then their input prior to an NRMP match list being submitted could be helpful to programs in their high stakes quest to recruit the best residents.

With scant literature about the role of residency program coordinator, there were many possible directions for a study of program coordinators. Since so little is known about program coordinators and a standardized job description has not been developed by the ACGME, a logical next step would be to use some method of job analysis. Work engagement is important to employers because engaged workers are committed to their jobs and meet high performance standards (Bakker & Leiter, 2010). Within the context of work engagement, Bakker, Albrecht,

and Leiter state (2011) "work engagement captures how workers experience their work" (p. 5). Engaged workers find meaning in their work which leads to greater worker influence over work events and tasks (Bakker, Albrecht, & Leiter, 2011). The job crafting model is a job analysis model that suggests that workers use job crafting behaviors to find meaning in work and greater work engagement (Berg, Dutton, & Wrzesniewski, 2013).

The job crafting model was developed in the early 2000s to describe the "psychological, social, and physical act" (p. 180) that employees engage in to gain identity through their work and to find meaning in the work (Wrzesniewski & Dutton, 2001). It is through this lens of job crafting that residency program coordinators were studied. The job crafting model provided a common language for describing the functions of a program coordinator and helped illuminate the specific tasks residency program coordinators engage in. When job responsibilities are generally not understood and never performed by the supervisor, it can be difficult for a supervisor to truly understand how an employee gets a job done and what keeps that employee engaged and interested in the job (Wrzesniewski & Dutton, 2001). This study of job crafting behaviors of program coordinator could assist program directors in understanding how program coordinators contribute to residency program administration and resident well-being.

Job Crafting as a Measurement of Work Engagement and Employee Competence

The job crafting model, first developed by Wrzesniewski and Dutton (2001), contributes to the understanding of work dynamics and job design and highlights the behaviors of employees that change job tasks and develop relationships in ways in which supervisors are unaware (Lyons, 2008). Understanding that jobs are dynamic and altered by employees can incentivize managers to create an environment in which employees are motivated to change behaviors to improve the organization (Wrzesniewski and Dutton, 2001). Applying these factors to residency

program coordinators could assist program directors in understanding the role a program coordinator plays within residency program administration as well as in creating an environment to support work engagement of program coordinators and improved outcomes for the program. Although job crafting occurs outside of the knowledge of supervisors, organizations can create a workplace environment that encourages job crafting which can lead to improved outcomes for the organization (Berg et al., 2010).

Traditionally, job design has been viewed as a top down process where managers create job descriptions; job crafting views the process as occurring from the bottom up. Job crafting is a proactive behavior that changes prescribed jobs that are a series of tasks and responsibilities defined by job descriptions (Berg, Wrzesniewski, & Dutton, 2010). More than small changes to a job function, job crafting involves changes that employees make to improve their work outcomes (Tims & Bakker, 2010).

Job crafting "influences which tasks get completed, how employees complete them and the interpersonal dynamics of the workplace" (Berg et al., 2010, p. 2). A better understanding of the role job crafting plays within an individual's job functions can assist organizations in developing a better understanding of how employees create results for an organization. The perspective of job crafting views job tasks as "a flexible set of building blocks that can be reorganized, restructured, and reframed" **(**Berg et al., 2010, p. 5) to improve both the employee's and the organization's effectiveness. The job crafting model rejects the idea that employees behave passively at work and shifts the focus to how employees' behavior can change the nature of their work (Wrzesniewski & Dutton, 2001).

Berg et al. (2010) categorized job crafting into task crafting, relational crafting, and cognitive crafting. Task crafting results in employees changing either the confines or the

attributes of tasks and acquiring new tasks. Relational crafting refers to employees developing additional relationships other than prescribed ones and altering relationships based upon how helpful the relationship is to the employee. Cognitive crafting results in employees defining their work as meaningful to them and as having a positive effect on others rather than a list of job tasks to be completed.

Petrou, Demerouti, Peeters, Schaufeli and Hetland (2012) categorized job crafting behaviors into three categories: seeking resources, seeking challenges, and reducing demands. Petrou et al. (2012) defined seeking resources as behaviors employees learn to gain additional information that will assist them in completing job tasks. Seeking challenges defines the behaviors that employees use to relieve workplace stress. Reducing demands reflects the sometimes negative behavior of avoiding tasks to reduce "emotionally, mentally, or physically demanding job aspects or reducing one's workload and time pressure" (Petrou et al., 2012, p. 1123). The impact of job crafting can be improved employee engagement, better employee performance, and an increased ability of an employee to complete her job tasks.

Job design research has indicated that the work environment has a significant impact on employee well-being. Employees who feel engaged in their work are more likely to reach both personal and work objectives (Tim et al., 2012). Employees are best able to employ job crafting behaviors when work resources and autonomy are high (Petrou et al., 2010). However, an uncertain work environment also can drive employees to utilize job crafting (Lu, Wang, Lu, Du, & Bakker, 2014).

In addition to employee well-being, job crafting has been found to have a positive effect on organizations. A study of child care workers by Leana et al. (2009) found that employee engagement in job crafting was positively correlated to high quality of care. Additionally, job

crafting contributes to low job turnover and the retention of high performance employees. Job crafting requires employees to be aware of the opportunities for job crafting behavior within their work organization. Employees may start with small steps in job crafting to test the work environment that can then lead to larger job crafting behaviors (Berg et al., 2013).

Job crafting has been found to occur in a variety of industries. Berg et al. (2010) found that job crafting occurs in both for-profit and non-profit organizations. Tims et al. (2012) developed and validated a job crafting scale to measure job crafting behaviors of employees at three different organizations in the Netherlands. The job crafting scale uses four dimensions representing four types of job crafting. Nielsen and Abildgaard (2012) validated the scale for use with blue collar workers. The job crafting scale has also been applied in a health center and organizational citizenship behavior that improves organizational function was found to occur more often with employees who engage in job crafting (Shusha, 2014). Organizational citizenship behavior has been found to increase the work engagement and work challenges of scholars as well (Wellman & Spreitzer, 2011). Slemp and Vella-Broderick (2013) validated a job crafting questionnaire to measure the cognitive forms of job crafting and its correlates to other existing scales.

Tims, Bakker, Derks, & van Rhenen (2013) found that job crafting behavior in both teams and individuals enhances worker performance. Additionally, the researchers found that team job crafting impacts individual job performance in setting behavioral norms and expectations. When job hindrances are reduced, job work engagement and work performance increases as job burnout decreases. These findings could lead managers and supervisors to encourage job crafting through positive reinforcement at the team and individual level and the reduction of job hindrances. Wrzesniewski and Dutton (2001) found that assisting employees in

the behavior of job crafting can lead to a change in the way that employees cognitively view their jobs. Employees who engage in job crafting have described their behavior as building upon personal interests, developing young people including interns, using an interest in technology to explore more cost-effective ways to conduct work, and to form stronger relationships with other employees (Berg et al., 2010).

Leivens, Sanchez, Bartram, & Brown (2010) identified components necessary for job crafting to occur: occupational complexity, occupational context, and the nature of occupations' activities. When these three components are present, an environment is created in which job crafting occurs. The authors examined competency ratings for occupations in which these components were present and determined that up to 25% of the variance in competency ratings was related to the presence of these components. These results suggest that job crafting more frequently occurs in complex, less automated jobs in which individual decision-making is required.

Job crafting can be used across a variety of different jobs, industries, and levels of seniority (Berg et al., 2010; Wrzesniewski & Dutton, 2001) which makes it appropriate to use within GME and with program coordinators. Greater understanding of how and when job crafting occurs can inform organizations of proactive ways employees are meeting expected organizational outcomes (Berg et al., 2010). Program coordinators impact accreditation and provide continuity for the residency program and are considered active participants within residency programs (Grant et al., 2008). Applying this model to the specific ways in which program coordinators use job resources and respond to job demands provides additional information regarding the role of the program coordinator.

CHAPTER 3
METHODOLOGY

This chapter discusses the methodology used in this research study. The purpose of the study was to describe the job crafting behaviors of graduate medical education program coordinators. Program coordinators play a significant role in graduate medical education program administration and a better understanding of their job responsibilities could lead to improved residency outcomes and increased resident satisfaction.

Research Design

This study used a mixed methods research design to obtain both quantitative and qualitative data (Cresswell & Plano Clark, 2010). A mixed methods approach provides additional data when one type of data is insufficient to fully understand the problem. There are six types of mixed methods design: the convergent parallel design, the explanatory sequential design, the exploratory sequential design, the embedded design, the transformative design, and the multiphase design (Cresswell & Plano Clark, 2010). This study used the convergent parallel design. The researcher selected this design with the belief that the two methods of data collection could be merged to provide increased confirmation of results (Cresswell, 2014). In the convergent parallel design, the quantitative and qualitative portions occur at the same time and each are prioritized equally. The two portions are separate during analysis and then combined for the overall findings (Creswell & Plano Clark, 2013). This enabled the researcher to analyze the responses using the job crafting scale independently and then analyze the data for possible relationships between the two sets of results.

One reason for using a mixed methods research design in this study is the underlying research paradigm, pragmatism. The pragmatic paradigm is rooted in consequences of actions, is

problem-focused, pluralistic, and is also oriented in the real world (Cresswell, 2014). Additionally, mixed methods research uses multiple ways to both approach data collection and data analysis (Creswell, 2007). Pragmatism is the research paradigm most commonly associated with mixed methods research (Creswell & Plano Clark, 2011). Unlike the positivism paradigm which assumes a specific truth exists, pragmatism is more focused upon the strategy based on what works in reality and focuses on the context in which behaviors occur (Lavelle, Vuk, & Barber, 2013). Some mixed methods research has used multiple paradigms within the research (Creswell & Plano Clark, 2013); however, the design for this study focused on merging findings from both quantitative and qualitative research and discussed the findings using the pragmatic paradigm. The researcher also followed Glaser's (1965) constant comparison method of qualitative analysis. This inductive method of joint coding and analysis can assist a researcher "in generating a theory which is integrated, consistent, plausible, close to the data" (p. 437) and can be tested with quantitative data.

Target Population and Sample

Participants were recruited from two community-based (also known as regional) medical schools located in the Midwest. A community-based medical school is defined by the American Association of Medical Colleges (AAMC) as one that does not have an integrated teaching hospital and is not a federal hospital (AAMC, 2014). Each of the medical schools have two hospitals in the community where residents train and program coordinators are employed. There are no other medical schools in the communities and the schools rely heavily upon the support of the community hospitals (two are non-profit Catholic hospitals, one is a non-profit hospital, and the fourth is a for-profit hospital). Both medical schools have virtually the same number of residency programs (17 at one and 13 at the other); one school has substantially more fellowship

programs (12) than the other (1). For this reason, coordinators of fellowship programs were not a part of this study; additionally, fellowship coordinators have some similar, but also many divergent job responsibilities than residency program coordinators. For this reason, it is more appropriate to study fellowship coordinators in a separate study. The Associate Deans for Graduate Medical Education at both schools were aware that this study was occurring. The total number of potential participants was 30. All 30 participants were recruited to be part of the study. Approval to conduct the research was obtained through the University of Arkansas Institutional Review Board (see Appendix A).

Surgical residency programs at one or both of the two institutions are general surgery, obstetrics and gynecology, orthopaedics and rehabilitation, neurosurgery, otolaryngology, plastic surgery, urology and vascular surgery. Non-surgical residency programs at one or both of the two institutions are: anesthesiology, dermatology, emergency medicine, family medicine, internal medicine, medicine/pediatrics, medicine/psychiatry, neurology, pediatrics, psychiatry, and radiology.

Quantitative Research Methods

The job crafting scale developed by Tims and Bakker (2010) was used in the quantitative portion of the study. Permission was granted from Dr. Maria Tims to use the job crafting scale (see Appendix B). Participants were asked how often they participate in certain behaviors using a Likert-type scale with 1 representing never and 5 representing often, the same scale used by Tims and Bakker. The survey was administered electronically using Qualtrics through the University of Arkansas (see Appendix C). The responses from the job crafting scale will be used to answer research questions two and three. The job crafting scale is a 26- item scale that uses multiple items to confirm the three factor model of job crafting: increasing job demands,

increasing challenging job demands, and decreasing job hindering demands (Tims et al., 2012). This multi-item check provided increased consistency and validity of the survey. The demographic information was analyzed to determine whether specific job behaviors occur more frequently with coordinators who have been employed at different intervals, age of coordinators, and type of residency programs (surgical or non-surgical).

Descriptive data (means and frequencies) from the job crafting scale were used to describe the results from the job crafting scale as well as the standard deviations, modes, ranges, and minimum and maximum responses selected and the bivariate correlations between study variables.

Qualitative Research Methods

The qualitative portion is composed of semi-structured, in-person interviews conducted by the researcher (see Appendix E). Qualitative research is highly dependent upon the researcher's interpretation of the information and data available (Creswell, 2007). A semi-structured interview allowed the researcher to probe participants' responses for deeper meaning and gave participants the opportunity to explain responses (Brewerton & Millward, 2008). The responses to the interviews were used to answer research questions one, four, and five.

Beyond the initial demographic questions, the interview questions were written to inquire about job tasks and followed Wrzesniewski and Dutton's (2001) definition of job crafting and were constructed to attempt to reduce the bias of the reviewer. Each question was followed up with additional questions to determine motives, outcomes, and challenges.

Qualitative sample size requires that sufficient participation has occurred for the researcher to draw conclusions about the phenomenon being studied (Sargeant, 2012). This research study used a purposive sampling procedure (Creswell & Plano Clark, 2013) with the

program coordinators intentionally selected from two similar medical schools. The purpose of this study was to utilize a specific number of participants to gain a deep insight in the specific sub-category of residency program coordinators at similar sized medical schools (Creswell & Plano Clark, 2013). Four interviews were conducted at one site and seven interviews were conducted at the second site. The interviews ranged in length from 40 minutes to 75 minutes with an average length of 60 minutes. The researcher found that the number of interviews resulted in a appropriate level of data saturation with repeated themes and wording. The interviews were scheduled according to convenience of the researcher and schedule availability of the subjects.

The reported behaviors from the individual interviews were analyzed using a coding process and based upon Glaser's constant comparison method. Both pre-existing and emergent coding categories were used to limit the bias of the interviewer (Creswell, 2007). The pre-existing code categories were: 1) social support of residents, 2) perception of program directors of job responsibilities and requirements, 3) job crafting behaviors employed. The researcher did not ignore emerging codes in the interviews and the analysis. Additional themes of motivation for the job, job classification and hours worked were added.

The mixed methods research design assisted in developing triangulation which "seeks convergence, corroboration, and correspondence of results" (Creswell & Plano Clark, 2011, p. 63). The mixing of data at the point of interpretation allowed the researcher to make inferences based upon the combination of results (Creswell & Plano Clark, 2011). Further, the researcher kept a journal of impressions after each interview was conducted in a separate file to consult in order to reduce bias. The researcher used results from the job crafting scale, the semi-structured interviews, and journal entries to confirm evidence.

Participant Anonymity and Data Security

Participants were provided with an informed consent form for both the quantitative and qualitative portions of the study. The quantitative portion of the research was conducted electronically using the University of Arkansas' Qualtrics System. Participants were provided with an informed consent letter (see Appendix E) at the beginning of the electronic survey and could print the informed consent letter from Qualtrics. Implied consent was obtained. The deidentified data from Qualtrics was stored in a password protected, electronic file on the researcher's computer.

For the qualitative interviews, participants were provided an informed consent form (see Appendix F); a signature of participants was not obtained as the researcher did not keep any identifying information about the participants. Participants did not have to take part in one portion of the study in order to take part in the other. Participants were informed that they could stop the interview at any time and that they would not be penalized for withdrawing or not participating in the study by anyone at the University of Arkansas or the medical schools at which the program coordinators are affiliated.

Interviews were conducted on a one-to-one basis in a semi-structured format (Creswell, 2011) to encourage participants to speak freely. Program coordinators regularly participate in internal reviews of their respective residency training programs as required by the ACGME and are accustomed to speaking freely in these reviews about the program. Additionally, program coordinators in this study were accustomed to the researcher conducting internal review interviews and had an assumption of anonymity due to trust with the researcher.

The two portions of the study were not linked. Participants in each portion were asked to indicate if they were coordinators in a surgical or non-surgical program, years served as a

program coordinator, and education obtained. Gender was specifically not asked in either portion as each medical school had only one male coordinator and anonymity could not be provided if gender information was obtained. Qualitative research can "lead to the potential exposure of sensitive opinions, feelings, and personal information" (Sullivan & Sargeant, 2011); for this reason, participants were assured that in the final presentation of the findings no individual would be identified, that all steps would be taken to protect participants' identities and that the field notes gathered as part of the research would not be shared with either medical school and its administration apart from publication in the dissertation.

The researcher used descriptive field notes to record what was said during the interview (Creswell, 2011). Reflective field notes which record personal impressions of the researcher were also used. During the interviews, the researcher verified quotes with the participants and asked permission to use in this study. After each interview, the researcher transcribed the field notes into a password protected computer file and did not include identifying data. The field notes were categorized into the predetermined themes of social support of residents, perception of program directors and job responsibilities and requirements, and job crafting behaviors employed. Additional themes that emerged were motivation for job, job classification, and hours worked. Each interview was assigned a number which was referenced in the transcribed field notes and was not tied to the list of program coordinators who participated. References to specific physicians, residents, students, faculty, and others involved in GME were removed from the typed field notes and such names do not appear in subsequent chapters discussing findings and analysis.

Reliability and Validity

Two former program coordinators at one school agreed to test pilot the quantitative job crafting scale. Additionally, an Associate Dean for Graduate Medical Education from one institution in the study provided feedback about the questions. The the survey questions were modified slightly based upon the pilot tests and associate dean's feedback to make clear that the supervisor being asked about was the program director and to provide examples of behaviors for job crafting. A pilot interview was conducted with the semi-structured qualitative interview protocol with a former coordinator. The job crafting scale has been validated in multiple studies in a variety of industries including for-profit, non-profit, and health care (Tims et al., 2012; Nielsen & Simonsen Abildgaard, 2012; Petrou et al., 2012; Tims et al., 2013; Shusha, 2014). Crohnbach's alpha was used as a measure of internal consistency because it was used in several job crafting studies (Lyons, 2008; Nielsen & Abildgaard, 2012; Petrou et al., 2012; Shusha, 2014; Slemp & Vella-Brodrick, 2013; Tims et al., 2012; & Tims et al., 2013); these studies experienced alpha coefficients between .73 and .95. Questions five through ten on the job crafting scale related to increasing job resources, questions 11-16 to decreasing job hindrances, questions 17-22 to increasing social job resources, and questions 23-28 to increasing job demands (Tims et al., 2012).

One study found that the job crafting scale was more appropriate for white-collar jobs (Nielsen & Simonsen Abildgaard, 2012) which provided additional reassurance of the appropriateness for this study as program coordinators are considered white-collar employees. Although the term validity was used for this study, it is important to note that some researchers have begun to develop a discrete language for mixed methods research such as the term

legitimation (Onwuegbuzie & Johnson, 2006) rather than validity. As a generally accepted list of terms has been yet to be agreed upon, these terms were not used in this study.

Limitations

Although the job crafting scale has been validated in multiple studies, it still relies on self-reported behaviors and some participants could have been reluctant to reveal behaviors that they felt might be perceived as negative. Qualitative interviews can inhibit participants if sensitive questions are asked or personal information is disclosed. The researcher attempted to reduce the likelihood of either occurring by reassuring participants of anonymity and the protection of the information shared.

A second limitation was the professional relationship that the researcher has had with the majority of the participants. The researcher attempted to be dispassionate when asking questions and did not prompt responses to encourage participants to provide a specific viewpoint. The semi-structured format also reduced, but didn't eliminate, this possibility.

This was a convergent parallel design mixed methods study. The purpose of the study was to examine the role of residency program coordinator using the job crafting theory. Using both a validated job crafting scale with qualitative semi-structured interviews allowed greater understanding of the role of the residency coordinator. The study could assist those in graduate medical education with improving and strengthening residency programs.

The demographic questions and interview questions one, two, and three were used to address research question one. Interview questions four, five, six and seven addressed research question two and three. Interview questions eight and nine addressed research questions four and five.

Chapter Summary

This mixed method research study used the convergent parallel design to examine program coordinators and their job crafting behavior to answer five research questions. Data from the job crafting scale online survey and from the qualitative one-on-one interviews were analyzed concurrently. Data is reported in chapter four and the analysis and conclusions are reported in chapter five.

CHAPTER 4
RESULTS

The importance of graduate medical education and its accompanying accreditation process has been well documented. Well-trained physicians are needed throughout the United States and accredited training is a requirement for physician licensure in all 50 states. As accreditation requirements have increased, more responsibility has been placed on the position of program coordinator. While the job responsibilities and resultant job demands have been well documented for the ACGME required positions of program director and Designated Institution Official (DIO), the literature is more scant for program coordinators. This research study was designed to provide an examination of how program coordinators complete their job responsibilities using the Job Crafting model. A summary of the research study, descriptive statistics, and research findings are presented in this chapter; the research questions, relevant literature, and methodology are presented in chapters one, two, and three.

Summary of the Study

The role of the graduate medical education program coordinator has expanded in recent years due to increased ACGME requirements. Although there have been several studies published about the impact of these increased requirements upon the positions of program director and DIO, there have been few studies about this impact upon program coordinators. As one study stated, "the role of the residency program coordinator has evolved with a more critical managerial component" (Grant et al., 2008, p. 740). The study of orthopaedic program coordinators further stated "the skills, resourcefulness, responsiveness, and professionalism of the orthopaedic residency coordinator are essential to attainment of accreditation goals" (p. 740). The limited existing literature has been specialty specific and mostly descriptive in nature.

This study was developed to provide a profile of program coordinators in multiple specialties at more than one institution using the job crafting framework. Job crafting is a concept developed to understand how employees craft their job tasks to increase job performance and work engagement. The job crafting framework examines job tasks as a whole to provide a picture of how an employee completes required job responsibilities rather than focusing on specific job tasks (Berg et al., 2007). Job crafting has been applied to numerous industries (Berg et al., 2010; Wrzesniewski & Dutton, 2001) and was appropriate to apply to the position of program coordinators. The job crafting scale developed by Tims et al. (2012) was used with permission for this study; a second portion of the study employed qualitative interviews with program coordinators.

This research study used a mixed methodology. Program coordinators from two similar, community-based medical schools were invited to complete an online survey using questions that had been modified from the job crafting scale developed by Tims, Bakker, & Derks (2010). Semi-structured qualitative interviews were also conducted with the same group of program coordinators. Thirty residency program coordinators at the two institutions were invited to participate in the online survey and the interviews. Identifying information for the surveys and interviews was not kept and participation in either the survey or the interview was not required to participate in the other. Program coordinators were invited by email to participate in the online survey. Implied informed consent was given when participants continued through the survey questions. Any question could be skipped if the participate chose to do so. The survey opened on January 26, 2015 and closed on February 26, 2015. Coordinators were sent an initial email inviting participation with a link to the survey and a follow-up email was sent on February 3, 2015.

Concurrent with the survey invitation, program coordinators were invited to participate in a one-hour, semi-structured qualitative interview. The interviews were conducted in person by the researcher and field notes were taken during the interview. The interviews ranged in length from 40 minutes to 75 minutes with an average length of 60 minutes. Participants were not required to sign an informed consent form although copies of the consent form were provided to participants. Participants were informed that answering the questions implied consent to participate in the study. Participants were reminded during the interview that the researcher did not know if the interview participant had also chosen to complete the survey. Interviews were conducted between February 9 and February 24, 2015. Approval to conduct the study was obtained through the University of Arkansas Institutional Review Board (see Appendix A).

Data Collection Results

Survey returns

Thirty program coordinators were invited to complete the online survey via an e-mail invitation. The survey consisted of 28 questions of which four were demographic questions asking the number of years the person had served as a program coordinator, level of education obtained, type of program (surgical or non-surgical), and age. Of the 30 potential participants, 17 completed the majority of the questions. Fifteen coordinators completed the entire survey. One participant chose to skip just one question (question seven) while another participant chose to skip three questions (questions seven, nine, and 14). Since the two participants who skipped one or more questions had completed the majority of the questions, the responses were included in the data analysis. Seventeen respondents out of a possible 30 coordinators resulted in a 57% response rate.

Demographic results

Demographic data were gathered from the survey (questions one-four). Table 1 displays the demographic information of the participants. Almost half of the participants (49%) were between the ages of 30-49. The majority of the participants (94%) had at least some college education with 53% having obtained a bachelor's degree or higher. The respondents were almost equally distributed among surgical (41%) and non-surgical programs (59%); obstetrics and gynecology programs were counted as surgical programs. The majority of program coordinators who responded have been in the position between one and 10 years.

Table 1

Demographic Information for 17 Survey Respondents

Age	N	% of Total
20-29	1	6%
30-39	5	29%
40-49	6	20%
50-59	2	7%
60+	3	18%

Education	N	% of Total
High School	1	6%
Some College	7	41%
Bachelor's Degree	7	41%
Graduate or Professional Degree	2	12%

Program Type	N	% of Total
Surgical	7	41%
Non-surgical	10	59%

Years as Coordinator	N	% of Total
1-5	6	35%
6-10	6	35%
11-15	2	12%
16+	3	18%

Qualitative interviews

The same thirty program coordinators at two community-based medical schools who were invited to complete the online job crafting survey were invited to participate in a semi-structured, in-person interview expected to last 45-60 minutes. An email invitation was sent to coordinators one week after the initial survey invitation was sent. Interviews occurred at both medical schools between February 9 and February 24, 2015. Interview questions were developed using Wrzesniewski and Dutton's (2001) definition of job crafting. The researcher modified the interview after the first two interviews by adding questions about the coordinator involvement in the recruitment process, program director willingness to listen to coordinator input about residents, and hours worked to fulfill the job tasks of a program coordinator. Eleven interviews were conducted with seven at one institution and four at the other.

Table 2 displays the demographic information of the interview participants. The majority of the participants (81%) were between the ages of 30-49. All of the participants had at least some college education with 55% having obtained a bachelor's degree or higher. The respondents were almost equally distributed among surgical (55%) and non-surgical programs (45%); as in the quantitative survey, obstetrics and gynecology programs were counted as surgical programs.

Table 2

Demographic information for 11 interviewees

Age	**N**	**% of Total**
20-29	0	0%
30-39	4	36%
40-49	5	45%
50-59	1	9%
60+	1	9%

Education	**N**	**% of Total**
High School	0	0%
Some College	5	45%
Bachelor's Degree	4	36%
Graduate or Professional Degree	2	18%

Program Type	**N**	**% of Total**
Surgical	6	55%
Non-surgical	5	45%

Years As Coordinator	**N**	**% of Total**
1-5	5	45%
6-10	4	36%
11-15	1	9%
16+	1	9%

Interview process

Although participants were informed at the start of the interview that they could refuse to answer any question during the interview, none did so. The researcher used the same interview protocol with each participant. The researcher took field notes during each interview and following the interview made additional notes under the three, pre-determined themes of social

support of residents, perception of program directors of job responsibilities and requirements, and job crafting behaviors employed along with additional themes of motivation to do job, job classification, and hours worked. The researcher added additional sub-themes that emerged during the interview process; these themes were: motivation for the position, coordinator work hour conflict, and nature of the coordinator position. These sub-themes were classified under the major theme of job crafting behaviors employed. In addition to coding the results post-interview, the researcher also keep a field journal of comments, perceptions, and thoughts about the research process. This journal assisted in validating research results and identifying additional emerging themes.

Findings and Research Questions

Research question one

What is the profile of Graduate Medical Education program coordinators?

The quantitative data from both the survey and the interviews and the qualitative data from the one-on-one interviews were used for this question. The demographic questions from both the survey and the interviews indicate that all the coordinators who completed the interviews and 93% of the coordinators who completed the survey have at least some college education. One coordinator commented that she understood that her employer was now requiring a college degree for coordinators but that it did not apply to current coordinators. The majority of the coordinators were between the 20-39 age range. Seventy percent of the survey respondents had served as coordinator between one and 10 years while 81% percent of the interview participants had served between one and 10 years as a coordinator. I

From the interviews, only one of the program coordinators had held a previous position as a program coordinator; she stated that she had been recruited by the program director of another program. The immediate prior experiences of five interview participants were noted as

insurance, human resources, nonprofit administration, higher education, and office manager. The remaining six interview participants were already working for the medical school or hospital when they applied or were asked to take on the program coordinator duties in addition to other duties. When asked, program coordinators stated that they would not be very interested in switching to a different residency program because so many of the tasks that the coordinator handles are specific to the specialty. Several noted that even though some ACGME requirements and tasks are the same regardless of specialty, it would be challenging to switch programs. Four coordinators specifically mentioned the lack of advancement opportunity as a coordinator and expressed frustration with this; all four stated that they would like leave the position in the next few years because of this lack of advancement.

All of the interviewed coordinators stated that they learned to do their jobs on their own. Some did overlap with a previous coordinator, but the interview participants who did so stated that it was not much help. Several coordinators noted that the position requires a self-starter, an independent worker, and a creative problem solver. This corresponds with the quantitative results discussed in the next section that indicate program coordinators do engage in job crafting. Job crafting most frequently occurs when employees have a measure of independence and their daily job tasks are not proscribed by a supervisor (Tims et al., 2012).

All of the interview participants but one had their job classified as non-exempt, hourly. A non-exempt, hourly position is defined as and position for which an employee must receive overtime pay for all hours worked over 40-hour work week (U.S. Dept. of Labor, 2008). All interview participants noted that their position required working some hours outside a traditional 8:00 – 5:00 work day. Eight of the 11 interviewed reported attending at least one professional meeting and several coordinators stated that they were heavily involved in their specialty

coordinator organizations. Professional conferences attended included ACGME Annual Education Conference, ACGME Coordinator Training, New Innovations Conference, and the National Center for Evaluation of Residency Programs Annual Conference. Seven of the respondents reported that their main motivation for the position was working with the residents.

Ten of the 11 respondents stated that they provided strong social support to the residents and several commented about being seen as a "mom" to the residents. Specific statements included that the position of program coordinator is a "glorified mother position" and "the glue" for the program; however, one coordinator commented that it was the program director, not the coordinator who was viewed as the mom by the residents. This program was determined to be an outlier as no other interviewee responded as such. One coordinator stated that "you have to have passion" for this position.

Participants were also specifically asked about the nature of being a coordinator and if she thought that the position meant that she was aware of issues or problems residents were experiencing either before the program director or instead of the program director. All participants responded affirmatively to this question. One coordinator stated that she was the "eyes and ears" for the program director and another stated that the program director has commented that she is the program director's "secret weapon." Several interview participants shared specific instances in which they brought concerns to program directors that they felt program directors would not have seen. Examples of this included unprofessional behaviors such as telling inappropriate jokes at a social function or other unprofessional behavior during recruitment time. Interview participants did agree that residents confided in them about personal situations such as money problems, marriage troubles, worries about families, etc. and agreed that residents might not share this information with the program director and faculty. Noting that

residents may not want that information shared, three interview participants further commented that they were careful about what information they passed on to program directors to preserve the trust relationships coordinators have with the residents.

All of the interview participants believed that the job of a coordinator is a professional position and not simply a job and position for which they cared deeply about the success of the program and the residents. The interview participants believed that they have unique viewpoints of the residents and the programs due to the interactions they have with the residents and with others involved in the residency programs. The findings from the demographic data and the qualitative data indicate that program coordinators view their position as a professional position, have some level of college education, have generally held the position between one and ten years, and provide significant social support to residents.

Research questions two and three

To what extent do Graduate Medical Education program coordinators engage in job crafting?

If Graduate Medical Education program coordinators engage in job crafting, what behaviors do they employ?

Job crafting behaviors can include adding tasks more closely related to the employee's interests, spending more time or resources on tasks related to an employee's interests, expanding responsibilities to increase the impact of position on others and altering tasks in response to adverse events or job challenges (Berg et al., 2007). The job crafting scale used a five-point Likert scale with choices 1 (never), 2 (rarely), 3 (sometimes), 4 (quite often) and 5 (very often), coordinators were asked to answer twenty-six questions relating to job crafting behaviors as developed by Tims, Bakker, & Derks, 2011 and used with permission. Table 3 (see Appendix

G) presents the means, modes, and standard deviations of the four demographic and twenty-four job crafting scale questions. Overall, the responses indicated that coordinators do engage in job crafting behaviors. The coordinators responded the highest to questions related to increasing structural job resources. Examining the minimum and maximum numbers on the scale selected as well as the range of responses provides a clearer picture of which job crafting behaviors occurred the most.

The job crafting dimension that coordinators indicated they most frequently engaged in was increasing structural job resources. The means for responses to the six corresponding questions were 3.8 or higher; the range for responses was 1 or 2 for five of the questions and 4 for the other. The dimension that coordinators indicated they engaged in the least was increasing social job resources. The means for the seven corresponding questions were between 2.4 and 3.

For the increasing challenging job demands questions, responses for the question, "I regularly take on additional tasks even though I do not receive additional salary for doing so," (Mean=4.1, Mode=5, and Range=2) indicating that coordinators frequently engaged in this behavior. The question, how often do you experience increasing job demands, also received similar high responses (Mean=4.2, Mode=4, and Range=3). These results correspond to the findings of the qualitative interviews in that interview participants stated that they frequently took on additional responsibilities and specifically noted that the responsibilities of their job continually increased with new ACGME requirements.

Data from the qualitative interviews also provide information about specific job crafting behaviors in which program coordinators engage. All coordinators reported working independently, using technology to make tasks easier, shifting unwanted tasks to colleagues,

seeking ways to complete tasks better or more efficiently, volunteering for new tasks, solving problems that were outside job duties, and asking for additional resources to complete their jobs.

Research question four

How can self-identified job crafting behaviors of Graduate Medical Education program coordinators be used by Graduate Medical Education program directors to understand better the daily tasks and effort of program coordinators to improve the residency program?

Participants were specifically asked how well they thought their program directors understand what it takes to get their jobs done. This question was asked toward the end of the interview and always elicited the most comments. Five participants responded that the program director understands the tasks of a program coordinator while four participants stated that the program director understands "the big picture," "70-80%," "pretty good handle but doesn't know all the small details," and "great support." A coordinator who has worked with more than one program director stated that when the current program director started he "had no idea how hard, how complicated the job of coordinator is. He actually gets it now." Other coordinators also commented that there was a learning curve for program directors to understand the job of program coordinator. One coordinator expressed frustration that while the program director understands her work, the department chair does not and thinks that the job is easy.

One coordinator stated that she had to stand up for herself when explaining the responsibilities of her job and the time it takes to complete tasks. Two coordinators specifically mentioned that they were a team with their program directors. In contrast, one coordinator stated that she felt like "a scapegoat" on occasion when something happened in the program.

The question, "what would you like to tell program directors in general about being a coordinator," also provided responses to this theme. Comments included "program director often doesn't realize how long it takes to do something," and "I do the little things and am the

babysitter." One coordinator commented that program directors need to understand more what it takes to be a coordinator and that program directors do not always realize how much work there is to being a coordinator. Another coordinator commented that coordinators have their own expertise. Coordinators stated that program directors should give program coordinators more respect, trust coordinators, and improve communication with the coordinator. Coordinators also stated that program directors could help them a little more to do their jobs and that they would like to be included more as part of the team and not just the secretary or the one who does unimportant tasks.

The researcher was unable to find any studies that asked program coordinators specifically about their relationships with their program director or their personal opinions about being a coordinator, thus these findings could not be corroborated with existing literature. The researcher did keep a research journal while conducting the qualitative research for this study. Entries were completed after each qualitative interview and were consulted both during data collection and data analysis to corroborate impressions, common findings, and emerging themes from the interviews. The journal revealed that four coordinators had worked with more than one program director and that the answers for the questions about program directors differed among program directors. The researcher counted each experience as valid and used information from both experiences in the results.

The journal further corroborated the field notes in that all coordinators related some level of frustration with the coordinator position not being viewed as a professional position. Some interviewees felt this very strongly while others noted it but were not as bothered by it. Two coordinators reported attempting actively working with their employers to achieve a better title. At the time of the interviews, this had not been successful.

The results from the qualitative interviews indicate that coordinators perceive that their program directors do not understand the small details and tasks of getting their jobs done. Even with program directors who were considered to have a high understanding of program coordinator tasks, coordinators commented that it took a while for the program directors to gain that understanding which reinforces the idea that outside of program coordinators, the job is not always viewed as difficult or challenging. Coordinators felt that program directors should work to gain a better understanding of the job tasks of a program coordinator.

Research question five

How can job descriptions and job expectations of Graduate Medical Education program coordinators in residency be revised to better reflect actual job tasks?

A repeated theme in the coordinator interviews was that the job of coordinator is a professional position. Coordinators spoke of efforts to change the program coordinator title to program manager or program administrator. Coordinators agreed that the job deserved the title of manager or administrator rather than coordinator but several also noted that merely changing the title without subsequent changes to the job description, job classification, and salary would be meaningless or even insulting.

All the interview participants spoke of working hours outside of the traditional work day. Some coordinators reported receiving compensatory (comp) time for these hours but several stated that they often worked "off the clock" to get the job done. One coordinator stated that she had been instructed to clock out for work but then go back to work or to take a vacation day and stay home but work from home. Another coordinator stated that she had been explicitly instructed to not work outside her regular working hours and to ignore phone calls, texts, and e-mails and felt that this instruction was impossible to comply with and also do her job well. Several coordinators said that they often received texts, calls, and e-mails from both residents

and program directors over the weekend and during evening and night hours. One coordinator reported turning off the text and e-mail indicator sounds on her cell phone because the many text messages and emails that she received overnight were waking her.

One coordinator stated that many of the responsibilities of a coordinator do not fit the traditional expectations of an hourly employee even though she was one. She stated that she regularly traveled to professional conferences and had been invited to present at professional conferences which are activities generally seen as work habits of hourly employees. More than one coordinator has held or holds a board position for their specialty coordinator organization or the TAGME specialty board and the majority of interviewees (nine) stated that they had traveled to at least one professional meeting or conference.

Coordinators also described specific tasks and cognitive requirements that exceeded traditional hourly employee expectations. Coordinators stated that they must constantly maintain not just memorization of complex general and specialty specific accreditation requirements, but that they must also be able to analyze and apply the requirements for their program. With the new milestone requirements and clinical competency committees, coordinators are not assimilating data and preparing reports for program directors and other members of the committees. Some coordinators also participate in these committee meetings. Coordinators reported preparing data regarding residency applicants and providing some level of analysis for ranking committees; coordinators also participated in the ranking committee meetings.

Several coordinators commented that they felt that sometimes the program director focused too much on the petty, small details of their jobs such as keeping attendance at noon conference and used those to form a perception of the coordinator position that is not accurate.

More than one coordinator stated that she started as a secretary and evolved into the program coordinator or that she understood that this was how the coordinator position originated.

From the qualitative data, it is clear that the most pressing issue regarding program coordinators and job responsibilities and job descriptions is the issue of work classification. Interview participants strongly felt that their job is a profession and not just a job. Program coordinators would like recognition of that through revised job classification to an exempt employee. Coordinators would also like a better understanding of the job responsibilities and a subsequent increased value of the job by everyone working in graduate medical education. While it can be difficult to change individuals' perceptions, greater acknowledgement by the program director and inclusion of the program coordinator in clinical competence review committees and other committees making decisions about a residency program would be an important start.

Chapter Summary

The results of this mixed method study have been presented in this chapter. Data have been presented along with discussions of research design and data collection. Research questions one, four, and five were answered using data from the qualitative interviews while research questions two and three were answered using data from the job crafting scale. Both the quantitative and qualitative data indicate that coordinators do engage in job crafting behaviors. The data also provide some illumination on how coordinators perceive their jobs and how they feel their jobs should be perceived by program directors.

Responses on the job crafting scale indicate that coordinators do engage in job crafting which indicate strong identification and motivation for the position. Coordinators strongly feel that they have an important role to play within a residency program and that the role is not

always appreciated or understood by program directors and others within graduate medical education.

CHAPTER 5
CONCLUSIONS AND DISCUSSION

The purpose of this study was to describe the job crafting practice of graduate medical education coordinators. This was done with a mixed methods study design using the job crafting scale developed by Tims et al. (2012) and qualitative, one on one interviews with program coordinators. The study was conducted at two community based medical schools in the United States. Program coordinators face increasing responsibilities with new ACGME requirements that have changed rapidly in recent years. The two medical schools were chosen for their similarities to each other in regards to graduate medical education.

This study aimed to answer five research questions regarding program coordinators and job crafting behaviors to provide additional insight into how program coordinators work and how their positions can be used to improve residency outcomes. Data from this can be used to better understand the position of program coordinator. Important outcomes for residency programs are continued accreditation and the recruitment and retention of strong residents. Coordinators play an integral role in all of these outcomes. To ignore these contributions by dismissing the coordinator position as merely secretarial or task oriented is to ignore a significant contributor to program success.

This convergent parallel mixed methods research study was conducted with 30 potential participants at two medical schools. A total of 17 (57%) coordinators participated in the survey portion of the study while a total of 11 (37%) coordinators participated in the qualitative interview portion of the study. Neither study tracked identifying information and thus it was not possible to know if any participants participated in both sections of the study. Thirty program coordinators were sent an online survey invitation through the University of Arkansas's Qualtrics

system. The same program coordinators were sent an invitation to participate in a semi-structured, one on one interview scheduled at the convenience of the researcher and the participant. To protect anonymity, implied consent was obtained in both portions of the study. Approval was obtained from the University of Arkansas Institutional Review Board (see Appendix A).

Summary of Findings

The study sought to answer five research questions related to job crafting and the job of program coordinator. Data were analyzed concurrently from both the online survey and the qualitative interviews. A summary of the findings for each research questions is discussed below.

Research question one

What is the profile of Graduate Medical Education program coordinators?

Data from both the online survey and the qualitative interviews were used to answer this question. Demographic data from both sections indicate that program coordinators have at least some college education (93% of survey participants, 100% of interview participants) and the majority of participants had served as a program coordinator from between one and ten years (70% and 81% respectively). A broad age range for the coordinators was between 20 and 49 years (54% and 81% respectively). In a study of orthopaedic program coordinators, 73% of coordinators had been a coordinator between one and ten years and 78% coordinators were found to have at least some college experience (Grant et al., 2008). A study of program coordinators at the University of Arkansas found that 88% of coordinators had at least some college education and that 87% of the coordinators had been in the job between one and 10 years (Norwood et al., 2006). With the exception of one coordinator, the interview participants had not served as a

program coordinator for another program and all expressed little interest in doing so. Coordinators described their position as requiring an individual who is willing to work independently. All but one of the interview participants is employed as an hourly, non-exempt employee; this employee holds a salaried, exempt position. Several coordinators stated that they were motivated in their job by the residents and by being a part of something. Coordinators provide significant social support to residents and are aware of some issues with residents before or instead of the program director. Coordinators strongly feel that their position is a professional position and not simply a job. This finding is supported by research of McCann et al (2011) that stated that family and community medicine program coordinators are "a major on-site source of social support for residents both in terms of the time and the range of support that they provide" (p. 554). Researchers also stated that coordinators play "an important role in the triage and transfer of information about residents that contributes to the functioning of the residency training program" (p. 554-554).

Research questions two and three

To what extent do Graduate Medical Education program coordinators engage in job crafting?

If Graduate Medical Education program coordinators engage in job crafting, what behaviors do they employ?

Data from both the online survey and the qualitative interviews were analyzed to answer research questions two and three. Using data from the job crafting scale survey, program coordinators were found to engage in job crafting behaviors.

Tims and Bakker (2010) identified three different dimensions of job crafting: increasing structural job resources, increasing social resources, and increasing challenging job demands for their job crafting scale. Increasing structural job resources allows employees to mitigate the more negative aspects of job demands which can lead to high levels of work engagement

(Bakker & Demerouti, 2007). Employees often engage in increasing the level of challenging job demands to avoid boredom or dissatisfaction with the job (Kass, Vodanovich, & Callender, 2001). Increasing social resources relates to an employee gaining social support from supervisor and colleague feedback, social relationships at work, and receiving supervisory coaching (Tims, Bakker, & Derks, 2011).

Program coordinators were more likely to report job crafting behaviors in the dimensions of increasing challenging job demands and increasing structural job resources but reported engaging in job crafting behaviors across all four dimensions. A Cronbach's alpha of 0.77 was calculated for the job crafting scale questions for internal reliability and consistency. Cronbach's alpha only requires results from one administration of a survey or test to provide an estimate of reliability (Gliem & Gliem, 2003). The Cronbach's alpha for this study was within the range of .75 and .93 found in other studies (Lyons, 2008; Nielsen & Abildgaard, 2012; Petrou et al., 2012; Shusha, 2014; Slemp & Vella-Brodrick, 2013; Tims et al., 2012; & Tims et al., 2013).

Qualitative data were used to identify specific job crafting behaviors used by program coordinators. Program coordinators reported working independently, using technology to make tasks easier, volunteering for new tasks, and solving problems that were outside proscribed job duties.

Job crafting behavior can also include collaborating with peers (Tims et al., 2013) classified as increasing social job resources. One question, "how often do you ask other GME program coordinators for advice regarding your position as GME program coordinator," which was asked to partially determine the level of increasing social job resources, corresponds somewhat with a study of program coordinators at the University of Arkansas which found that 50% of coordinators reported never networking with program coordinators at other institutions

(Norwood et al., 2006). The mean response for this question was 2.7 (Mode=3 and Range=2). Of particular note is responses to the question, how often do you look to your program director for inspiration to stay motivated in your job as GME program coordinator (Mean=2.5 and Mode=2). This can be interpreted as program coordinators not seeking support and feedback from their program directors which indicates that program coordinators do not strongly engage in job crafting behaviors in this dimension of increasing social job resources. Job crafting did occur in this dimension but at lower levels than the other two dimensions. Program coordinators do engage in job crafting behaviors in the areas of increasing structural job resources and increasing challenging job demands. No other published study has used the job crafting scale with graduate medical education coordinators. Several studies have examined job crafting in several different industries (Lyons, 2008; Nielsen & Abildgaard, 2012; Petrou et al., 2012; Shusha, 2014; Slemp & Vella-Brodrick, 2013; Tims et al., 2012; & Tims et al., 2013).

The finding that 94% of respondents had at least some college education corresponds with the initial job crafting scale study which found that educated employees are more likely to engage in job crafting behavior (Tims et al, 2012). Nielsen and Abildgaard (2012) found that job crafting was less likely to occur when employees did not have a high level of autonomy in their positions. Program coordinators reported in qualitative interviews working independently without day to day supervision of the program director, figuring out tasks and problems independently, and seeking better ways to complete job tasks.

These findings are corroborated with an article by Berg et al (2007) which provides examples of specific job crafting behaviors including thinking of tasks as contributing to important outcomes, organizing information to make it more easily accessible, developing relationships with specific work colleagues to get work done, perceiving interactions with

customers (or for example, residents) as making a meaningful impact, and volunteering to learn new technology. A study in which participants were asked to complete a job diary for five days found that employees engaged in job crafting with new tasks, changes in technology, new services, changes in work hours, and completing existing tasks (Petrou et al., 2012). Tims et al. (2013) found specific job crafting behaviors to include learning new skills. Program coordinator responded through the survey questions that they engaged in multiple job crafting behaviors. The qualitative interviews verified these results. Qualitative data shows that program coordinators do seek new tasks, learn tasks independently, learn multiple new technologies, organize information to make it more accessible and understandable all of which are tasks found in other studies to indicate job crafting behaviors.

Research question four

How can self-identified job crafting behaviors of Graduate Medical Education program coordinators be used by Graduate Medical Education program directors to better understand the daily tasks and effort of program coordinators to improve the residency program?

Data from the qualitative interviews were used to answer research question four. Interview participants were asked how well they thought their program director understood what it takes to get their job done. Five participants stated that their program directors did understand the tasks of their job; four participants stated that their program directors understood the big picture but not the finer details. A coordinator who had worked more than one program director stated that the current program director had no idea what her job entailed at all when the program director started but that he understands pretty well now. Individual coordinators expressed some frustration with one coordinator stating that the program director understands the complexities of

her job but the chair does not. Another coordinator stated that the program director did not understand how long it takes to get something done.

A follow-up question, "what would you tell program directors in general about being a program coordinator," also provided data for this research question. Coordinators stated that program directors need to understand better what it takes to be a program coordinator and that program directors should give coordinators more respect and trust and improve communication.

Responses to a question on the job crafting scale survey also provide data for this research question. One dimension of job crafting is increasing social job resources which can serve to mediate the stress resulting from high job demands (Tims et al, 2012). The responses to the questions regarding using the program director as a job resource to reduce demands were low. In response to the question, how often do you ask your program director to coach you in ways to get your tasks done as GME program coordinator, the responses were low (Mean=2.4, Mode=2, SD=0.80.) Similar responses were found to the question, "how often do you look to your program director for inspiration to stay motivated in your job as GME program coordinator," (Mean=2.5, Mode=2, and SD=0.94.) Finally, the question, "how often do you ask your program director whether he or she is satisfied with your work as GME program coordinator," the responses were not quite as low (Mean=2.6, Mode=3, and SD=1.11.) The combined responses to these questions should be interpreted as the program coordinators do not view the program director as a strong job resource when seeking to reduce job demands. If program coordinators do not seek program directors out as a resource, program directors may be less likely to understand the specific tasks of program coordiantors. The responses to these questions are validated by qualitative data that program directors do not understand the details of job coordinator tasks and responsibilities.

Research question five

How can job descriptions and job expectations of Graduate Medical Education program coordinators in residency be revised to better reflect actual job tasks?

Data from the qualitative interviews was used to answer this research question. The most common theme in coordinator interviews was that the job of a program coordinator is a professional position. Generally, program coordinators were in support of changing their title to program administrator or program manager although some noted that a title change would be meaningless if it did not accompany changes to the job description, job classification and salary. Data clearly indicate that all coordinators work outside the traditional working hours of eight to five. All coordinators stated that at least occasionally their job required them to work evenings or weekends. Coordinators reported working from home to complete work and receiving texts and emails throughout the evening and night. The study of orthopaedic program coordinators found that 75% of coordinators stated that they worked on the weekends and found that coordinators believed their job should be reclassified (Grant at al, 2008).

Coordinators reported other activities related to professional jobs such as traveling and presenting at professional conferences and serving on committees and boards of their specialty coordinator groups. Coordinators pointed out that they must not only be able to understand complex accreditation requirements but be able to apply those requirements to their residency program and develop reports analyzing how the program is complying with the requirements and data on resident performance. Some coordinators participate in ranking meetings or the competency review committee meetings. Job classification is the most important issue to

coordinators. Program coordinators stated that they would like recognition of the professional aspects of their job through a revised job classification to exempt employee.

O*Net, an online source of occupation information, defines a secretarial position as one that is conventional in nature and defines conventional as involving "following set procedures and routines" (O*Net, 2012). These occupations can include working with data and details more than with ideas with a clear line of authority to follow (O*Net, 2012, secretaries and administrative assistants). O*Net defines enterprising occupations as involving starting up and carrying out projects, can involve leading people and making many decisions, and can require risk taking and often deal with business (O*Net, 2012, instructional coordinators). Not surprisingly, O*Net does not specifically list occupational requirements for the position of program coordinator as the total number of individuals engaged in this work is low. A database search indicated that the position of instructional coordinator was most similar to the position of program coordinator. The US Department of Labor defines employees who should be exempt from overtime as employees whose work requires specialized knowledge that not everyone has, discretion and independent judgment regarding important matters, and working without specific instructions or proscribed procedures (US Dept. of Labor, 2004). The position of program coordinator fits this description.

Discussion

The purpose of this study was to use the concept of job crafting to describe the position of graduate medical education coordinator. Job crafting has been used to examine how employees gain motivation and identity through their work in other professions (Wrzesniewski & Dutton, 2001). Existing literature about program coordinators are largely demographic and descriptive in nature. This study provided new information about how program coordinators

work. The primary limitation of this study was the low number of participants which limits the scope of the conclusions drawn. This limitation was somewhat mitigated by having occurred at two medical schools in two different states. It should be noted that the number of program coordinators at any one institution is frequently small (a total of 30 potential respondents at two medical schools for the study) as well as for medical specialties (105 for otolaryngology, for example). Resolution of this limitation would take a very large, multi-location study that would have its own challenges. The results are biased to those willing to participate in the study. Non-respondents may have had different responses. Additionally, the responses required self-reporting; participants may have felt compelled to answer in a certain way or may not have been able to accurately report their own behavior.

Both the quantitative and qualitative data of this study show that program coordinators do engage in job crafting behavior and the implications of this are significant. Job crafting is positively related to strong organizational citizenship behavior (Shusha, 2014), increased work engagement (Petrou et al., 2012); increased resilience and coping techniques in response to job stress (Berg et al., 2007), proactive employees , improved quality (Leana et al., 2009), and colleague ratings of employee job performance (Bakker et al., 2012). GME programs should work to develop a work environment that facilitates job crafting that could lead to increased organizational outcomes. Potential improved organizational outcomes include improved residency accreditation outcomes, improved responses to residents in trouble, and improved resident recruitment outcomes.

While the program director is responsible for most of the final decisions regarding residents in trouble and resident rank lists, studies have found that coordinators have a unique perspective and information that program directors may not have (Nawotniak, 2006; Tabby et al,

2011; McCann et al., 2011; Robinson, 2013 & Matheny, 2014). Qualitative data from this study corroborated these studies. Developing a more formalized process to incorporate and value this information could benefit programs greatly.

To someone who has been involved in residency education for many years, the data in this study is not new information even if it is not reflecting in existing literature. In preparing for a presentation for a national conference, this researcher found a high level of frustration when asking program coordinators what they wished program directors knew. One coordinator responded:

> "Recruiting and coordinating the resident's rotation schedules is a big part of our jobs and that makes us very important, because all programs are striving to get the best residents. We are the first person that the candidates speak with and usually the first person the resident meets. We are much more than a regular secretary answering the phone and typing documents. As a Medical Education Residency Coordinator, your knowledge regarding licensure information, ERAS, AOA and AMA requirements, medical education, just on and one, is needed for this position. As a secretary, someone give you jobs to do every day: as the Coordinator you must know what jobs are to be done next for the residents to complete their residency program and to meet all the requirements and also coordinate the ongoing recruiting process. It would be so nice if they did recognize our positions…" (Arthur, 2006).

The perception of the position of program coordinators by program directors and faculty goes back to the beginning of residency programs when secretaries handled the small amount of residency education tasks. Changing this perception requires a significant shift in thinking. Collins (2005) noted that a program coordinator performs her tasks well, the work "is accomplished effortlessly in the eyes of the program director, faculty, and residents" (p. 1038). Nawotniak (2006) noted in a survey of applicants' perception of program coordinators that one residency applicant responded that coordinators "are generally overworked and under-appreciated" (p. 474). The few studies published regarding program coordinators all recommend

that further research be conducted regarding the contribution of program coordinators. It is time to begin acting upon these research recommendations.

There is the opportunity for the ACGME, AAMC, or a prominent GME institutional sponsor to take the lead in developing policy, a standard job description, and greater recognition of program coordinators. The ACGME has taken many strong steps to improve residency education and outcomes; defining the job of program coordinators is an area that is rich with untapped possibilities for institutional policy and improvement. Any organization making meaningless change such as changing a title without changing underlying principles would not change anything. True leadership is needed from the organizations who are truly viewed as leaders in GME to make a change that matters.

Conclusions

Conclusions of the study are presented below and are based upon the previously presented findings.

1. Coordinators take great pride in their position and believe that they are contributing to the greater good of preparing physicians for independent practice and maintaining program accreditation. Data to support this conclusion were drawn from research question one and from the Job Crafting Scale survey which has been validated to determine job crafting behaviors by employees.
2. Program coordinators engage in job crafting which demonstrates their independence in tasks, level of engagement in their position, and work motivation as well as their proactive work abilities. This is important to graduate medical education programs as it demonstrates that program coordinators are an important contribution to the quality of residency programs and resident satisfaction with their programs. Data to support this conclusion were drawn from

research questions two and three and survey responses and qualitative responses to questions which included "what motivates in this job, and have you ever added tasks to your job, dropped tasks or changed the way you performed tasks."

3. Program coordinators engage in multiple, complex tasks that raise the classification of their position from hourly, non-exempt to exempt. The position should also be viewed as a profession and not simply a job. Viewing the position as a profession will give the position greater credibility, lead to increased employee engagement, and will increase retention of high performing coordinators. Retention of high performing program coordinators can lead to greater program continuity and improved accreditation results. Results show that programs are either inhibiting program coordinators from completing their job tasks by forbidding work outside of a traditional work day or ignoring the reality that program coordinators complete work during evenings, nights and weekends without recording hours worked on a timesheet. Data to support this conclusion were drawn from research questions two and three and from the qualitative interviews.
4. The position of program coordinator requires the understanding of complex accreditation requirements, the development of relationships with a diverse group of colleagues, serving as the face of the program to potential applicants, and completing tasks on specific deadlines. The position of program coordinator exceeds that of secretarial or administrative support and should be viewed as a position which requires specific knowledge that is challenging to learn. Data to support this conclusion were drawn from research questions four and the qualitative interviews.
5. Program directors should take the lead in causing an organizational shift within residency programs, medical schools, hospitals, and GME administration to change the perception of

the position from a secretarial one to that of a profession. Program coordinators have taken steps to change this perception through professional certification and professional specialty coordinator organizations; the next step should be taken by program directors. Data to support this conclusion were drawn from research questions four and five and from the qualitative interviews.

Recommendations

Based on the results presented and the conclusions drawn above, the following recommendations are made for the role of program coordinators in graduate medical education.

For Practice

1. Revise program coordinators' job classifications from hourly, non-exempt to exempt and viewed as a profession. While this occurs at some medical schools, program directors should take the lead in shifting perception of the program coordinator as a department secretary to program coordinator as an integral component of graduate medical education. While this may be occurring on paper, in the view of program coordinators, this is not occurring.
2. Increase opportunities for program coordinators to participate in ranking meetings, clinical competence committee meetings, graduate medical education committee, internal reviews, etc.
3. Increase employee engagement and wellness programs for program coordinator and increase resources available to program coordinators.

For Further Research

1. Conduct studies to examine the ways in which program coordinators contribute to graduate medical education, program accreditation and resident satisfaction and retention. This study was limited to program coordinators at two medical schools.
2. Conduct studies regarding the program coordinators' contribution to graduate medical education. Studies expanding the findings of Robinson et al. (2013), McCann et al. (2011), and Matheny (2014) should be conducted. The researcher believes that coordinators are better judges of residents' abilities than is currently acknowledged. One recommended study would be to compare coordinators' ability to evaluate residency applicants to faculty members' ratings. Further, a longitudinal study could be conducted to determine if program coordinators can identify residents in trouble earlier than program directors or other faculty.
3. A further study measuring program directors' attitudes about program coordinators should be conducted. This study found that coordinators believe that program directors do not understand their job and do not value it. A study examining the perception of program directors could contribute greatly to the literature.
4. Further studies should be conducted regarding workplace issues regarding program coordinators. This could include the effects of burnout and stress, work engagement, job performance, and organizational behavior.

This chapter has provided a summary of the study, the importance of the study, the research questions and conclusions, and recommendations for practice and future research. The findings of this study were supported by previous research studies and publications. The

discussion section provided an analysis of the implications of the study for graduate medical education.

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Appendix A
IRB Approval

UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

December 19, 2014

MEMORANDUM

TO: Abigail Arthur
Michael Miller

FROM: Ro Windwalker
IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 14-12-368

Protocol Title: *Using a Job Crafting Model to Examine the Job Tasks of Program Coordinators in Graduate Medical Education*

Review Type: ☒ EXEMPT ☐ EXPEDITED ☐ FULL IRB

Approved Project Period: Start Date: 12/19/2014 Expiration Date: 12/18/2015

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (https://vpred.uark.edu/units/rscp/index.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 30 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.

109 MLKG Building • 1 University of Arkansas • Fayetteville, AR 72701
Voice (479) 575-2208 • Fax (479) 575-6527 • Email irb@uark.edu

Appendix B
Permission to Use Job Crafting Scale

From: Abby Arthur
Sent: zondag 21 September 2014 23:02
To: M. Tims
Subject: Job crafting scale

Dr. Tims,

I am doctoral candidate at the University of Arkansas studying Adult and Lifelong Learning. I would like to conduct my dissertation research using your Job crafting scale with Residency Program Coordinators. The position of a medical residency program coordinator is unique, there are few individuals who do this job, and very little has been studied about the position. I have spent the last 13 years working with residency programs and residency program coordinators and am very interested in developing knowledge about this position.

I am respectfully seeking permission to use your Job crafting scale in my research. I would be happy to speak with you personally regarding this request or would be happy to provide you with more information. Currently, I am writing my research proposal.

Thank you very much for your consideration.

Sincerely,

Abby Arthur
Doctoral Candidate
University of Arkansas

---

from: **Tims, M.**

to: Abby Arthur

date: Tue, Sep 30, 2014 at 11:06 AM

subject: RE: Job crafting scale

Dear Abby,
I am sorry for not getting back to you earlier.

Great that you would like to use our scale in your research! The focus you have is extremely interesting.
Of course you can use our scale in your research, as long as it is not used commercially. Please let me know if you need any more information about job crafting or anything. I will be happy to help and collaborate!

Kind regards,

Maria

Dr. Maria Tims

Appendix C
Job Crafting Scale Questionnaire

Thank you for agreeing to participate in this questionnaire about your job as a residency program coordinator. This study is attempting to learn more about the position of a residency program coordinator in order to better define the position within residency program administration and to inform program directors about tasks required to complete your job successfully.

The following questions should take approximately 15-20 minutes to complete. You may skip any question that you prefer not to answer. These questions were developed to determine how often program coordinators engage in certain behaviors to assist in getting your job done. Answer these questions in regards to how often you engage in the behavior described while at your job.

Demographic Questions

1. Number of years as a program coordinator:
   1-5 years
   6-10 years
   11-15 years
   16 or more years

2. Surgical or non-surgical specialty (OB/GYN please select surgical):
   Surgical
   Non-surgical

3. Age:
   20-29
   30-39
   40-49
   50-59
   60 and over

4. College degree:
   None
   Some college
   Bachelor's degree
   Graduate or professional degree

The following questions will ask how often you engage in certain behaviors as you carry out your tasks as a GME program coordinator. Answer these questions in regards to how often you engage in the state behavior at your job.

5. How often do you try to further develop your capabilities as a GME program coordinator?

6. How often do you try to develop yourself professionally?
7. How often do you try to learn new things at work whether specific to your position, the university, your department or other?
8. How often do you try to use your capabilities to the fullest as a GME program coordinator?
9. How often do you figure out on your own how to do something that is required of you as a GME program coordinator? On your own would be defined as not specifically taught to you by your program director or direct supervisor.
10. How often do you try to reduce the hindrances to getting your job done as a GME program coordinator? This could include independently figuring out an easier way to get something done, finding someone within the university or hospital who can help you get it done more easily, etc.
11. How often do you try to reduce the mental intensity of your job as a GME program coordinator?
12. How often do you try to reduce the emotional intensity of your job as a GME program coordinator?
13. How often do you try to manage your work to minimize contact with people whose problems affect you emotionally in your role as a GME program coordinator?
14. How often do you organize your work as a GME program coordinator to minimize contact with people whose expectations are unrealistic?
15. How often do you try to ensure that you do not have to make difficult decisions in your job as a GME program coordinator?
16. How often do you organize your work as GME program coordinator in such a way to make sure that you do not have to concentrate for too long a period at once?

17. How often do you search for ways to increase your social interaction and social resources in your role as a GME program coordinator? This could include seeking out others to commiserate about your job, volunteering to serve on a committee, etc.
18. How often do you ask your program director to coach you in ways to get your tasks done as a GME program coordinator?
19. How often do you ask your program director whether he or she is satisfied with your work as a GME program coordinator?
20. How often do you look to your program director for inspiration to stay motivated in your job as a GME program coordinator?
21. How often do you ask others for feedback about your job performance as a GME program coordinator? This could include the GME office, departmental colleagues, faculty, residents, other coordinators, etc.
22. How often do you ask other GME program coordinators for advice regarding your position as a GME program coordinator?
23. How often do you experience increasing job demands as a GME program coordinator?
24. How often do you volunteer to work on a project because it is challenging or interesting to you? The project may or may not specifically relate to your role as a GME program coordinator.
25. How often is the following statement true for you as a GME program coordinator? If there are new developments within GME administration, I am one of the first to learn about or figure out how to comply.
26. How often is the following statement true for you as a GME program coordinator? When there is not much work to do, I see it as a chance to start new projects.

27. How often is the following statement true for you as a GME program coordinator? I regularly take on additional tasks even though I do not receive additional salary for them.

Appendix D
Informed Consent Job Crafting Scale

Study Using a Job Crafting Model to Examine the Job Tasks of Program Coordinators in Graduate Medical Education

Consent to Participate in a Research Study

Principal Researcher: Abigail Arthur, Doctoral Candidate, Adult and Lifelong Learning, University of Arkansas

INVITATION TO PARTICIPATE

You are invited to participate in a research study about residency program coordinators. You are being asked to participate in this study because you hold such a position.

WHAT YOU SHOULD KNOW ABOUT THE RESEARCH STUDY

Principal Researcher
Abigail Arthur

What is the purpose of this research study?
The purpose for conducting the study is to better define how residency program coordinators get their job done and the importance of this job within GME administration using a job crafting model.

Who will participate in this study?
Residency program coordinators at two medical schools.

What am I being asked to do?
Your participation will require completing a 15-20 minute questionnaire about behavior you engage in as a residency program coordinator.
What are the possible risks or discomforts?
The anticipated risks or discomforts are limited in your participation in this study. You may feel uncomfortable answering one of the questions. Any question may be skipped in the questionnaire. No identifying information will be obtained through your responses in the study.

What are the possible benefits of this study?
The benefit to this study is contribution to the understanding of the job of residency program coordinator. There are no individual benefits to participating in this study.

How long will the study last?
The questionnaire should take no more than 15-20 minutes to complete.

Will I receive compensation for my time and inconvenience if I choose to participate in this study?
You will not receive any compensation for your participation in this study.

Will I have to pay for anything?
There are no costs associated with your participation in this study.

What are the options if I do not want to be in the study?
If you do not want to take part in this study, you may refuse to participate. Also, you may refuse to participate at any time during the study. Your position as residency program coordinator will not be affected in any way.

How will my confidentiality be protected?
All information will be kept confidential to the extent allowed by applicable State and Federal law. There are three demographic questions at the beginning of the study. Given the number of participants anticipated, the responses to these questions will not identify any individual participant in the study. The questionnaires responses will only be kept in the aggregate in a password protected file on the computer of the primary investigator. No one at either participating university will be provided the results of the questionnaire with the exception of the potential publication of the results of the study.

Will I know the results of the study?
At the conclusion of the study you will have the right to request feedback about the results. You may contact the Principal Researcher, Abigail Arthur at the mailing address listed above). You will receive a copy of this form for your files.

What do I do if I have questions about the research study?
You have the right to contact the Principal Researcher as listed below for any concerns that you may have.

Abigail Arthur

You may also contact the University of Arkansas Research Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Institutional Review Board
Research Compliance
University of Arkansas
109 MLKG
1424 W. Martin Luther King, Jr.
Fayetteville, Arkansas
479-575-2208
irb@uark.edu

Appendix E
Job Crafting Semi Structured Interview
Job Crafting Interview Guide
University of Arkansas

Time of interview: _____

Date: _____

Interviewee Institution Code:_____

Program: Surgical or Non-surgical

Number of Years as Program Coordinator: _____

Thank you for agreeing to participate in this study about program coordinators. Informed consent is an important concept in research and I am providing you with an informed consent for you to keep. As noted, your identity will be held in strictest confidence. Your identity will not be linked to any study results. Any results will be provided in the aggregate.

Only field notes on this interview guide will be collected during this interview.

Your participation is entirely voluntary and you may end this interview at any time or skip any question you do not wish to answer.

Do you have any questions?

Do I have your permission to begin?

1. Can you tell me how you started as a program coordinator?

2. Have you ever been a coordinator for another residency program? If so, which ones? Why did you change specialties or institutions?

3. How did you learn to do your job? Were you provided training by someone?

4. Has your job changed since you started it? If so, how has it changed?

5. Have you ever added tasks to your job, dropped tasks or changed the way you performed tasks?

6. Are there any hindrances to getting your job done?

7. Do you have the resources to job your job done? If not, what do you need?

8. Can you tell me about your involvement in recruiting?

9. What would be your program director's reaction if you came to him with a concern about an applicant or a current resident?

10. How well do you think your program director understands what it takes to get your job done?

11. If you could tell program directors something about being a program coordinator, what would it be?

Appendix F
Interview Informed Consent

Study Using a Job Crafting Model to Examine the Job Tasks of Program Coordinators in Graduate Medical Education
Consent to Participate in a Research Study

Principal Researcher: Abigail Arthur, Doctoral Candidate, Adult and Lifelong Learning, University of Arkansas

INVITATION TO PARTICIPATE
You are invited to participate in a research study about residency program coordinators. You are being asked to participate in this study because you hold such a position.

WHAT YOU SHOULD KNOW ABOUT THE RESEARCH STUDY
Principal Researcher
Abigail Arthur

Faculty Advisor
Michael Miller, EdD

What is the purpose of this research study?
The purpose for conducting the study is to better define how residency program coordinators get their job done and the importance of this job within GME administration using a job crafting model.

Who will participate in this study?
Residency program coordinators at two medical schools.

What am I being asked to do?
Your participation will require completing a 45-60 minute interview about your positions as residency program coordinator.

What are the possible risks or discomforts?
The anticipated risks or discomforts are limited in your participation in this study. You may feel uncomfortable answering one of the questions. You may decline to answer any question in the interview. No identifying information will be obtained through your responses in the study. .

What are the possible benefits of this study?

The benefit to this study is contribution to the understanding of the job of residency program coordinator. There are no individual benefits to participating in this study.

How long will the study last?
The interview should take no more than 45-60 minutes.

Will I receive compensation for my time and inconvenience if I choose to participate in this study?
You will not receive any compensation for your participation in this study.

Will I have to pay for anything?
There are no costs associated with your participation in this study.

What are the options if I do not want to be in the study?
If you do not want to be in this study, you may refuse to participate. Also, you may refuse to participate at any time during the study. Your position as residency program coordinator will not be affected in any way.

How will my confidentiality be protected?
All information will be kept confidential to the extent allowed by applicable State and Federal law. The primary investigator will field notes to record the interview. Notes will be kept in the aggregate and individual interview field notes destroyed. The file will be kept in a password protected file on the primary investigator's computer. No one at either participating university will be provided the results of the questionnaire with the exception of the potential publication of the results of the study.

Will I know the results of the study?
At the conclusion of the study you will have the right to request feedback about the results. You may contact the Principal Researcher, Abigail Arthur or at the mailing address listed above). You will receive a copy of this form for your files.

What do I do if I have questions about the research study?
You have the right to contact the Principal Researcher as listed below for any concerns that you may have.

Abigail Arthur

Faculty Advisor
Michael T. Miller, EdD

You may also contact the University of Arkansas Research Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Institutional Review Board C
Research Compliance
University of Arkansas
109 MLKG
1424 W. Martin Luther King, Jr.
Fayetteville, Arkansas
479-575-2208
irb@uark.edu

I have read the above statement and understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with the participant. I understand that by participating in this interview, I am agreeing for my responses to be used in the research project as described.

Appendix G
Mean, mode, standard deviation, minimum and maximum values, and range

Table 3

Mean, mode, standard deviation, minimum and maximum values, and range

Question	N	Mean	Mode	Std Dev	Min	Max	Range
Demographic Questions							
How many years have you been program coordinator?	17	2.1	1	1.11	1	4	3
Surgical or non-surgical specialty?	17	1.6	3	0.51	1	2	1
What is your age?	17	3.1	2	1.20	1	5	4
What is your educational experience?	17	2.6	2	0.80	1	4	3
Increasing Structural Job Resources							
How often do you try to further develop your capabilities as GME program coordinator?	17	3.8	3	0.75	3	5	2
How often do you try to develop yourself professionally?	17	4.0	4	0.71	3	5	2
How often do you try to learn new things at work whether specific to your position, the university, your department or other?	16	3.9	4	0.57	3	5	2
How often do you try to use your capabilities to the fullest as a GME program coordinator?	16	4.3	4	0.48	4	5	1
How often do you figure out on your own how to do something that is required of you as GME program coordinator?	16	4.1	4	1.06	1	5	4
How often do you try to reduce the hindrances to getting your job done as GME program coordinator?	17	4.1	4	0.75	3	5	2

Question	N	Mean	Mode	Std Dev	Min	Max	Range
How often do you try to reduce the mental intensity of your job as GME program coordinator?	17	3.2	3	0.83	2	5	3
How often do you try to reduce the emotional intensity of your job as GME program coordinator?	17	3.1	3	0.93	2	5	3
How often do you try to manage your work to minimize contact with people whose problems affect you emotionally in your role as GME program coordinator?	17	2.7	3	1.16	1	5	4
How often do you organize your work as GME program coordinator to minimize contact with people whose expectations are unrealistic?	16	2.6	3	0.81	1	4	3
How often do you try to ensure that you do not have to make difficult decisions in your job as GME program coordinator?	17	2.1	2	0.56	1	3	2
How often do you organize your work as GME program coordinator in such a way to make sure that you do not have to concentrate for too long a period at once?	17	2.5	3	0.94	1	4	3
Increasing Social Job Resources							
How often do you search for ways to increase your social interaction and social resources in your role as GME program coordinator?	17	3.2	3	0.81	2	5	3
How often do you ask your program director to coach you in ways to get your tasks done as GME program coordinator?	17	2.4	2	0.80	1	4	3
How often do you ask your							

program director whether he or she is satisfied with your work as GME program coordinator?	17	2.6	3	1.11	1	5	4
How often do you look to your program director for inspiration to stay motivated in your job as GME program coordinator?	17	2.5	2	0.94	1	4	3
How often do you ask others for feedback about your job performance as GME program coordinator?	17	2.4	2	1.00	1	4	3
How often do you ask other GME program coordinators for advice regarding your position as GME program coordinator?	17	2.7	3	0.69	2	4	2
Increasing Challenging Job Demands	**N**	**Mean**	**Mode**	**Std Dev**	**Min**	**Max**	**Range**
How often do you experience increasing job demands as GME program coordinator?	17	4.2	4	0.81	2	5	3
How often do you volunteer to work on a project because it is challenging or interesting to you?	17	2.9	3	0.56	2	4	2
If there are new developments within GME administration, I am one of the first to learn about or figure out how to comply.	17	3.7	4	0.99	1	5	4
When there is not much work to do, I see it as a chance to start new projects.	17	3.2	4	1.07	1	5	4
I regularly take on additional tasks even though I do not receive additional salary for them	17	4.1	5	0.86	3	5	2
I try to make my work more challenging by examining the underlying relationships between aspects of my job.	17	2.8	3	0.81	1	4	3