Spring 2021

Understanding job roles, preparedness and challenges faced by academic advisors in U.S. Medical Schools

Brittney L. Haong
Eastern Washington University

UNDERSTANDING JOB ROLES, PREPAREDNESS AND CHALLENGES FACED BY ACADEMIC ADVISORS IN U.S. MEDICAL SCHOOLS

A Theis

Presented To

Eastern Washington University

Cheney, Washington

In Partial Fulfillment of the Requirements

for the Degree

Master of Science in Physical Education & Wellness and Movement Sciences

---

By

Brittney L. Haong

Spring 2021

THESIS OF BRITTNEY L. HAONG APPROVED BY

_____ DATE_____
JON HAMMERMEISTER, GRADUATE STUDY COMMITTEE

_____ DATE_____
CHADRON HAZELBAKER, GRADUAE STUDY COMMITTEE

_____ DATE_____
HANNI SADD, GRADUATE STUDY COMMITTEE

TABLE OF CONTENTS

List of Tables

Table **Page**

Chapter I

Introduction

Academic Advising

Academic advising and support is a required and important component of medical education. According to the Liaison Committee on Medical Education (LCME), to achieve and maintain accreditation as a medical education program leading to a medical doctor degree in the United States, the school must demonstrate appropriate performance in 12 standards (LCME, 2020). One of the standards set forth by the LCME is "Standard 11: Medical student academic support, career advising, and educational records: A medical school provides effective academic support and career advising to all medical students to assist them in achieving their career goals and the school's medical education program objectives" (LCME, 2020). Because academic advising is an integral part of a medical student's education, it is important to understand all of the moving parts of what an advisor actually does.

Academic Advising Defined

Academic advising is an essential component to the support of medical students during their education. Academic advising can be defined as, "A series of intentional interactions with a curriculum, a pedagogy, and a set of student learning outcomes that synthesizes and contextualizes students' educational experiences within the frameworks of their aspirations, abilities and lives to extend learning beyond campus boundaries and timeframes" (Tan, 2011, p. 5). Academic advisors are usually the primary point of contact with students in both positive and negative more challenging aspects of academic experiences (Aiken-Wisiniewski et al., 2010). Advisors are often assigned by the

institution to monitor progress and advise students (Tekian et al., 2001). Academic advisors are responsible for meeting with students on a variety of things, including a) provide advice and guidance to students on courses (Tan, 2011), b) discuss compliance and requirements of the institution (Tan, 2011), c) explore interests and motivation (Tan, 2011), d) help students set and reach educational goals (White & Schulenberg, 2012), e) draft and execute curricular plans (White & Schulenberg, 2012) and f) teach students how to put together a course of study that is individually meaningful and successful (White & Schulenberg, 2012). Further, a central conclusion drawn from previous literature indicated that academic advising is "an important key in students' development, satisfaction, academic success, recruitment, and retention" (Shamsdin & Doroudchi, 2012, p. 20).

Core Values of Academic Advising

The National Academic Advising Association's (NACADA) (also known as the Global Community for Academic Advising) goal is to develop and disseminate innovative theory in research and practice of academic advising in higher education, as well as provide opportunities for academic advisor professional development, networking and leadership (NACADA, 2017). The NACADA set forth a statement of core values that represent academic advising on a cultural and educational level and aim to provide guidance to academic advisors in their professional roles (NACADA, 2017). The core values include a) caring, b) commitment, c) empowerment, d) inclusivity, e) integrity, f) professionalism and, g) respect. More specifically, advisors should be caring, empathetic, compassionate, willing to respond and accessible to others. Advisors should be committed to excellence in all dimensions of student success, their institution, learning

and professional development. Advisors should empower by motivating and supporting students to recognize their potential. Advisors should be inclusive by respecting and placing value on diverse populations and consider needs and perspectives of students through acceptance and equal treatment. Advisors should show integrity by acting intentionally with ethical behavior, show honesty and accountability to the student and their profession. Advisors should show professionalism by acting in accord with the values of the profession. Lastly, advisors should show respect by valuing all students, building relationships and treating students with sensitivity and fairness (NACADA, 2017).

The changing landscape of higher education demands that the basis of the field of academic advising must be strengthened for practitioners (Himes, 2014). One way to do this is to educate academic advisors on the importance of these core values and help them to understand how to integrate the values into their practice. One important side effect of incorporating these values into systematic practice is the potential for higher student satisfaction and retention.

Student Satisfaction with Advising in Higher Education

Much of the literature on academic advising revolves around the role it plays in student satisfaction. Student satisfaction can be defined as, "the favorability of students' subjective evaluation of the various outcomes and experiences associated with education" (Braun & Zolfagharian, 2016, p. 970). Research has shown that students demonstrate increased professional satisfaction and productivity when exposed to a relationship with a mentor or advisor (Sastre, et al., 2010) and the quality of the advisor-student relationship

can have a great impact on the students' retention in their studies (Shamsdin & Doroudchi, 2012).

Although advisors are responsible for a variety of duties, the engagement between advisor and student is critical for both student success and satisfaction. This can be achieved through the establishment of mutual respect, trust, honesty, and knowledge (Masengeni, 2019). Conversely, some aspects of advising can hinder the relationship between student and advisor and thus decrease satisfaction. These aspects include inconsistent or lack of availability to meet with students, lack of knowledge surrounding requirements of the school, and poor communication (Shamsdin & Doroudchi, 2012).

Availability appears to be a critical and obvious quality for academic advisors as lack thereof leads to more inconvenience for students, which in turn leads to increased student frustration, which in turn leads to decreased student satisfaction. Likewise, adequate professional and institutional knowledge are key attributes for advisors. Students expect that the advisor has sufficient familiarity about the curriculum, educational issues, learning strategies, and how to access other key university personnel (Delaram & Hosseini, 2014). Knowledge of the referral process is also an important quality as academic advisors are often the "first line of defense" for students' personal concerns. When these concerns land outside the academic advisor's area of expertise a professional referral to someone with more expertise is needed and expected.

Thus, to increase satisfaction in academic advising programs, advisors should ultimately be available to meet with students. They should also be focused on their primary goal of helping students formulate goals and develop well-grounded academic and career plans. In order to do so, advisors must provide students with resources to help

them with the use of critical-thinking skills and reflective thinking (Steele, 2018). Finally, advisors should focus on the relationship they create with the student and strengthen it through establishing rapport and trust from the beginning of their interactions (Masengeni, 2019).

Research in Intercollegiate Athletic Settings

Upon further research into academic advising in higher education, more specific sub-themes emerged. Academic advising in intercollegiate athletic settings has its own unique attributes in regard to advising roles and challenges. Similar to advising in medical schools, it is a branch of academic advising in higher education that helps to develop a clear picture of academic advising as a whole.

A study by Vaughn & Smith (2018) explored job roles, preparation and challenges of academic advisors in college athletic settings. According to the NCAA, college athletic departments must provide student athletes with access to academic support that provides them with resources needed to be successful in the classroom (Vaughn & Smith, 2018). The Vaughn & Smith (2018) study found the most common job roles for athletic academic advisors included a) assisting with registration, b) talking to coaches about grades and attendance, c) assisting athletes with career exploration post-graduation, d) arranging academic services, e) monitoring eligibility and class performance and, f) mentoring the athlete on personal issues (Vaughn & Smith, 2018).

A key factor in the preparation for a job in advising appears to be the advisor's education level. Advisors with a master's degree reported feeling more prepared than their peers who only obtained a bachelor's degree (Vaughn & Smith, 2018). The most common degrees included sport management, physical education and others like

administration or counseling (Vaughn & Smith, 2018). Other factors related to preparedness included having a written set of job roles, previous experience working with student athletes, and having a mentor themselves (Vaughn & Smith, 2018).

Lastly, in terms of challenges, this study found that the most common challenges that occurred when working with student athletes were lack of academic desire and preparedness, attitude issues, NCAA eligibility, communication issues and dealing with stressed athletes (Vaughn & Smith, 2018).

Research in Medical School Advising

While the literature on academic advising in higher education and college athletics populations is beginning to emerge, a paucity of research exists in medical school settings. One exception to this gap in the literature is a study conducted by Saks and Karl (2004) that provided a synopsis of the prevalence of advising in medical schools as well as a brief look at the professional preparation of those advisors. Their study showed 95.3% of medical schools provided academic support to students in both the first and second years, 82.6% provided support in the third year and 79% for fourth year students. In regard to training and job preparation, 36.4% of respondents had master's degrees, 14.5% had a doctorate degree in education, 25.5% has a medical doctorate degree and 43.6% had a doctorate degree in another field. Previous experience was also a factor, with 21.8% of respondents were trained in adult learning principles, and only 32.7% had previous experience working with college students (Saks & Karl, 2004).

Aside from Saks and Karl (2004) what little research that has been done has primarily focused on either student satisfaction or institutional needs assessments (DeVoe, 2016; Tekian et al., 2001; Sastre et al., 2010). Very little peer reviewed literature

exists which identifies the most pertinent job roles, nor best practices on how to execute these roles for medical school advisors. Further, very little is known about how to best overcome the challenges inherent in the execution of these roles. Lastly, there is very little direction provided in the literature regarding the most salient academic and professional preparation strategies for individuals interested in a career as an academic advisor in the medical school setting.

Given the scarcity of literature in medical school settings, this study will rely on the work of Vaughn & Smith (2018) who studied academic advising in intercollegiate athletic programs, as the key scaffolding for further exploration. As described above, Vaughn & Smith explored job roles, preparation and challenges of academic advisors in college athletics. The conclusions drawn from this study have allowed athletic advisors to better understand their duties, degrees held by advisors, training received by advisors when entering the field, how well-prepared advisors felt to help students, and challenges they faced working with athletes in the advising process (Vaughn & Smith, 2018). If similar information could be generated for medical school advisors that information, in turn, could lead to better professional and academic development strategies for medical school advisors.

Director of Academic Support Job Description

The University of Washington School of Medicine is currently hiring a Director of Academic Support for their medical school. The job description of this position provides exact job roles that are expected of academic advisors. The job responsibilities were split into three main categories including 1) direct and provide academic support services, 2) program management, supervision, consultation and coordination of services,

3) academic support services financial management and special projects. To give an idea of how many job roles an academic advisor could have, there were anywhere from nine to twelve more specific roles listed under these three categories. For example, a specific role under the 'direct and provide academic support services' group is "develop individual collaborative study plans for Seattle-based students to address learning skills, time and study management, knowledge organization, testing skills/preparation, and other areas of academic concern" (UW Human Resources, 2019, p. 2).

Problem Statement

No recent research has explored the actual job roles of academic advisors, how well prepared they felt for their positions, and the challenges they faced when meeting with medical students. The most recent study that explores some of the aspects listed above was published in 2004 (Saks & Karl, 2004) which leaves a 17-year gap in the literature pertaining to job roles and aspects of academic support programs in medical schools.

Purpose Statement

The purpose of this study is threefold: 1) to understand the most common job roles among academic advisors in medical schools and determine most common practices from these advisors, 2) to determine what educational or specific advising training prepared or did not prepare them for their roles, and 3) to assess the most common challenges that academic advisors face when helping medical students during their educational career.

Operational Definitions

- Academic advising: A series of intentional interactions with a curriculum, a pedagogy, and a set of student learning outcomes that synthesizes and contextualizes students' educational experiences within the frameworks of their aspirations, abilities and lives to extend learning beyond campus boundaries and timeframes (NACADA, 2020).
- Academic advisor: the person or persons responsible for the roles of academic advising at a medical institution.
- Medical education/institution/school: an LCME accredited institution that leads to a student obtaining an MD degree.
- Job roles: the function you fill within your organization. Your role is what you actually do at your job, rather than just your title (Coursey, 2018).
- Education level: the highest level of education that an advisor received.
- Preparation: any type of education, specific training, job shadowing, internships or previous experience that could have prepared the advisor for their roles.
- Challenges: conflicts that arise while working with medical students that may make the advising relationship difficult to establish or hinder an existing relationship.

Limitations

- The sample size is small due to the unique and very specific population that is being studied. Usually medical schools only have one academic advisors, limiting the amount of people to survey.

- Participants will complete self-report data through the questionnaire. Data received from the participants may include recall bias, exaggeration or choosing answers that aim to please the researcher.

Delimitations

- The sample was delimited to academic advisors at medical institutions in the United States.
- The sample was delimited to only academic advisors from medical institutions in the United States that had a contact email listed on their institution's website.
- The results to open-ended questions will be interpreted by the researcher and common themes and quotes will be pulled from the answers provided to condense the results, subjecting the results to researcher bias.

Significance

New and updated information can work to provide a helpful framework for academic advisors at medical institutions by creating a network of shared practices, techniques and theory between advisors in the field, ultimately leading to personal and professional development as advisors as well as better outcomes with students.

Chapter II

Literature Review

Academic Advising

Research into advising in higher education and college athletics has provided insight into defining academic advising, roles, relationships and theory. All of this information can provide a framework to streamline academic advising across medical institutions in the United States.

Definition of Advising

It is crucial to define academic advising because it is an "important key in students' development, satisfaction, academic success, recruitment, and retention" (Shamsdin & Doroudchi, 2012, p. 20). Many research studies have emphasized that academic advising definitions are vague or vary from program to program (Himes, 2014). One concrete and consistent definition of academic advising is unclear within the literature. Academic advising has been explained as "the most important aspect of students' educational experience" and "the single most powerful predictor of satisfaction" amongst students (Braun & Zolfagharian, 2016, p. 970). NACADA defines academic advising as "a series of intentional interactions with a curriculum, a pedagogy, and a set of student learning outcomes" (NACADA, 2017). Advising "synthesizes and contextualizes students' educational experiences within the frameworks of their aspirations, abilities and lives to extend learning beyond campus boundaries and timeframes" (Tan, 2011, p. 2). NACADA believes that academic advising is comprised of three main components. Those components include, what advising deals with (curriculum), how advising does what it does (pedagogy), and the result of academic

advising (student learning outcomes) (Tan, 2011). Masengeni (2019) defines academic advising as “continuous academic engagement that takes place between students and advisors,” (p.154) where the purpose of advising is to reach out to students, create relationships and provide advice. In medical schools specifically, academic advising is described effective when it includes efforts from faculty members, clerkship directors, and student affairs staff who have no role in making assessments or promotional decisions about students (LCME, 2020).

Both advisors and advisees should know that the advising relationship can be positive or negative (Knox et al., 2006). One way to foster a positive experience in advising is to build a relationship between the student and advisor. Advising was noted as more than just advice on tests and assignments but building relationships for student success and development (Himes, 2014; Masengeni, 2019; Shamsdin & Doroudchi, 2012). Building relationships and rapport with the student allows for trust to be formed, which makes it easier to share their academic and personal challenges (Masengeni, 2019). After the advising relationship is formed, students will be able to reflect on their educational path and goals, the nature of higher education and ultimately the change toward greater levels of self-awareness and responsibility (Himes, 2014; White & Schilenberg, 2012).

Role of the Advisor

Five major themes emerged when grouping advisor roles from the literature, they include (1) general guidance and assistance, (2) ability to identify student needs and monitor progress, (3) serve as a mentor and role model, (4) provide and teach skills to students, and (5) necessary skills and attributes of advisors.

General Guidance and Assistance. Arguably the most important role of the academic advisor is to guide, assist and advise the student through their educational experience. Delaram & Hosseini (2014) explain that "the responsibility of an academic advisor in directing, guiding and supporting students is very effective in achieving the educational goals" (p.6). Tan (2011) clarifies that the "role of the academic advisor would be to advise, assist and guide the students in undergoing their studies" (p.3). The advisor is often the primary point and first contact for students facing any type of academic or personal challenge in college (Aiken-Wisniewski et al., 2010). The advisor also has the "greatest responsibility for helping guide the advisee" (Knox et al., 2006, p. 1). Another aspect of general guidance is encouraging meaningful academic exploration for students (Joslin, 2018). This may entail exploring the learning environment and culture and providing strategies to help students maximize their effectiveness within the culture (Joslin, 2018). Finally, it was noted that the role of the advisor is to individually tailor guidance for each student. No two students have the same background, story, performance or progress. Advising must be individualized to fit each students' needs.

Ability to Identify Student Needs and Monitor Progress. The second major theme uncovered in the literature was the ability to identify student needs and monitor their progress. In order to identify what a student may need help with, the advisor must collect a variety of information. This may include evaluating what has worked for the student, what hasn't worked and the next steps to take regarding the student's problem (Masengeni, 2019). Part of the advisor's responsibility includes facilitating students' progress through their degree and ensuring that requirements are met (Knox et al., 2006). Ideally this process leads to professional development within the student. Advisors must

be equipped with tools and techniques that can allow them to assess the needs of the student after meeting with them (Braun & Zolfagharian, 2016). These techniques can allow advisors to identify major problems the student is currently facing or may potentially face that are related to poor academic performance (Tan, 2011). It is therefore crucial that the advisor monitors all student progress to ensure that they can intervene when problems occur.

Serve as a Mentor and Role Model. Another common theme regarding the roles of academic advisors was serving as a mentor and role model to students. Knox et al. (2006) explains that one role of the academic advisor was serving as a mentor. As a mentor, the advisor considered the students' professional goals and plans and then tailored the advising relationship to meet those goals and needs. Bloom et al. (2007) stated that academic advisors serve as a role model to students and were often the most influential role model in students' lives. Along with being a mentor or role model comes supporting students. Advisors themselves explained that they supported and advocated for their advisee as they navigated their educational experience (Knox et al., 2006). In the study by Bloom et al. (2007) students nominating advisor of the year noted that an important aspect in their consideration was caring for students and their success.

Provide and Teach Skills to Students. The fourth theme in the literature was the role of providing skills and strategies to the students. Some of those strategies are as simple as helping the student put together a course of study that is meaningful to them and drafting detailed curricular plans (White & Schulenberg, 2012). The more meaningful skills that the advisor can provide for the student included a) helping them become more self-aware, b) connecting their education and future plans, c) assisting in

student's discovering their potential, d) broadening perspectives and, e) sharpening cognitive skills (Drake, 2011).

Necessary Skills and Attributes of Advisors. The last theme in the literature was the necessary skills and attributes of the successful advisor. In every advising session, the advisor brings their own unique values, beliefs, knowledge and past experience to the table (Musser & Yoder, 2019). All of these attributes can contribute to a positive experience, but advisors must be aware of how their beliefs and values create biases that could harm interactions with students (Musser & Yoder, 2019). It is crucial for advisors to continually reflect on their own skills, thoughts and behaviors in order to improve the advising relationship without disregarding the thoughts and beliefs of the student (Musser & Yoder, 2019). The first attribute that students expected advisors to have was sufficient knowledge and information about the institution, curriculum, educational issues, and personal and medical counseling services (Delaram & Hosseini, 2014). It is important that an academic advisor is well equipped with the knowledge necessary to perform advising successfully (Masengeni, 2019). In order to help students navigate challenges, advisors must be equipped with the personal skills to establish rapport and trust with the advisee (Masengeni, 2019; Tan, 2011). It is also important to be approachable and accessible (Bloom et al., 2007; Tan, 2011). Other attributes listed in the literature were helpfulness and friendliness (Tan, 2011), commitment to the students, institution, professional practice and advising community (NACADA, 2017), and good communication skills (Tan, 2011). One article described communication skills in more detail and stated that academic advisors should have the skills to question students in order to discover useful information and be able to refer them to other resources as

necessary (Shamsdin & Doroudchi, 2012). Finally, the literature emphasized the importance for continuous, specific training of these skills and attributes over the course of the advisor's career in order to provide satisfactory service for students (Shamsdin & Doroudchi, 2012).

Role of the Advisee

The literature on the role of the advisee was limited compared to the role of the advisor. McClellan (2005) identified the most common reasons that students met with advisors were due to difficulty with assignments, deciding on a career or understanding and interacting with the academic bureaucracy. Knox et al. (2006) outlined some characteristics of the advisee, which included responsibility, initiative and follow through. Advisors in this study identified both positive and negative characteristics of advisees that they had worked with. When advising relationships were good, advisors describe their students as "motivated, goal-directed, genuine, fun, bright, respectful, reliable, hardworking, and passionate about their career" (Knox et al., 2006, p. 10). On the other hand, negative advising relationships led advisors to describe their students as "anxious, presumptuous, rigid, lazy, self-centered, irresponsible, avoidant, dependent, had poor work habits, and lacked clear boundaries" (Knox et al., 2006, p. 11).

Advisor-Advisee Relationship

The roles of the advisor and advisee form the advising relationship. The literature explains that the interaction between students and advisors plays a pivotal role in the students' overall academic experience and is critical for their success (Masengeni, 2019). Advising focuses on the building of relationships to assist students in meeting their academic, personal and career goals on a one-to-one basis over the duration of their

academic program (Joslin, 2018; Masengeni, 2019). Academic advising is critical because of its personalized nature regarding student support (Masengeni, 2019). A close relationship with a faculty member can reduce feelings of isolation while enhancing learning and easing the transitions that occur in the class (Macaulay et al., 2007).

In order to build the advising relationship, trust and rapport must be established between the advisor and advisee (Masengeni, 2019). Trust is "facilitated through mutual respect, the academic advisor's knowledge of the subject the advisor teaches, and the honesty of the academic advisor about the student's academic performance" (Masengeni, 2019, p. 154). Knox et al. (2006) explains that good advising relationships were characterized by open communication, the advisee feeling safe to share information, and the advisor being able to address the challenging situations which in turn strengthened the relationship. They also described that good advising relationships shared mutual respect between the advisor and advisee (Knox et al., 2006). On the other hand, difficult advising relationships were characterized by communication problems, ineffective work with the advisee and lack of respect (Knox et al., 2006). The relationship between advisors and advisees should be optimized to fulfill the student's needs and increase their satisfaction with the academic advising process as well as the students' persistence in their studies (Shamsdin & Doroudchi, 2012).

Academic Advising Theory

In any counseling or support profession, there is literature and theory to guide the actions of the professionals in supporting their clients or students. Advising theory is able to help explain the varieties of student behavior that advisors may come across and direct the advisor on strategies to help those students (Musser & Yoder, 2019). Although there

may be multiple theories or approaches to academic advising, the literature suggests that almost all of those theories are built around holistic efforts focused on building relationships and collaboration (Musser & Yoder, 2019). There are multiple academic advising theories but the two most popular styles of advising were the developmental and prescriptive approaches (Gaston-Gayles, 2003; Himes, 2014; Masengeni, 2019; Shamsdin & Doroudchi, 2012). The prescriptive approach to advising is authoritative, where students ask questions and the advisor provides the answers, which works well for new students in the early stages of self-directed learning (Gaston-Gayles, 2003; Masengeni, 2019). The prescriptive approach is often focused on course selection, registration and degree requirements, where the advisor decides what is best for the student and "prescribes" them solutions (Shamsdin & Doroudchi, 2012). This type of advising may also be called "service-oriented" advising, where the bottom line is that information is passed to student from the advisor (Steele, 2018). On the other hand, developmental advising was described as a partnership between the student and advisor where active learning allows the student to take part in their own educational process rather than being "spoon-fed" answers (Masengeni, 2019). In the developmental framework, the advisors must take time to learn about the student as a whole, which includes learning about their background, skills, beliefs, knowledge, emotional needs and self-esteem (Himes, 2014). The important part about developmental advising is the collaboration, where students participate in decision making processes about their education (Himes, 2014; Gaston-Gayles, 2003). This type of advising can also be known as "learning-centered" advising, where the advisor pulls information from interactions with the student and decisions are made based off of that information (Steele, 2018).

Advising may unify both of these approaches, prescriptive and developmental when dealing with different student scenarios.

Advising in Higher Education

The ever-changing landscape of higher education demands that the field of academic advising be strengthened for advisors as well as the community (Himes, 2014). Generally, the literature explains that the goals of academic advising should be to enable students to develop and refine personal and technical skills that contribute to their citizenship as well as prepare for professional fields and gain knowledge that will lead a fulfilling life (Himes, 2014). In order to develop these skills in students, the advisor must focus their efforts on helping formulate goals and well-grounded career plans (Steele, 2018). The other literature exploring academic advising in higher education focused on trust (Masengeni, 2019) and conflict (Knox et al., 2006; McClellan, 2005).

Past Research Results

Trust. Masengeni (2019) explored the importance of trust in academic advising relationships. Academic advising plays a pivotal role in student success. This study surveyed 60 academic advisors. The results showed that 95% of the group agreed that building trust is necessary in the advising process (Masengeni, 2019). Building trust was crucial because 55% of the advisors reported that students failed to talk openly to advisors about their challenges if they did not trust them (Masengeni, 2019). The study also emphasized the importance of communication, 90% of the advisors agreed that communication could be effortless if the advisor-advisee relationship was built around trust (Masengeni, 2019). In order to build this trust, 95% of the advisors agreed that

developing trust with the students started with the advisor being honest and trustworthy and communicating that to the student (Masengeni, 2019).

Conflict. McClellan (2005) defines conflict as "an interactive process manifested in incompatibility, disagreement, or dissonance within or between social entities," making it "a necessary and normal human condition that is always present" (p.57). Students or advisors usually initiate advising when the student is facing some sort of academic challenge or conflict (McClellan, 2005). Rather than becoming a part of the conflict, the advisor becomes the mediator of the conflict and the student. Most importantly, the study found that the events immediately following the conflict were more significant than the conflict itself (McClellan, 2005). The advisor's response to the conflict could determine whether the student committed to overcoming the challenge or disengaged entirely from pursuing their education (McClellan, 2005). Another study solidified this idea when their research found that the conflict itself did not distinguish between good and difficult relationships, but the negotiation of the conflict between the advisor and advisee was the differentiating feature of good and difficult advising relationships (Knox et al., 2006). The important point that the literature poses is that students and advisors can grow from conflict (McClellan, 2005). When advisors understand the student and their background, as well as have a positive history of interactions with the student, they are able to better assist students in situations of conflict (McClellan, 2005). By facing conflict and recognizing how students encounter conflict on a daily basis, advisors are better able to see how conflict can be a catalyst for learning and growth (McClellan, 2005).

Advising in College Athletics

According to the NCAA, college athletic departments must provide student athletes with academic support that aids them with resources to be successful (Vaughn & Smith, 2018). Vaughn & Smith (2018) explored job roles, job preparedness and challenges faced by academic advisors in college athletic departments. They found that the most common job roles for athletic academic advisors included a) assisting with registration, b) talking to coaches about grades and attendance, c) assisting athletes with career exploration post-graduation, arranging academic services, d) monitoring eligibility and class performance and, e) mentoring the athlete on personal issues (Vaughn & Smith, 2018). Understanding how advisors prepare for these roles is also important. Vaughn & Smith (2018) asked advisors to report how prepared they felt to advise student athletes; 42% reported a 3/5 while 34% reported a 4/5. Education was also a factor in advisor preparedness. Most of the advisors reporting they felt prepared in this study obtained their master's degree and those who only obtained a bachelor's degree reported feeling less prepared (Vaughn & Smith, 2018). The most common degrees included sport management, education and others like higher education, administration or counseling (Vaughn & Smith, 2018). Other factors related to preparedness included having a written set of job roles, previous experience working with student athletes, and having a mentor themselves (Vaughn & Smith, 2018). Previous research in college athletics shows that some of the common challenges of advising student athletes included a) collaborating with coaches, b) difficult athlete schedules, c) lack of academic devotion from students, d) athlete unpreparedness, e) lack of compliance and lack of resources (Vaughn & Smith, 2018). The study confirmed these challenges and found that the most common challenges were lack of academic desire and preparedness of students, athlete and attitude issues,

NCAA eligibility, communication issues and stressed athletes (Vaughn & Smith, 2018). Gaston-Gayles (2003) further explained that academic advising in college athletics is difficult because "colleges and universities have been accused of sacrificing the academic integrity in order to develop competitive athletic teams" (p.50). They indicated that student athletes needed academic support services to increase the likelihood of their academic success (Gaston-Gayles, 2003). The need to increase likelihood may be due to the fact that athletes are often attempting to balance roles and responsibilities as students as well as athletes, creating unique challenges (Gaston-Gayles, 2003).

Advising in Medical School

Medical students have to navigate through preclinical and clinical years, and almost always encounter difficulty with personal wellness or career and professional development (Sastre, et al., 2010). It has been widely acknowledged that medical school can be a stressful experience for students, especially those from diverse backgrounds (Malau-Aduli, et al., 2020). Some of the reasons that medical students face stress in medical school may be due to poor time management, inability to integrate large amounts of new information, and poor test-taking skills (Malau-Aduli, et al., 2020). Advisors meet with students who are having difficulties and discuss the student's approach to studying, learning skills and the challenges they are facing personally and academically (Malau-Aduli, et al., 2020). Because of these difficulties, the literature urges the importance of proactive advising (Tan, 2011). The idea of proactive advising is to identify academic difficulties early and intervene in order to help students develop the necessary skills to overcome them and prevent them further (Malau-Aduli, 2020; Segal et al., 1999; Tan, 2011). Continuous improvement of the quality of students' educational experiences can

put them, the advisor and the institution on the path to success (Shamsdin & Doroudchi, 2012). Early intervention may also help avoid or minimize poor performance from students by enabling the student to deal with adverse learning promptly (Cleland et al., 2005).

The literature explains that in regard to medical students, academic advisors play a key role in student development, satisfaction, academic success and retention (Shamsdin & Doroudchi, 2012). Academic advisors helped with career advancement, professional satisfaction and development and productivity in medical students (Sastre et al., 2010; Macaulay et al., 2007). However, the literature varied on how academic advisors were appointed and connected with students. Tekian et al. (2001) explained that advisors were assigned by the institution, where Shamsdin & Doroudchi (2012) stated that advising was performed by faculty members not specifically trained in academic advising. Tan (2011) explained that students met with advisors at least twice a year, where other colleges automatically placed students into orientation courses as a means for proactive advising (McBeth et al., 2000). Other institutions explained that students only met with advisors when referrals were made (Delaram & Hosseini, 2014). The varying literature on preparedness of advisors as well as the differences in meeting and referrals makes understanding medical school academic advisors' job roles and preparedness even more important. Academic advising in medical schools is not a uniform process but learning what various institutions do can provide new ideas for academic support programs across the country. Sharing what has worked and what has not worked among programs can help strengthen the academic advising community within medical schools.

Students of Concern/At-Risk

Early intervention from academic advisors may help stop students from experiencing a cycle of failure (Cleland et al., 2005). Struggling students or "at-risk" students were identified as having an increased likelihood of encountering academic difficulty in medical school (Tekian et al., 2001). In order to be proactive, advisors must know the common difficulties that medical students may face. Sastre et al. (2010) explains that there were significantly higher levels of depression and anxiety, as well as a higher prevalence of suicidal ideation among U.S. and Canadian medical students compared to the age-matched general population. Medical students are also at higher risk of experiencing burnout, emotional exhaustion and feeling a low sense of personal accomplishment during medical school (Sastre et al., 2010). As with any college student, medical students face the common difficulties of psychological and social stress surrounding family separation, adapting to the university environment, management of educational and personal life, making new friends, and adapting to new rules (Delaram & Hosseini, 2014; McBeth et al., 2000). Weak students often continue through school with little guidance and interventions, causing ongoing challenges (Cleland et al., 2005; Tan, 2011). Failing to provide feedback to poor performing students may hinder them from reflection and taking the necessary steps to address their learning needs (Tan, 2011). Early interventions can help minimize these challenges and enable students to learn how to deal with adverse situations before they reach their clinical practice (Cleland et al., 2005; Tan, 2011).

Past Research Findings

Tan (2011) examined academic support programs in medical schools in the United States and Canada. The findings of this study focused on the nature of advising,

desirable attributes of the advisor, recruitment and employment issues, and needs and suggestions of improvement. The nature of advising was explained as establishing good rapport with students, meeting with students individually or meeting with the class as a whole, providing support and reassurance in order to help students solve their own problems and being a counselor in personal and professional development (Tan, 2011). The desirable attributes of the advisor were genuine interest in the welfare of students, ability to establish rapport with students and approachability (Tan, 2011). The major recruitment and employment issue found in the survey was that there was reluctance from faculty to volunteer as advisors because there were no perceived rewards for the task (Tan, 2011). Some could argue that bringing in learning specialists that are not faculty could be more beneficial. Finally, the suggestions for improvement included the need for specific training in critical thinking, problem solving and communication skills, as well as administrative support from medical school deans (Tan, 2011).

Another study focused on student satisfaction with an academic advising program. The results found that 56% of the students were somewhat satisfied with academic advising (Shamsdin & Doroudchi, 2012). Thirty seven percent of students reported that their advisor was not consistently available for meetings, causing difficulties with accessibility (Shamsdin & Doroudchi, 2012). When accessibility issues occur, students can feel like their guidance is deficient, causing feelings of loneliness while attempting to navigate medical school (Macaulay, et al., 2007). One way that schools have attempted to foster relationships between advisors and students early on is having advisors teach orientation programs for the students (McBeth et al., 2000). The result of this was immediate ongoing interaction, once a week between advisors and advisees for

the entire first semester of the academic year. After this was implemented, students reported that the majority of their meetings were to discuss personal matters (47%) and poor grades (38%), fostering a safe environment and relationship for the advisor and advisees to connect (McBeth et al., 2000). Data following this new program showed that the course succeeded in terms of student satisfaction and success (McBeth et al., 2000). The students felt that the combination of advising with a freshman seminar resulted in comfortable relationships and resulted in an increase in the number of voluntary meetings with advisors after the course ended (McBeth et al., 2000). Delaram & Hosseini (2014) found that students reported better conditions when they knew the advisor as a source of educational information, knew how to get help, and was able to ask the advisor about continuing education. Malau-Aduli et al. (2020) identified three major reasons that students wanted to meet with an advisor. Those included dealing with failure, structural support to manage their workload and self-regulation (Malau-Aduli, et al., 2020).

Finally, a study by Segal et al. (1999) reviewed underrepresented medical students and academic advising. The study found that 22% of underrepresented medical students had their studies interrupted by academic difficulties, compared to only 3% of non-underrepresented students (Segal et al., 1999). Their academic advising process begins with referrals made by either the student themselves, an academic counselor or a faculty member (Segal et al., 1999). Referrals are often made if a student is at risk for academic failure in course work, clinical examinations or on United States medical licensure examinations like Step 1 or Step 2 (Segal et al., 1999). But referrals can also be made due to motivational or emotional concerns as well (Segal et al., 1999). The most common reason for a visit to academic advising was a clinical examination failure,

followed by general academic difficulties, failure on the Step 1 exam, test-taking issues and mental health issues (Segal et al., 1999). The main takeaway from this article was that underrepresented students with academic difficulties can benefit from early-intervention strategies that are well coordinated and easily accessible.

Advice from a Medical School Learning Specialist

Some medical schools hire specific personnel like learning specialists to help students overcome academic difficulties (DeVoe, 2016). DeVoe (2016) interviewed a learning specialist, who provided advice to medical schools on academic advising and struggling students. Learning specialists work closely within the school's infrastructure to share information and best practices for student support (DeVoe, 2016). Learning specialists monitor student performance, develop interventions to help students and encourage new strategies to be integrated into the curriculum. Because the work of the learning specialist parallels course curriculum, specialists are able to track student progress long term, assessing the major causes of academic and

difficulty and then provide insight to possible solutions of those issues (DeVoe, 2016). Learning specialists ground their work in cognitive science and learning theory, which often differs from how students previously learned or studied (DeVoe, 2016). One piece of advice the learning specialist provided was to integrate academic support programs within the whole medical curriculum (DeVoe, 2016). A comprehensive support program may offer the needed structure for students who are failing, while also preventing more students from failing. This can be done by coordinating efforts with course content experts, faculty and students (DeVoe, 2016). The point was made that the academic support program should foster relationships with all students not just those who

are struggling (DeVoe, 2016). This means that learning specialists should get to know all students, their backgrounds, and their personal lives. Building these relationships with all students may decrease the common stigma around reaching out for academic support (DeVoe, 2016). When students with low self-efficacy attain low scores on exams, it may serve as a trigger for an "overwhelming fear of failure, imposter syndrome, or stereotype threat, any of which can compromise he student's ability to implement change into their study habits" (DeVoe, 2016, p. 13). When meeting with students, learning specialists should contact the student directly to set up a meeting, helping to take some of the decision making away from the student while also facilitating the need to address their issues (DeVoe, 2016). The interventions with the student should focus on specific services that best fit the students' needs, and could range from test taking strategies, study skills, peer tutoring, disability assessment, personal counseling or time management (DeVoe, 2016). Some other recommendations included creating a peer tutor program and establishing a routine for academic support program evaluation (DeVoe, 2016). Overall, the advice provided by the learning specialist was to create a comprehensive academic support program that is integrated into the curriculum and provides proactive strategies for students to overcome failed exams or poor performance while also preventing poor performance from other students.

Overview of Academic Support Programs

Only one study has taken a deep dive into all academic support programs in U.S. and Canadian medical schools. This comprehensive study by Saks & Karl (2004) identified exactly what academic advisors were assisting students with, what educational and training background advisors had and accessibility of programs. In this study, 95% of

the survey respondents reported providing academic support to students in both their first and second years. Academic support was also offered in third year by 82% of schools and 79% offered support in the fourth year. The survey showed that 52% of the schools offered specific preparation programs for the United States Medical Licensing Exam (USMLE) Step 1 exam. Services for students with learning disabilities were offered by 56% of the respondents. Designated individuals, like learning specialists, provided academic support in 67% of the schools. Those individuals had varying educational backgrounds including 36% obtaining a master's degree, 14% with a doctorate in education, 43% with a PhD and 25% with an MD. Beside educational training, only 21% of the respondents had training in adult learning principles and only 32% had previous experience with college students. In regard to accessibility, 80% of programs indicated students were able to access academic support directly and without a referral. The takeaway from Saks & Karl (2004) was that comprehensive programs are able to provide assistance with specific content and training in learning strategies for the promotion of life-long self-directed learning among medical students. These survey results provide a very general overview of what services have been provided across US and Canadian medical schools, how accessible they are and the type of education and training that advisors receive.

Director of Academic Support Job Description

In order to further understand the job roles and responsibilities of academic advisors in medical schools, it is helpful to look at a current job posting for a position titled "Director of Academic Support" at the University of Washington School of Medicine. The position responsibilities were separated into three large categories, those

include “direct and provide academic support services,” “program management, supervision, consultation & coordination of services,” and “academic support services financial management and special projects” (UW Human Resources, 2019).

Under the role of “direct and provide academic support services” there are 13 sub-roles. Those include roles such as a) executing the mission of the academic support program, b) implementing a comprehensive evidence-based program, c) ensure compliance with state and federal laws, d) deliver presentations and workshops on relevant academic support issues, e) create collaborative study plans for students, f) play a role in the preparation of the USMLE exams and, g) provide referrals to other resources as needed (UW Human Resources, 2019). Under “program management, supervision, consultation and coordination of services,” 12 sub-roles were listed. Those included roles such as, a) implementing and sustaining an academic support program, b) developing intervention strategies for at-risk students, c) work in partnership with regional deans and faculty, d) communicate with students and faculty about current events and information regarding medical education, e) negotiate outside resources for students, f) communicate information regarding USMLE exams, and g) act as a liaison between disability services and students (UW Human Resources, 2019). Lastly, under “academic support services financial management and special projects,” there were 9 sub-roles listed. Those included roles like, a) manage the academic support budget, b) administer budgets and policies to guide academic support, c) provide oversight of the medical student peer-tutoring program, d) collaborate with student affairs to set goals and develop program recommendations, e) participate in professional development trainings and, f) participate in student affairs activities (UW Human Resources, 2019). This specific job description

can provide a framework for developing the survey questions that will be used in the current study to identify the roles of academic advisors across the United States.

Conclusion

Overall, the literature surrounding academic advising in higher education, college athletic departments and medical schools is growing, but still broad. The literature explores definitions, theories, job roles, challenges, and an exploration of some advising programs. This information provides a general framework behind the variation in academic advising. More in-depth research into academic advising in medical schools can offer insight into most common practices for advisors in the field, strengthening the work that advisors provide to students and ultimately improving student success outcomes, satisfaction and professional development.

Chapter III

Methods

Participants

The survey was sent to medical school academic advisors in the United States utilizing a list provided by the Association of American Medical Colleges (AAMC). The AAMC is an organization focused on medical education, patient care, medical research, and diversity, inclusion and equity in health care (AAMC, 2020). Academic advisors from the 155 medical schools on the list were contacted and asked to participate in the survey.

Instruments

The survey included sections on job preparedness, job roles, job challenges and demographics. There was no be pilot study, as the questions were loosely formed from the Vaughn & Smith (2018) study as well as the director of academic support job description (UW Human Resources, 2020).

Validity

The survey shows face validity but also used methods of triangulation and member checks to ensure the validity of the survey throughout the research process. Triangulation was used to converge on common themes from open-ended questions.

Job Preparedness

The questions surrounding job preparedness were derived from Vaughn & Smith (2018) and asked about the participant's education level, degree and training received for the position. For example, "what field was your highest degree in? What type of specific

training do you have in academic advising? Before entering your current position, did you work with medical students in prior professions?"

Job Roles

The questions about job roles were adapted from several resources the most notable of which is the University of Washington Human Resources Office (UW Human Resources, 2019). The questions regarding job roles were split into seven different categories including a) class level of the students the advisor works with, b) referrals, c) meeting set up, d) career advising/clinical assistance, e) learning/study strategies, f) USMLE board preparation, and g) other duties. Some examples questions within those categories include: "do you teach/explain learning strategies to students? Do you monitor student performance on coursework and exams? Do you assist students with USMLE Step 1 preparation?" For each "yes" answer on the seven questions under the learning/study strategy section and the four questions under the USMLE board preparation section, participants were prompted to a text box where they were able to further explain the specific details of the roles they perform. These responses provided deeper insight into the most common practices for academic advising in medical schools.

Job Challenges

The questions about job challenges were derived from Vaughn & Smith (2018) and were left open-ended in order to reduce answer limitations placed on participants. Examples of possible challenges provided to the participants included common concerns such as time limitations, overly motivated students, and a lack of interest in meeting with academic support. However, participants were instructed to list all significant challenges

they face working with medical students and not limit themselves to those specific examples.

Demographics

Lastly, a demographic section was included in the survey which asked about job title, number of years in their current position, their gender, age and race.

Procedure

The survey was created on Google Forms and a link to the survey was sent to participants via email, thus, all questions and answers were asked and received electronically. The email included background information on the project as well as the link to the survey. A follow-up email was sent 10 days later to those who did not initially respond. Another follow-up email was sent 10 days following the second email and finally, a third follow-up email was made another 10 days later. Thus, participants were allowed a total of 30 days to respond to the survey.

Data Analysis

Frequency Analysis

The closed-end questions in this study relied on calculating frequencies with responses reported as percentages of the total answer distribution.

Content Analysis

For the open-ended questions, in-depth analysis was performed to pull themes from the answers provided by the participants. There were thirteen open-ended questions to analyze, with seven addressing learning strategies, three assessing board preparation, and two questions probing common challenges among academic support personnel. Each response to an open-ended question was read numerous times to allow the researcher to

become familiarized with the data. The content analysis in this study replicated the content analysis from Scanlan, Stein & Ravizza (1989) and used an inductive reasoning approach to find common themes, working from a broad range of responses and allowing themes and categories to emerge from the quotes. The next step in the analysis process was clustering the responses. According to Scanlan et al. (1989) clustering involves comparing and contrasting each quote with all of the other quotes to find emergent themes. Quotes with similar meaning were united into clusters. This process varied regarding the descriptiveness of the participant's responses. Greater descriptions resulted in one response being split into multiple themes or categories, depending on what emerged. While the researcher pulled themes from the responses, it was crucial to keep the specific question in mind and be sure that the themes reflected accurate responses to the question. After the first set of clusters was formed, the process built upon itself. Some of the clusters were further moved into even larger themes or categories. This process continued until the emergent themes could no longer be clustered together. The final themes and any sub-themes served as the results of this analysis and showed the complete inductive content analysis.

Because there are inherent problems with researcher bias in qualitative research, steps were made in attempt to reduce that bias (Smith & Noble, 2014). For example bias in analysis is common in qualitative research because researchers can naturally look for data that confirms hypotheses (Smith & Noble, 2014). Due to this possibility, after the initial process of pulling categories and themes from the quotes was complete, another researcher reviewed the procedure to make sure the themes and categories were congruent and that there were no obvious errors or misunderstanding.

Chapter 4

Results

This chapter will provide a summary of the results for the present study. The sections of this chapter are organized by the three purposes of this study: 1) job preparedness, 2) job roles and 3) job challenges. Participants were asked a series of questions to indicate whether they help students in that particular area or do not. If the participants answered "yes" for questions regarding learning and study strategies and board preparation, they were prompted to explain their exact processes for helping the student in detail. Participants were also provided a space for "other," where they could include any job roles that were not listed. From the open-ended responses received, common answers were clustered together to create categories. From there, the categories were further joined to create themes for each question. The themes summarize the most common practices described by the participants. This process can be seen in Figures 1-13 in the Appendix to show the clustering for each open-ended question.

After analysis, two questions were discarded from the results. The questions, "do you assist students with USMLE Step 2CS preparation?" and "if yes, briefly describe what your roles are during Step 2CS preparation" were deemed irrelevant to the study. These questions were removed because as of January 26, 2021, The NBME and the USMLE announced that Step 2CS will be discontinued and there are no plans to bring back the exam (USMLE, 2021). Although advisors may have helped students prepare for this exam in the past, they will not be helping students moving forward.

Job Preparedness

Demographics

There were 44 participants in this sample. Thirty-seven (84.1%) participants were female, six (13.6%) were male and one (2.3%) participant preferred not to answer. Of the 44 participants, 72.7% (32 participants) of the group identified their race as white, 15.9% (7 participants) were black, 4.5% (2 participants) were Asian, 2.3% (1 participant) were American Indian/Alaskan Native, 2.3% (1 participant) were Hispanic/Latino and, 2.3% (1 participant) preferred not to answer. Four (9.1%) of the participants were of Hispanic/Latino origin. See Table 1 for more details.

The average age of participants was 44.2 years old with a standard deviation of 10.8 years. The range of ages was 28 to 68 years old, with one participant who preferred not to answer.

The average number of years in their current position was 4.8 years with a standard deviation of 3.9 years. The range of years in position included less than 6 months to 17 years.

Job Title

Of the 44 participants in this study, there were 35 unique job titles. The most common job titles listed were a) learning specialist (9.1%), b) associate dean for student affairs (6.8%), c) academic support specialist (4.5%), d) academic advisor (4.5%) and e) director (4.5%). All of the other job titles listed were unique from one another and included a variety of labels ranging from assistant directors, to associate directors, program coordinators, senior advisors and deans. For a full list of the job titles refer to Table 2.

Educational Field. There were 26 unique educational fields that the participants received their highest-level degree in. The most common fields included a) education

(25%), b) medicine (11.4%), c) higher education administration (9.1%) and d) educational psychology (6.8%). Some of the other educational fields included counseling, specific science degrees, English, cognition, life coaching, and Japanese language. For a full list of educational fields, refer to Table 3.

Job Preparedness

Education Level. The education level of the group of 44 participants was split into four categories. Two (4.5%) of the participants have a bachelor's degree, nineteen (43.2%) have a master's degree, eighteen (41%) have a doctorate degree and five (11.3%) have a medical doctorate. See Table 4.

Specific Training in Academic Advising. Specific training in academic advising varied among the participants. Thirty-four (77.3%) of the 44 were self-taught, twenty-three (52.3%) explained that previous education served as training, twenty-seven (61.4%) were trained by a mentor and seven (17.9%) used a written manual. Two (4.5%) participants explained they received no training. Other methods of training that were listed included, a) conferences (2.3%), b) counselor education training (2.3%), c) being a current PhD candidate (2.3%), d) previous work experience (2.3%), e) learning from student needs and challenges (2.3%), f) previous work as a high school teacher (2.3%), g) academic advising for undergraduate education (2.3%) and h) on the job training (2.3%). See Table 4.

Specific Training in Adult Learning. In regard to specific training in adult learning principles as preparation for their position, twenty-four (54.5%) of the 44 were self-taught, twenty-seven (61.4%) explained that previous education served as training, sixteen (36.4%) were trained by a mentor, two (4.5%) used a written manual and six

(13.6%) claimed they had no training. Other methods of training included a) having a background in disability and traumatic brain injury rehabilitation (2.3%), b) conferences (2.3%), c) taking courses from the Center of Teaching Excellence (2.3%) and d) also previous experience conducting faculty training (2.3%). See Table 4.

Previous Experience. Fifteen (34.1%) of the 44 participants had previously worked with medical students in a different position, where twenty-nine (65.9%) had not worked with medical students prior. However, thirty-four (77.3%) of the participants had worked with college level students, who were not medical students in a prior profession. Ten (22.7%) of the 44 had not worked with college level students. See Table 4.

Written Job Roles. Thirty-four (77.3%) of the participants have a written set of job roles provided by the institution they are employed at, and ten (22.7%) do not. See Table 4.

Positions Held. Twenty-eight (63.6%) of the participants serve as advisors only. Sixteen (36.4%) serve as advisors as well as teaching faculty at their institution. See Table 4.

Job Roles

Forty-three (97.7%) of the 44 provide support for the first year and forty-two (95.5%) provide support for the second year of medical school. Thirty-seven (84.1%) of the 44 provide support for the third and fourth year of medical school.

Referrals. Forty-one (93.2%) of the participants directly contact students who they deem are struggling or at-risk, and three (6.8%) do not contact students. Forty-three (97.7%) of the participants reported that students get referred to them when someone else perceives they are struggling, one (2.3%) participant does not. All of the participants

(100%) indicated that students can reach out to them directly when the student believes they are struggling. All of the participants (100%) also refer students to outside resources like counseling, disability resources, financial aid and more when needed. See Table 5.

Meeting Set-Up. Thirty-six (81.8%) of the participants meet with students both individually and in groups. Six (13.6%) only meet with students individually. Two (4.5%) stated that meeting individually or in groups depends on different factors. See Table 6.

For specifically setting up meetings with students, many different tactics were reported. Forty-three (97.7%) use emails, thirty-two (72.7%) use phone calls, twenty-five (56.8%) use online scheduling tools, and four (9.1%) use text messaging. Other tactics used included drop-in meetings (2.3%), an assistant that schedules (2.3%), google calendar (2.3%), video conference meetings (2.3%) and setting up meetings in-person (2.3%).

Career Advising and Clinical Assistance. Twenty (45.5%) participants assist medical students with career exploration and twenty-four (54.5%) do not. Forty (90.9%) participants reported that there were designated career advisors at their institution, where four (9.1%) reported that there were no career advisors. Thirty (68.2%) participants assist their students with clinical shelf exams. Thirteen (29.5%) do not assist with shelf exams, and one (2.3%) did not respond. In regard to helping students with clinical skill difficulties, eighteen (40.9%) of the participants provide support and twenty-six (59.1%) do not. Twenty-five (56.8%) help students prepare residency applications and nineteen (43.2%) do not. Twenty-one (47.7%) assist students with residency interviews and twenty-three (52.3%) did not. See Table 7.

Learning and Study Strategies. Thirty-six participants (81.8%) teach or explain learning strategies to their students and eight (18.2%) do not. Of the 36 that teach learning strategies to students, the most common practices included a) the six learning science strategies (66.66%), b) active learning strategies (22.22%), c) concept mapping (13.88%), d) self-awareness and regulation strategies (16.66%), e) time management strategies (19.44%), f) basic learning strategies (11.11%), g) other learning strategies (25%) and some reported that h) this varies based on the student (16.66%). See Table 8 for frequencies and Table 9 for learning strategy themes.

Thirty-five participants (79.5%) teach or explain test taking strategies to their students and nine (20.5%) do not. Of the 35 that teach test taking strategies to students, the most common practices included a) approaching questions (37.14%), b) reading strategies (14.29%), c) exam preparation strategies (25.71%), d) mental strategies (22.86%), e) reading the last sentence first (28.57%), f) timing strategies (40%), g) strategies for changing answers (17.14%), h) strategies for best guess (11.43%) and some reported that i) this varies based on the student (14.29%). See Table 8 for frequencies and Table 10 for test taking strategy themes.

Thirty-four (77.3%) participants assist students experiencing test anxiety, nine (20.5%) do not and one (2.3%) did not respond. Of the 34 that assist students with test anxiety, the most common practices included a) referrals to professional help (41.18%), b) reactive anxiety reducing techniques (52.94%), c) mindfulness and meditation (26.47%), d) positive self-thoughts (17.65%), e) recognition of the problem (5.88%), f) strategies for approaching questions (20.59%), g) proactive anxiety reducing techniques

(17.65%) and some reported that h) this varies based on the student (8.82%). See Table 8 for frequencies and Table 11 for test anxiety themes.

Thirty-seven (84.1%) participants assist students experiencing difficulties with time management, six (13.6%) do not and one (2.3%) did not respond. Of the 37 that assist students with time management, the most common practices included a) the Pomodoro method (29.73%), b) create and plan schedules (56.67%), c) goal setting (16.22%), d) strategies for tracking time (18.92%), e) accountability strategies (5.41%), f) current task analysis strategies (27.03%), g) break time strategies (18.92%), h) prioritization strategies (18.92%), i) electronic timer and distraction methods (10.81%) and some reported that j) this varies based on the student (10.81%). See Table 8 for frequencies and Table 12 for time management themes.

Thirty-two participants (72.7%) assist students with goal setting, where twelve (27.3%) do not. Of the 32 that assist with goal setting, the most common practices included a) utilization of resources or people for goal accountability (15.63%), b) use of SMART goals (18.75%), c) strategies for creating realistic goals (9.38%), d) understanding the importance of goals (6.25%), e) strategies for how to achieve goals (28.13%) and some reported that f) this varies based on the student (9.38%). See Table 8 for frequencies and Table 13 for goal setting themes.

Thirty-two participants (72.7%) assist students with organizational skills, where eleven (25%) do not and one (2.3%) did not respond. Of the 32 that assist with organizational skills, the most common practices included a) goal setting (12.5%), b) time management (18.75%), c) create lists and schedules (21.88%), d) organizational study strategies (18.75%), e) utilizing organizational resources (31.25%), f) other

organizational strategies (9.38%) and some reported g) this varies based on the student (18.75%). See Table 8 for frequencies and Table 14 for organizational skills themes.

Lastly, thirty-one participants (70.5%) assist students with concentration and focus issues, and thirteen (29.5%) do not. Of the 31 that assist students with concentration and focus, the most common practices included a) realistic and achievable focus strategies (32.26%), b) mental health strategies (25.81%), c) creating to-do lists (9.68%), d) time management strategies (45.16%), e) tailor environment (12.9%), f) identification and minimization of distractions (25.81%) and some reported that g) this varies based on the student (9.68%). See Table 8 for frequencies and Table 15 for concentration and focus themes.

Board Preparation. Thirty-four (77.3%) of the participants assist students with USMLE Step 1 preparation and ten (22.7%) do not. Of the 34 who help students prepare for Step 1, the most common practices include a) monitor progress throughout (47.06%), b) create Step 1 study schedules (55.88%), c) assist with registration (11.76%), d) put on presentations, workshops or panels about preparation (38.24%), e) discuss and explore resources (32.35%), f) discuss and explore preparation strategies (29.41%), g) discuss issues that arise (17.65%) and h) meet with students throughout preparation (52.94%). See Table 16 for frequencies and Table 17 for Step 1 preparation themes.

Twenty-seven (61.4%) assist students with USMLE Step 2 CK preparation and seventeen do not. Of the 17 that help students prepare for Step 2 CK, the most common practices include a) monitor progress throughout (29.63%), b) create Step 2CK study schedules (66.67%), c) put on presentations, panels or workshops about preparation (18.25%), d) discuss and explore resources (25.93%), e) discuss and explore preparation

strategies (25.93%), f) discuss issues that arise (14.81%), and g) meet with students throughout preparation (51.85%). See Table 16 for frequencies and Table 18 for Step 2CK preparation themes.

Eight (18.2%) assist students with USMLE Step 3 preparation, thirty-five (79.5%) do not and one (2.3%) did not respond. Of the 8 who help students prepare for Step 3, the most common practices include meet with students who are struggling or have failed (50%) and assistance varies based on student needs (50%). See Table 16 for frequencies and Table 19 for Step 3 preparation themes.

Other. Forty (90.9%) participants monitor student performance on coursework and exams, where four (9.1%) do not. Twenty-six (59.1%) help students if they are having issues with a faculty member, eighteen (40.9%) do not. Thirty (68.2%) assist students with the transition to medical school prior to their first day, and fourteen (31.8%) do not. Thirty-nine (88.6%) participants discuss personal issues not related to academics with students, four (9.1%) do not and one (2.3%) did not respond. Eighteen (40.9%) discuss psychiatric or neurological test results with students regarding learning disabilities and twenty-six (59.1%) do not. Forty (90.9%) give group presentations on general academic advising concerns and four (9.1%) do not. See Table 20.

Participants were also able to write in any other job roles that they perform that were not asked about. The responses to that question included a) disability services (16.67%), b) plan and participate in student events (23.34%), c) serve on committees (30%), d) work with struggling, delayed or remediating students (30%), e) administrative duties (30%), f) monitor progress (10%), g) oversee or supervise others (20%), h) other

Step exam related duties (6.67%), i) tutor programs (33.34%), j) data tracking (6.67%), k) LCME (6.67%) and l) scheduling (6.67%). See Table 21.

Job Challenges

Participants were asked about the most common challenges they face working with medical students. This question was open-ended, and themes were pulled from the responses. Those themes include a) non-academic challenges (15.79%), b) overwhelmed and high workload (13.16%), c) mental health difficulties (31.58%), d) academic failures (7.89%), e) lack of necessary skills (21.05%), f) financial difficulties (5.26%), g) social comparison (5.26%), h) scheduling difficulties (21.05%), i) perfectionism and unrealistic expectations (23.68%) and j) stigma or unwillingness to get help (28.95%). See Table 22.

Participants were then asked to describe the most common challenges they face as a professional in the field. The themes pulled from those responses include a) ack of representation or support from faculty (27.03%), b) lack of staff (37.84%), c) difficult workload (24.32%), d) effects of job on advisor (10.81%), e) misunderstanding of office roles (8.11%), f) financial difficulties (10.81%), g) racism (5.41%), h) lack of professional development (35.14%), i) lack of time (16.22%), j) lack of buy-in from students (5.41%), k) lack of resources (10.81%) and l) lack of input and policy issues (16.22%). See Table 23.

Chapter 5

Discussion

The primary aims of this chapter are to discuss the findings revealed in chapter 4 regarding 1) job preparedness, 2) job roles and 3) job challenges of academic advisors in United States medical schools. Of the short answer responses, only the most prevalent responses will be discussed.

Job Preparedness

Educational Level and Field

In this study, 4.5% of the participants have a bachelor's degree, 43.2% have a master's degree, 40.9% have a doctorate, and 11.4% medical doctorate. Of the degrees held by the participants, the most common education fields include education (25%), medicine (11.4%), higher education administration (9.1%), educational psychology (6.8%), and higher education (4.5%). Including the before mentioned, there were twenty-five unique fields of study that medical school academic advisors received. These results can be compared to 36.4% of participants having a master's degree in education, 14.5% having a doctorate in education, 43.6% having a doctorate in another field and 25.5% having a medical doctorate degree in the 2004 study by Saks & Karl. In the current study, education was still the most popular educational field that participants received their degree in, however, more participants in the Saks & Karl (2004) study have doctorates compared to the current sample. This could be due to the fact that traditional advising was performed mostly by teaching faculty that did advising on the side, rather than the current climate where a majority of advisors are specifically hired to advise rather than to teach and advise (Saks & Karl, 2004).

Training in Academic Advising and Adult Learning Principles

Some of the participants had specific training in academic advising. Participants were able to select multiple modes of training that they received. That training included 61.4% were trained by mentor, 52.3% used previous education and 17.9% used a written manual. DeVoe (2016) stated that training in adult learning principles as well as having teaching experience was essential to advisors. Some participants in this sample did have previous training in adult learning principles. This training included previous education (61.4%), training by a mentor (36.4%), no training (13.6%), and use of a written manual (4.5%). These numbers have increased greatly since Saks & Karl reported that only 21.8% of their participants were trained in adult learning principles in 2004. Surprisingly, most participants (77.3% for academic advising and 54.5% for adult learning principles) in this study reported that the training they received for their position was mostly self-taught. This is congruent with the findings from Vaughn & Smith (2018), where 61% of the academic advisors surveyed were self-taught. Conversely, a majority of participants (61.4%) in this study reported that previous education was a factor of their training, where only 19% of participants in the Vaughn & Smith (2018) study recognized that as part of their training. The number of advisors that reported being self-taught in both academic advising and adult learning principles was surprising, especially due to the fact that DeVoe (2016) stated training was essential for advisors. There could possibly be a lack of training courses, manuals or mentors available to advisors, which could definitely play a factor in the lack of professional development advisors face, which will be explained later.

Previous Experience

In this study, 34.1% of participants worked with medical students in a prior position, and 65.9% did not work with medical students. However, 77.3% of participants did work with college level students previously, and 22.7% did not. Vaughn & Smith (2018) described that previous experience working with students made academic advisors feel more prepared when it came to fulfilling their job roles in their work. The number of advisors reporting experience with college level students in this study is much higher than the 32.7% that Saks & Karl (2004) reported previously.

Job Roles

Job roles varied in this study. The various roles included basic job roles (what years support was provided for, contacting struggling students, referrals to meet and referrals for outside resources), meeting set-up, learning and study strategies, board exam preparation and there was also a section for other roles that did not fit into one of the previous categories. Basic advisor roles encompass the simpler duties of advisors such as, if they follow written job roles, if they teach as well as advise, what years they provide support for and how they connect with students. Meeting set-up refers more specifically about how they connect with students. This is more about methods of connection such as email, phone call and scheduling tools. Learning and study strategies encompasses the very specific strategies that advisors would help students with. This refers to the specific learning strategies, test-taking strategies, time management strategies, etc. are provided to the student by the advisor. Because these questions in the survey were open-ended, advisors could describe in detail the specific tools and strategies they use with their students. From their responses, a list of the most common strategies provided by

academic advisors could be created. The same technique to find common themes was used for their roles in USMLE board preparation as well as other roles performed.

Basic Advisor Roles

Written Job Descriptions. The vast majority of participants (77.3%) had written job descriptions. Written job roles provide a framework of duties and expectations for academic advisors that can help guide their practice. The job description from UW Human Resources (2019) serves as a prime example of a list of job roles that are expected to be followed by a person in this position. Similarly to the results of this study, they grouped those job roles into three main categories including 1) direct and provide academic support services, 2) program management, supervision, consultation and coordination of services, and 3) academic support services financial management and special projects (UW Human Resources, 2019).

Positions Held by Advisors. Advisors were also asked about other positions they may hold within the medical school. A majority of the participants in this study serve only as advisors (63.6%), while 36.4% hold teaching positions alongside their advisor roles. These numbers are similar to the Saks & Karl (2004) study that reported 67.3% of their participants were hired as designated staff to provide academic support. Advisors that also teach have to balance this difficult workload of advising with the workload of teaching as well. This can place added stress on the advisor as well as create more professional challenges for them. There are no specific studies that emphasize the downside to teaching and advising, but the unique challenges of holding both positions should be considered, especially when analyzing the most common professional challenges that advisors face.

Support Provided. Next, it was important to discover what years of medical that academic support was provided for. In this study 97.7% of advisors provided support for first-year students, 95.5% support second-year students, and 84.1% provide support for both third- and fourth-year students. These numbers have risen since the Saks & Karl (2004) study where they reported that 95.3% of medical schools provided academic support to students in both the first and second years, 82.6% provided support in the third year and 79% for fourth year students.

Connecting with Students. Almost all of the advisors (93.2%) reported reaching out directly to students who they perceive are struggling or at-risk of failing. Unsurprisingly, 100% of the participants reported that students are able to contact them directly whenever they perceive that they are struggling, or simply want to connect. All of the participants (100%) also reported that they refer students to outside resources when necessary. Difficulties in finding counseling services, navigating financial aid, connecting with disability services and more are some of the issues that advisors may discuss with students. Being able to connect students with other resources is crucial for their academic or personal success. These numbers solidify the importance of proactive advising discussed earlier. Early interventions with struggling medical students along with the availability to meet with students can help advisors minimize the challenges faced by students. Advisors can intervene with these students and teach them strategies to overcome their challenges and ultimately teach them how to deal with adverse situations before they get out of control (Cleland et al., 2005; Tan, 2011).

Meeting Set-Up

The literature varied on how academic advisors set up meetings with students, and no study specifically asked what method or tool they used to schedule meetings. Some studies show students met with advisors only twice a year (Tan, 2011), others show that students only met with advisors when referrals were made (Delaram & Hosseini, 2014) while some institutions automatically placed students into advising groups (McBeth et al., 2000). The majority of academic advisors in this study reported that they meet with students both individually and in groups (81.8%). More specifically, in order to set up those meetings, 97.7% use email, 72.7% use phone calls and 56.8% use an online scheduling tool to set up meetings. These results seemed to vary due to personal preference on the advisor's part and based off procedures specific to their institution.

Career Advising

Career advising duties were not as prominent in this group of advisors possibly due to the fact that 90.9% of participants said there are specific career advisors at their institution. Only 45.5% of the participants reported assisting students with career exploration. More specifically, 68.2% assist students with shelf exams and 40.9% assist students with clinical difficulties. During the students' fourth year, 56.8% of advisors help prepare residency applications and 47.7% help with residency interviews.

The previous literature surrounding job roles of advisors included a substantial amount of career focused work. This is much different than the response of the participants in the current study. McClellan (2005) said that one of the most common reasons advisors met with students was to decide on a career. Similarly, Steele (2018) reported that advisors helped students formulate well-grounded career plans. Sastre et al. (2010) and Macaulay (2007) identified that academic advisors helped with career

development specifically. While none of the studies discussed having specific career advisors, there could have been some overlap between the two types of advisors. The academic advisors in these studies may have been helping students develop their career by helping them academically or mentally, which is reported as career development, but may not be specific help with career choices, paths, preparation and clinical skills.

Learning and Study Strategies

Learning Strategies. Teaching learning strategies and academic skills was a prominent attribute of academic advisors in the previous literature. Meaningful skills advisors can provide for the student include cognitive skills, decision-making skills and thinking and learning skills (Drake, 2011). DeVoe (2016) further explains that "learning and study techniques aligned with current cognitive science are not usually the way most students learned or studied prior to medical school." Development of these skills is not automatic and start with an early reflection of their current methods, and integration of new methods in order to build their capacity for applied knowledge and understanding (DeVoe, 2016).

Learning strategies are taught by 81.8% of the participants in the sample. When asked to explain the specific strategies used to teach learning strategies, the most common (66.66%) were the six learning science strategies suggested by Deans for Impact (2015). The Learning Scientists are cognitive psychologists researching education with a focus in learning effectiveness (The Learning Scientists, 2021). The six learning science strategies explained by the Learning Scientists (2021) include retrieval practice (self-quizzing and testing), spaced practice (distributed studying opposed to massed), elaboration (teaching and explaining concepts), concrete examples (connecting material

to real world examples), interleaving (mixing up topics that are studied in one session) and dual coding (connecting words with pictures). Given that two-thirds of the sample of academic advisors utilized one or more of the learning science strategies (Deans for Impact, 2015) leads one to conclude this is not only a common practice among medical school academic advisors but a useful one as well.

In terms of the distribution of the other learning strategies, 35 percent of the sample reported delivering active learning strategies such as time management strategies (19.44%). The category of 'other learning strategies' included skills like "power hour", a flashcard-based activity, "previewing" and "integration", "identifying gaps" and "incorporating outside learning/prep resources." The 'active learning strategies' category included responses like "principles from "Make it Stick,"" "active learning strategies of all types" and "active learning strategies like practice questions." The book, "Make it Stick" by Peter Brown offers concrete techniques for becoming a more productive learner drawing on memory, retention, and other skills like self-testing (Brown, 2014). The 'time management strategies' category included responses such as "frequent short breaks," pomodoro method," and "handle despised info or tasks in small daily bites so it's less painful and gets addressed." Refer to Table 9 and see Figure 1 below for the complete inductive content analysis showing emergent themes beyond the quote level and summarized results.

Figure 1

Most Common Learning Strategies

Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Test Taking Strategies. In DeVoe's (2016) recommendations from a learning specialist, it was stated that learning specialists should not only understand the content, but that they should also have experience in study processes and testing skills. Test taking strategies are taught by 79.5% of the advisors. Of the strategies listed by the participants the most common were timing strategies (40%), approaching questions (37.14%), read the last sentence first (28.57%), exam preparation strategies (25.71%) and mental strategies (22.86%). Refer to Table 10 and Figure 2 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results. Under the category of 'timing strategies' participants listed a number of techniques including, "allocating time," "time management during the exam," and "divide & conquer-time/items=average time per q." In the 'approaching questions' category, the participants described techniques like "deconstructing question stems," "process of elimination," "treat each question like a new patient," and "taking a mechanical/assembly line approach (not lingering too long or attaching emotion to questions)." Another common strategy explained by the participants was 'reading the last sentence first.' An example of this method is, "going to the end of a question stem to see what it's asking before looking at answer choices, then going to beginning of question to gather evidence." 'Exam preparation strategies' included techniques like "building stamina," "practice questions in test mode," and "methods for answering multiple choice questions." The category 'mental strategies' included techniques like "mindfulness," "breathing exercises," and "meditation."

Test Anxiety Strategies. Assistance with test anxiety was provided by 77.3% of the advisors. Of the strategies listed by participants the most common were a) reactive

anxiety techniques (52.94%), b) referrals to professional help (41.18%) c) mindfulness and meditation (26.47%) and d) strategies for approaching questions (20.59%). Refer to Table 11 and Figure 3 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results.

Anxiety, in general, is important to discuss as it has been shown to have a detrimental impact on academic performance (Chapell et al., 2005). It may be especially important in medical school settings due to higher stakes and higher expectations for students in this cohort. Indeed, Sastre and colleagues (2010) identified medical students as facing significantly higher levels of anxiety than an age-matched sample of college students. In some cases, advisors may not be well equipped to help students overcome anxiety. For example, Knox et al. (2006) explained that an advisor in their study felt ineffective in addressing their advisee's intense anxiety. In this case a referral to another resource like mental health counseling would be appropriate, which 100% of the participants in this study reported that they do. The most common technique by academic advisors was providing their students with reactive anxiety techniques. Reactive techniques are things that students can do when they are in the moment and they are currently feeling the anxiety, as opposed to proactive techniques that they could do to prevent anxiety from occurring in the first place. Common reactive techniques included grounding (the 5-4-3-2-1 method to help your brain recognize where you are (Smith, 2018)), breathing techniques, muscle relaxation, desensitization and more. Referrals to professional help were also common among the advisors and included services like counseling services, disability resource center and primary care doctors. Under the category 'strategies for approaching questions,' one of the techniques described by a

participant was “rather than think of each question as an exam question, they can think of each question as a real patient-this can help some students that are more patient drawn.”

Time Management Strategies. Malau-Aduli et al. (2020) identified that poor time management was one of the reasons that medical students faced academic difficulties. One of their recommendations to overcome poor time management was to provide structural support in order to manage workload as well as self-regulation skills (Malau-Aduli et al., 2020).

In this study, time management strategies are explained to students by 84.1% of the participants. Of the strategies listed by participants the most common were create and plan schedules (56.76%), pomodoro method (29.73%) and current task analysis strategies (27.03%). Refer to Table 12 and Figure 4 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results. The Pomodoro method is used to improve productivity by allowing a different way of seeing time, better use of the mind and concentrating efforts on the activities you want to accomplish (Cirillo, 2006). The method includes breaking up tasks in uninterrupted chunks of time (e.g. 25 minutes) and then taking a break for 3-5 minutes (Cirillo, 2006). The participants also listed ‘current task analysis strategies’ as a method for time management. Those strategies included things such as, “discuss most productive time(s) of day for certain tasks,” “review how time is currently being used (learning time, social time, wellness, etc.)”, and “walk them through the process of plotting out how they’re currently spending their time and have them analyze where they’re spending too much or not enough.”

Goal Setting Strategies. Tan (2011) explained that one essential function of academic advisors was to assist students in developing plans consistent wither their goals,

as well as evaluate student progress towards those goals. Assistance with goal setting was provided by 72.7% of the participants in this study. Of the strategies listed by participants the most common were strategies for how to achieve goals (28.13%), use of SMART goals (18.75%) and utilization of resources or people for goal accountability (15.63%). Refer to Table 13 and Figure 5 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results. The category 'strategies for how to achieve goals' was broken into two subcategories including breaking down goals and strategies for achieving goals. In the breaking down goals section participants described working with students to determine "how to set big and small goals", "breaking them down into attainable steps", and "mini goal setting and backwards planning". In the strategies for achieving goals subcategory, participants described "creating visuals for success," "building resilience," and "building in rewards." The use of SMART goals was also popular amongst the advisors. Lawlor & Hornyak (2012) define the acronym SMART as specific (define exactly what is being pursued), measurable (is there a number to track completion), attainable (can the goal be achieved), realistic (doable from a business perspective) and timely (can it be completed in a reasonable amount of time). Lastly, the category 'utilizing resources or people for accountability' included strategies like "encouraging them to reach out to their resources and referring them as appropriate," and "I act as their accountability coach and meet with them to create goals and provide discussion about what goals are met and why and what goals failed and why to enable them to be self-critical."

Organizational Strategies. Malau-Aduli et al. (2020) found that students wanted structural support to manage their workload. The students in the Malau-Aduli et al.

(2020) study felt overwhelmed by the workload and wanted methods to help them adapt to their learning environment. One of the ways advisors could help students achieve this is by introducing organizational skills. In this study, 72.7% of participants reported that they assist with organizational skills. Of the strategies listed by participants the most common were utilizing organizational resources (31.25%) and create schedules and lists (21.88%). Refer to Table 14 and Figure 6 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results. The category 'utilizing organizational resources' included strategies like "systems for keeping track of notes, content, areas of concern, etc." and "explore other resources that assist with organization (e.g. scheduling tools)." Under the 'create lists and schedules' category, strategies included "review use of calendar/scheduling," "help them create schedules," and "maintaining a planner."

Concentration and Focus Strategies. Concentration and focus are included in the comprehensive academic support program that really focus on what specific services would best suit the students' needs. In this case if concentration and focus are the root of other problems, an assessment of disability identification, counseling, or other skills may be necessary (DeVoe, 2016). In the current study, 70.5% of participants assisted students with concentration issues. Of the strategies listed by participants the most common were time management strategies (25.81%), realistic and achievable focus strategies (32.26%), mental health strategies (25.81%) and identification/minimization of distractions (25.81%). Refer to Table 15 and Figure 7 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results. Under 'time management strategies' the responses were divided into two categories, Pomodoro

method and break time. Again, the Pomodoro method is a strategy to divide tasks into chunks of uninterrupted time followed by break time. The category 'realistic and achievable focus strategies' was divided into five sub-categories. Those included allocation of time ("which time of the day they have more attention/focus"), focus strategies ("train their brain to laser focus in on something because there's only limited time to do so before moving on"), goal setting ("creating short focus goals for each hour of study"), rewarding behavior ("build in rewards after study blocks") and study strategies ("mixing up topics and study methods"). 'Mental health strategies' included mindfulness techniques and the use of mental health services. Under the category 'identification/minimization of distractions' participants described strategies such as "put phone away, close other apps while studying," "minimize distractions (app/website blocker)" and "I discuss study environments and distractors with them so they can tailor the appropriate environment for their success."

Board Preparation

USMLE Step 1 Assistance. The United States Medical Licensing Examination is a three-step examination for medical licensure in the United States and it assesses a physician's ability to apply knowledge, concepts and principles that constitute the basis of safe and effective patient care (USMLE, 2021). The reason that the USMLE exams were included in this study is due to their growing importance over the past few years. Gauer & Jackson (2018) explain that Step 1 scores are a critical indicator of medical school success and all USMLE scores are considered during the selection of applicants for residency programs. In this study, 77.3% of the advisors assist students with Step 1 preparation. Of the strategies listed by participants the most common were a) create step

1 schedules (55.88%), b) meet with students throughout (52.94%), c) monitor progress (47.06%), d) put on presentations (38.24%) and e) discuss and explore resources (32.35%). Refer to Table 17 and Figure 8 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results.

USMLE Step 2CK Assistance. In regard to Step 2CK preparation, 61.4% of advisors reported that they assist students in preparing for the exam. Of the strategies listed by participants the most common were a) create step 2CK schedules (66.67%), meet with students throughout (51.85%), b) monitor progress (29.63%), c) discuss and explore resources (25.93%) and d) discuss and explore prep strategies (25.93%). Refer to Table 18 and Figure 9 for complete process and summarized results.

USMLE Step 3 Assistance. Noticeably less of the participants helped students prepare with Step 3. Only 18.2% of the participants reported that they assisted students with Step 3 prep. Of the strategies listed by participants the most common were meet with students struggling or failed (50%) and assistance varies based on student needs (50%). Refer to Table 19 and Figure 10 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results.

Other

One of the other responsibilities for 90.9% of participants was monitoring student performance. This is congruent with Tekian et al. (2001) where they reported that advisors were specifically assigned by the institution to monitor progress. Another unique role for 59.1% of participants was the duty of helping students that had issues with a faculty member. McClellan (2005) notes that milder forms of conflict that an advisor assists with may be difficulty completing an assignment, interacting with instructors and

interacting with the academic bureaucracy as a whole. Some advisors, 68.2% of them, even reported helping students transition to this new educational climate prior to the first day of medical school. Typical first-year college problems are magnified in medical school due to accelerated nature of the degree as well as adapting to new academic environment, new rules, and meeting new people (McBeth et al., 2000). Some previous studies mentioned that advisors reported helping students with non-academic personal problems (McBeth et al., 2000; DeVoe, 2016; Vaughn & Smith, 2018; Masengeni, 2019). This can include personal challenges or stressors that may be contributing to academic difficulty (DeVoe, 2016). 88.6% discuss personal issues not related to academics. DeVoe (2016) also states the importance of disability identification in order to best serve student needs. In this study, less than half (40.9%) of the advisors discuss psychiatric results and learning disabilities. Refer to Table 20 for full responses.

Of the other strategies listed by participants the most common were a) tutor program (33.34%), b) administrative duties (30%), c) work with struggling or delayed students (30%), d) serve on committees (30%) and e) plan and participate in student events (23.34%). Refer to Table 21 and Figure 11 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results.

Job Challenges

Challenges Working with Students

The most common challenges working with medical students included a) mental health difficulties (31.58%), b) stigma/unwillingness to get help (28.95%), c) perfectionism or unrealistic expectations (23.68%), d) scheduling difficulties (21.05%) and e) lack of necessary skills (21.05%). Refer to Table 22 and Figure 12 for complete

inductive content analysis showing emergent themes beyond the quote level and summarized results. As discussed before, Sastre et al. (2010) reported that there were significantly higher levels of depression, anxiety and suicidal ideation among medical students compared to the general age-matched population. They are also at higher risk for burnout, emotional exhaustion and low sense of accomplishment (Sastre et al., 2010). Malau-Aduli et al. (2020) found that a possible cause for this stress and elevated mental health problems could be due to the fact that students lack the necessary skills for studying, and learning. DeVoe (2016) touched on the need to address the reality of stigma attached to the need for academic assistance. Students who are struggling often find it very difficult to ask for help. Fear of failure and imposter syndrome can occur when students with lower self-efficacy attain lower scores on exams, which may compromise their ability to change their habits (DeVoe, 2016). Similarly to the Vaughn & Smith (2018) study was scheduling difficulties and availability as well as stress and lack of academic preparation.

Professional Challenges

The most common professional challenges faced were a) lack of staff (37.84%), b) lack of professional development (35.14%), c) lack of representation or support from faculty (27.03%) and d) difficult workload (24.32%). Refer to Table 23 and Figure 13 for complete inductive content analysis showing emergent themes beyond the quote level and summarized results.

DeVoe (2016) emphasized the need to integrate academic support within the whole medical school curriculum. This includes a necessary buy-in from medical school faculty and relevant staff. Together faculty, staff, administrators and advisors can work

together to create a comprehensive support program for their students (DeVoe, 2016). Khali & Williamson (2014) explain that advising is labor intensive because in most situations sessions usually take one hour per student. When advisors work with large numbers of students, the needs of many students are not met due to the systems failure to provide adequate services to the students (Khali & Williamson, 2014). Another challenge that academic advisors face, partly due to the limited time they have is lack of professional development, or limited time to read articles, published materials and to stay current in the field (Khali & Williamson, 2014).

Limitations

Limitations for this study included: 1) limited sample size, 2) self-report data, 3) and the inherent problems qualitative research presents with researcher bias

The sample size for the study is small and limits the ability to generalize findings across the entire population of medical school academic advisors. Out of 278 advisors contacted, only 44 responded to the survey, producing a 15.8% response rate.

Any type of self-report data has a potential to be biased. Participants may inaccurately report responses, try to please the researcher by answering questions in a specific way or exaggerate their answers. The open-ended nature of most of the questions allowed the respondents to go into much more detail and further explain themselves.

The strategy to identify themes was iterative and required reading responses to each question multiple times and then grouping them into categories and themes until the themes could no longer be combined. Even though attempts were made to limit the amount of bias (by having another researcher review these procedures to make sure there

were no obvious errors), this process could be subject to researcher bias or misunderstanding (Smith & Noble, 2014).

Future Research Recommendations

The results of this study have provided a more detailed look into the most common practices, roles, challenges and preparation methods of academic advisors in United States medical schools. While these findings are of interest to current practitioners, it would also be helpful to know which of these strategies/tools/methods produced the best results in students. For example, which of the learning strategies and test-taking strategies listed by advisors are the most useful and effective in students' academic performance? It would also be helpful to know if certain techniques work better for the various subpopulations of students: whether that be from different ethnic groups, differing age groups, gender, and/or whether the student is in academic peril. Further, the findings in this study come from a sample of practitioners – and not students. Another fruitful area for future research could be studies aimed at assessing the student's perspective and opinion on these strategies.

Conclusion

The purpose of this study was threefold: 1) to understand the most common job roles among academic advisors in medical schools and determine most common practices from these advisors, 2) to determine what educational or specific advising training prepared or did not prepare them for their roles, and 3) to assess the most common challenges that academic advisors face when helping medical students during their educational career. No recent research has explored these specific aspects for medical school academic advisors, the most recent study that explores some of them being

seventeen years old (Saks & Karl, 2004). The current study is the first to take a deep dive into the detailed practices and strategies that advisors utilize when working with students.

The results of this study emphasize a field of varying titles, responsibilities, and backgrounds. The job titles alone yielded thirty-five unique titles from only forty-four participants total, highlighting some inconsistency in academic support across the United States. However, a majority of academic advisors did report helping students with learning and study strategies, test taking strategies and test anxiety, organizational skills, focus and USMLE board preparation. Depending on the advisor and the academic support program they ran, some help many other roles like teaching courses, running tutoring and disability service programs, serving on committees and fulfilling other administrative duties. Regardless of the limitations of this study, the results provided a unique lens to view the varying academic support available to medical students across the country, as well as provided a list of most common practices and strategies used to support those students.

References

AAMC. (2020). *AAMC Medical School Members*. https://members.aamc.org/eweb/DynamicPage.aspx?site=AAMC&webcode=AAMCOrgSearchResult&orgtype=Medical%20School

Aiken-Wisniewski, S. A., Smith, J. S., & Troxel, W. G. (2010). Expanding research in academic advising: Methodological strategies to engage advisors in research. *NACADA Journal, 30*(1), 4-13.

Belcheir, M. J. (1999). Student satisfaction and academic advising. *ERIC Clearinghouse,* 2-22.

Bloom, J. L., Propst Cuevas, A. E., Hall, J. W., & Evans, C. V. (2007). Graduate students' perceptions of outstanding graduate advisor characteristics. *NACADA Journal, 27*(2), 28-35.

Braun, J., & Zolfagharian, M. (2016). Student participation in academic advising: Propensity, behavior, attribution and satisfaction. *Research in Higher Education, 57*, 968-989.

Brown, P. C. (2014). *Make It Stick: The Science of Successful Learning*. Harvard University Press.

Chapell, M. S., Blanding, Z. B., Silverstein, M. E., Takahashi, M., Newman, B., Gubi, A., & McCann, N. (2005). Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology*, *97*(2), 268–274. https://doi.org/10.1037/0022-0663.97.2.268

Cirillo, F. (2006, October 19). *The pomodoro technique.* Baomee. http://www.baomee.info/pdf/technique/1.pdf

Cleland, J., Arnold, R., & Chesser, A. (2005). Failing finals is often a surprise for the student but not the teacher: Identifying difficulties and supporting students with academic difficulties. *Medical Teacher, 27*(6), 504-508.

Coursey, E. (2018, November 26). *What does your job title say about you?* iHire. https://www.ihire.com/careeradvice/pages/what-does-your-job-title-say-about-you

Deans for Impact (2015). *The science of learning.* Deans for Impact. http://www.deansforimpact.org/wp-content/uploads/2016/12/The_Science_of_Learning.pdf

Delaram, M., & Hosseini, S. (2014). Comparison of the students' satisfaction about the performance of academic advisors before and after the advisor project in Shahrekord university of medical sciences. *Journal of Advances in Medical Education & Professionalism, 2*(1), 6-11.

DeVoe, P. A. (2016). A learning specialist's tips for coordinating a medical school academic support program. *MedEd Publish*, 11-16.

Drake, J. K. (2011). The role of academic advising in student retention and persistence. *About Campus*, 8-12.

Gaston-Gayles, J. L. (2003). Advising student athletes: An examination of academic support programs with high graduation rates. *NACADA Journal, 23*, 50-57.

Gauer, J., & Jackson, J. B. (2018). Relationships of demographic variables to USMLE physician licensing exam scores: A statistical analysis on five years of medical student data. *Advances in Medical Education and Practice, 9,* 39-44. doi:10.2147/amep.s152684

Himes, H. A. (2014). Strengthening academic advising by developing a normative theory. *NACADA Journal, 34*(1), 5-15.

Joslin, J. E. (2018). The case for strategic academic advising management. *New Directions for Higher Education*, 11-20.

Khali, A., & Williamson, J. (2014). Role of academic advisors in the success of engineering students. *Universal Journal of Educational Research, 2*(1), 73-79. doi:10.13189/ujer.2014.020109

Knox, S., Schlosser, L. Z., Pruitt, N., & Hill, C. E. (2006). A qualitative examination of graduate advising relationships: The advisor perspective. *The Counseling Psychologist, 34*(4), 1-30.

Lawlor, K. B., & Hornyak, M. J. (2012). SMART Goals: How the application of SMART goals can contribute to achievement of student learning outcomes. *Developments in Business Simulation and Experiential Learning, 39*, 259-267.

LCME. (2020). *LCME Accreditation*. LCME. https://www.aamc.org/services/first-for-financial-aid-officers/lcme-accreditation

Macaulay, W., Mellman, L. A., Quest, D. O., Nichols, G. L., Haddad Jr., J., & Puchner, P. J. (2007). The advisory dean program: A personalized approach to academic and career advising for medical students. *Academic Medicine, 82*(7), 718-722.

Malau-Aduli, B. S., Ray, R. A., O'Connor, T., van derKruk, Y., Alele, F. O., & Bellingan, M. (2020). Dealing with academic difficulty in medical school: A pilot study. *Education Sciences, 10*(83), 1-8.

Masengeni, M. (2019). Building trust between academic advisers and students in the academic advising centre at a private higher education institution. *Educor Multidisciplinary Journal, 3*(1), 153-172.

McBeth, D. L., Richardson, S. M., Cregler, L. L., & Meyer, J. (2000). Combining academic advising with a freshman orientation course in an integrated baccalaureate-medical degree program: Evaluation of the system. *NACADA Journal, 20*(2), 16-20.

McClellan, J. L. (2005). Increasing advisor effectiveness by understanding conflict and conflict resolution. *NACADA Journal, 25*(2), 57-64.

Musser, T., & Yoder, F. (2019). *NACADA Clearing House*. NACADA. https://nacada.ksu.edu/Resources/Clearinghouse/Search-Results.aspx?sb-search=social+constructivism+advising+theory&sb-bhvr=19&sb-logid=194615-uq168xl2an5q1wad

NACADA. (2017). *NACADA core values of academic advising*. The Global Community for Academic Advising. https://nacada.ksu.edu/Resources/Pillars/CoreValues.aspx

Saks, N. S., & Karl, S. (2004). Academic support services in U.S. and Canadian medical schools. *Medical Education Online, 9*(1), 1-5.

Sastre, E. A., Burke, E. E., Silverstein, E., Kupperman, A., Rymer, J. A., Davidson, M. A., Rodgers, S. M., & Fleming, A. E. (2010). Improvements in medical school wellness and career counseling: A comparison of one-on-one advising to an advisory college program. *Medical Teacher, 32*(10), 429-435.

Scanlan, T. K., Stein, G. L., Ravizza, K. (1989) An in-depth study of former elite figure skaters: II. Sources of enjoyment. *Journal of Sport & Exercise Psychology*, 65-83.

Segal, S. S., Giordani, B., Gillum, L. H., & Johnson, N. (1999). The academic support program at the university of Michigan school of medicine. *Academic Medicine, 74*(4), 383-385.

Shamsdin, A., & Doroudchi, M. (2012). Student evaluation of the academic advisng process in an Iranian medical school. *International Journal of Medical Education, 3*(17), 17-20.

Smith, S. (2018). *5-4-3-2-1 Coping Technique for Anxiety*. University of Rochester Medical Center. https://www.urmc.rochester.edu/behavioral-health-partners/bhp-blog/april-2018/5-4-3-2-1-coping-technique-for-anxiety.aspx

Smith, J., & Noble, H. (2014). Bias in Research. *Evidence Based Nursing*, *17*(4), 100–101. https://doi.org/10.1136/eb-2014-101946

Steele, G. E. (2018). Student success: Academic advising, student learning data, and technology. *New Directions for Higher Education*, 59-68.

The Learning Scientists. (2021, May 20). *Six strategies for effective learning.* The Learning Scientists. https://www.learningscientists.org/

Tan, C. P. (2011). What academic advisors need to provide bettwe student support-lessons from a Malaysian medical school. *African Journal of Health Professions Education*, 80-109.

Tekian, A., Jalovecky, M. J., & Hruska, L. (2001). The impact of mentoring and advising at-risk underrepresented minority students on medical school performance. *Academic Medicine, 76*(12), 1264.

United States Medical Licensing Examination. (2021). *Step examinations.* USMLE. https://www.usmle.org/

UW Human Resources. (2019). *Academic Jobs.* https://ap.washington.edu/ahr/academic-jobs/?unit_id=19160

Vaughn, A., & Smith, J. (2018). Advising student-athletes: Understanding job preparation, roles, and challenges of the athletic academic advisor. *Sport Journal*, 1-17.

White, E., & Schulenberg, J. (2012). Academic advising- A focus on learning. *About Campus*, *16*(6), 11-17.

Table 1

Demographics		Frequency (N=44)	Percentage
Number of Years in Position	Average	4.8 years (3.9 SD)	n/a
	Range	Less than 6 months- 17 years	n/a
Gender	Male	6	13.6%
	Female	37	84.1
	Prefer not to say	1	2.3%
Race	White	32	72.7%
	Black	7	15.9%
	Asian	2	4.5%
	American Indian/Alaskan Native	1	2.3%
	Hispanic Latino	1	2.3%
	Prefer not to say	1	2.3%
Ethnicity	Hispanic/Latino/Spanish Origin	4	9.1%
	Not Hispanic/Latino/ Spanish Origin	40	90.9%
Age	Average	44.2 years (10.8 SD)	n/a
	Range	28-68 years	n/a
	Prefer not to say	1	2.3%

Note: Demographic information on the 44 participants in the sample.

Table 2

Job Title	Frequency (N=44)	Percentage
Learning Specialist	4	9.1%
Associate Dean for Student Affairs	3	6.8%
Academic Support Specialist	2	4.5%
Director	2	4.5%
Academic Advisor	2	4.5%
Medical Education Learning Specialist	1	2.3%
Assistant Director of Student Academic Support Services and Inclusion	1	2.3%
Director of Academic Support Services	1	2.3%
Director Academic Success and Learning Specialist	1	2.3%
Coordinator, Academic Support Services	1	2.3%
Associate Director Office of Student Learning/Educational Resource	1	2.3%
Professor	1	2.3%
Director, Academic Support Center	1	2.3%
Director Academic Success	1	2.3%
Education/Learning Specialist	1	2.3%
Academic Support	1	2.3%
Advising Dean	1	2.3%
Director of Academic Advising and Support	1	2.3%
Education Program Coordinator/Learning Skills Specialist	1	2.3%
Learning Specialist/Academic Advisor	1	2.3%
Director of Student Support and Wellness	1	2.3%
Senior Advisor for Medical Education	1	2.3%
Director of Learning Skills	1	2.3%
Assistant Director Academic Support	1	2.3%
Learning Specialist/Academic Support/Career Counseling	1	2.3%
Lead Academic Advisor	1	2.3%
Director for Student Success	1	2.3%
Academic Advising Dean	1	2.3%
Director of Student Coaching	1	2.3%
Assistant Professor of Pediatrics	1	2.3%
Program Manager	1	2.3%
Student Affair Specialist	1	2.3%
Director Student Affairs	1	2.3%
Academic Counselor	1	2.3%
Academic Learning Specialist	1	2.3%

Note: The thirty-five unique job titles listed by the participants in this sample, including the frequency of each title.

Table 3

Educational Field	Frequency (N=44)	Percentage
Education	11	25%
Medicine	5	11.4%
Higher Education Administration	4	9.1%
Educational Psychology	3	6.8%
Higher Education	2	4.5%
Education, Adult Learning/Facilitation	1	2.3%
Conflict and Dispute Resolution	1	2.3%
Adult and Higher Education Student Personnel	1	2.3%
English	1	2.3%
Secondary Science	1	2.3%
Biochemistry and Molecular Biology	1	2.3%
Biomedical Sciences, Cellular and Molecular Biology	1	2.3%
English/Rhetoric	1	2.3%
Education Administration- Adult and Higher Ed	1	2.3%
Clinical Psychology and School Counseling	1	2.3%
Education/Counseling	1	2.3%
Health Science	1	2.3%
Developmental Psychology	1	2.3%
Rehabilitation Counseling	1	2.3%
Japanese Language	1	2.3%
Internal Medicine	1	2.3%
Cognition	1	2.3%
Counselor Education	1	2.3%
Counseling Psychology	1	2.3%
Sociology and Life Coaching	1	2.3%

Note: The twenty-five unique educational fields listed by the participants in this sample, including the frequency of each title.

Table 4

Job Preparedness		Frequency (N=44)	Percent
Education Level	Bachelor's Degree	2	4.5%
	Master's Degree	19	43.2%
	Doctorate Degree	18	40.9%
	Medical Doctorate	5	11.4%
Specific Training in Academic Advising	Self-Taught	34	77.3%
	Trained by Mentor	27	61.4%
	Previous Education	23	52.3%
	Written Manual	7	17.9%
	None	2	4.5%
	Previous Work Experience	1	2.3%
	Conferences/Formalized Training	1	2.3%
	Counselor Education Major	1	2.3%
	Current PhD candidate	1	2.3%
	Learned from Student Challenges	1	2.3%
	AAMC/LCME expectations	1	2.3%
	Previous high school teacher	1	2.3%
	Academic Advisor for Undergrad	1	2.3%
	On the job training	1	2.3%
Specific Training in Adult Learning	Previous Education	27	61.4%
	Self-Taught	24	54.5%
	Trained by Mentor	16	36.4%
	None	6	13.6%
	Written Manual	2	4.5%
	Conferences	1	2.3%
	Background in Disability/TBI Rehab	1	2.3%
	CTE Courses	1	2.3%
	Conducted Faculty Training	1	2.3%
Previous Experience with Medical Students	Yes	15	34.1%
	No	29	65.9%
Previous Experience with College Students	Yes	34	77.3%
	No	10	22.7%
Written Job Roles to Follow	Yes	34	77.3%
	No	10	22.7%
Teach & Advise or Advise Only	Teach and Advise	16	36.4%
	Advise Only	28	63.6%

Note: Job preparedness factors including education, training and previous and experience.

Table 5

Job Roles and Referrals		Frequency (N=44)	Percentage
What years of medical school do you provide support for?	First	43	97.7%
	Second	42	95.5%
	Third	37	84.1%
	Fourth	37	84.1%
Do you contact student who are struggling or at risk?	Yes	41	93.2%
	No	3	6.8%
Do students get referred to you when someone else perceives they are struggling?	Yes	43	97.7%
	No	1	2.3%
Can Students contact you directly when they believe they are struggling?	Yes	44	100%
	No	0	0%
Do you refer students to outside resources such as counseling services, disability resources, financial aid etc.?	Yes	44	100%
	No	0	0%

Note: Basic job roles performed by academic advisors.

Table 6

Meeting Set-Up		Frequency (N=44)	Percentage
Do you meet with students…	Both Individually and Group	36	81.8%
	Individually	6	13.6%
	It depends	2	4.5%
To set up a meeting, do you use…	Email Correspondence	43	97.7%
	Phone Call	32	72.7%
	Scheduling Tool	25	56.8%
	Text	4	9.1%
	Drop in	1	2.3%
	Assistant	1	2.3%
	Google Calendar	1	2.3%
	Video Conference meetings	1	2.3%
	In-Person	1	2.3%

Note: Methods for setting up meetings with students.

Table 7

Career Advising and Clinical Assistance		Frequency (N=44)	Percentage
Do you assist medical student with medical career exploration?	Yes	20	45.5%
	No	24	54.5%
Are there designated career advisors at your medical institution?	Yes	40	90.9%
	No	4	9.1%
Do you assist students with clinical shelf exams?	Yes	30	68.2%
	No	13	29.5%
	No response	1	2.3%
Do you assist students experiencing difficulties with clinical skills?	Yes	18	40.9%
	No	26	59.1%
Do you assist students with preparing residency applications?	Yes	25	56.8%
	No	19	43.2%
Do you assist students in preparing for residency interviews?	Yes	21	47.7%
	No	23	52.3%

Note: Career advising roles performed by academic advisors.

Table 8

Learning and Study Strategies		Frequency (N=44)	Percentage
Do you teach/explain learning strategies to students?	Yes	36	81.8%
	No	8	18.2%
Do you teach/explain test taking strategies to students?	Yes	35	79.5%
	No	9	20.5%
Do you assist students experiencing test anxiety?	Yes	34	77.3%
	No	9	20.5%
	No response	1	2.3%
Do you assist students experiencing difficulties with time management?	Yes	37	84.1%
	No	6	13.6%
	No response	1	2.3%
Do you assist students with goal setting?	Yes	32	72.7%
	No	12	27.3%
Do you assist students with organizational skills?	Yes	32	72.7%
	No	11	25%
	No response	1	2.3%
Do you assist students with concentration and focus issues?	Yes	31	70.5%
	No	13	29.5%

Note: Learning and study strategies performed by academic advisors.

Table 9

Most Common Learning Strategies	Frequency (N=36)	Percentage
Active Learning Strategies	8	22.22%
Concept Mapping	5	13.88%
Self-Awareness & Regulation Strategies	6	16.66%
Time Management Strategies	7	19.44%
The 6 Learning Science Strategies	24	66.66%
Basic Learning Strategies	4	11.11%
Other Learning Strategies	9	25%
Varies Based on Student	6	16.66%

Note: Most common learning and study strategy themes derived from short answer responses.

Table 10

Most Common Test Taking Strategies	Frequency (N=35)	Percentage
Approaching Questions	13	37.14%
Reading Strategies	5	14.29%
Exam Preparation Strategies	9	25.71%
Mental Strategies	8	22.86%
Read the Last Sentence First	10	28.57%
Timing Strategies	14	40%
Strategies for Changing Answers	6	17.14%
Strategies for Best Guess	4	11.43%
Varies Based on Student	5	14.29%

Note: Most common test taking strategy themes derived from short answer responses.

Table 11

Most Common Test Anxiety Strategies	Frequency (N=34)	Percentage
Referrals to Professional Help	14	41.18%
Reactive Anxiety Reducing Techniques	18	52.94%
Mindfulness and Meditation	9	26.47%
Positive Self-Thoughts	6	17.65%
Recognition of Problem	2	5.88%
Strategies for Approaching Questions	7	20.59%
Proactive Anxiety Reducing Techniques	6	17.65%
Varies Based on Student	3	8.82%

Note: Most common test anxiety strategy themes derived from short answer responses.

Table 12

Most Common Time Management Strategies	Frequency (N=37)	Percentage
Pomodoro Method	11	29.73%
Create and Plan Schedules	21	56.76%
Goal Setting	6	16.22%
Strategies for Tracking Time	7	18.92%
Accountability Strategies	2	5.41%
Current Task Analysis Strategies	10	27.03%
Break Time Strategies	7	18.92%
Prioritization Strategies	7	18.92%
Electronic Timer and Distraction Methods	4	10.81%
Varies Based on Student	4	10.81%

Note: Most common time management strategy themes derived from short answer responses.

Table 13

Most Common Goal Setting Practices	Frequency (N=32)	Percentage
Utilization of Resources or People for Goal Accountability	5	15.63%
Use of SMART Goals	6	18.75%
Strategies for Creating Realistic Goals	3	9.38%
Understanding Importance of Goals	2	6.25%
Strategies for How to Achieve Goals	9	28.13%
Varies Based on Student	3	9.38%

Note: Most common goal setting strategy themes derived from short answer responses.

Table 14

Most Common Organizational Strategies	Frequency (N=32)	Percentage
Goal Setting	4	12.5%
Time Management	6	18.75%
Create Schedules and Lists	7	21.88%
Organizational Study Strategies	6	18.75%
Varies Based on Student	6	18.75%
Other Organizational Strategies	3	9.38%
Utilizing Organizational Resources	10	31.25%

Note: Most common organizational strategy themes derived from short answer responses.

Table 15

Most Common Concentration and Focus Strategies	Frequency (N=31)	Percentage
Realistic & Achievable Focus Strategies	10	32.26%
Mental Health Strategies	8	25.81%
Creating To-Do Lists	3	9.68%
Time Management Strategies	14	45.16%
Tailor Environment	4	12.9%
Identification/Minimization of Distractions	8	25.81%
Varies Based on Student	3	9.68%

Note: Most common concentration strategy themes derived from short answer responses.

Table 16

Board Preparation		Frequency (N=44)	Percentage
Do you assist students with USMLE Step 1 Preparation?	Yes	34	77.3%
	No	10	22.7%
Do you assist students with USMLE Step 2CK Preparation?	Yes	27	61.4%
	No	17	38.6%
Do you assist students with USMLE Step 3 Preparation?	Yes	8	18.2%
	No	35	79.5%
	No response	1	2.3%

Note: Board preparation assistance performed by academic advisors.

Table 17

Most Common USMLE Step 1 Preparation Strategies	Frequency (N=34)	Percentage
Monitor Progress Throughout	16	47.06%
Create Step 1 Study Schedules	19	55.88%
Assist in Step 1 Registration	4	11.76%
Put on Presentations/Workshops/Panels about Preparation	13	38.24%
Discuss and Explore Resources with Students	11	32.35%
Discuss and Explore Preparation Strategies	10	29.41%
Discuss Issues that Arise During Preparation	6	17.65%
Meet with Students Throughout Preparation	18	52.94%

Note: Most common Step 1 strategy themes derived from short answer responses.

Table 18

Most Common USMLE Step 2CK Preparation Strategies	Frequency (N=27)	Percentage
Monitor Progress Throughout	8	29.63%
Create Step 2CK Study Schedules	18	66.67%
Put on Presentations/Workshops/Panels about Preparation	5	18.52%
Discuss and Explore Resources with Students	7	25.93%
Discuss and Explore Preparation Strategies	7	25.93%
Discuss Issues that Arise During Preparation	4	14.81%
Meet with Students Throughout Preparation	14	51.85%

Note: Most common Step 2CK strategy themes derived from short answer responses.

Table 19

Most Common USMLE Step 3 Preparation Strategies	Frequency (N=8)	Percentage
Meet with Students who are Struggling or have Failed	4	50%
Assistance Varies Based on Student Needs	4	50%

Note: Most common Step 3 strategy themes derived from short answer responses.

Table 20

Other		Frequency (N=44)	Percentage
Do you monitor student performance on coursework and exams?	Yes	40	90.9%
	No	4	9.1%
Do you help students if they are having issues with a faculty member?	Yes	26	59.1%
	No	18	40.9%
Do you assist students with the transition to medical school prior to their first day?	Yes	30	68.2%
	No	14	31.8%
Do you discuss personal issues not related to academics with students?	Yes	39	88.6%
	No	4	9.1%
	No response	1	2.3%
Do you discuss psychiatric/neurological test results with students regarding learning disabilities?	Yes	18	40.9%
	No	26	59.1%
Do you give group presentations on general academic advising concerns (e.g. study skills, testing strategies, etc.)?	Yes	40	90.9%
	No	4	9.1%

Note: Other job roles performed by academic advisors.

Table 21

Other Job Roles Described by Advisors	Frequency (N=30)	Percentage
Disability Services	5	16.67%
Plan and Participate in Student Events	7	23.34%
Serve on Committees	9	30%
Work with Struggling/Delayed/Remediating Students	9	30%
Administrative Duties	9	30%
Monitor Progress	3	10%
Oversee/Supervise Others	6	20%
Other Step Related Duties	2	6.67%
Tutor Program	10	33.34%
Data Tracking	2	6.67%
LCME	2	6.67%
Scheduling	2	6.67%

Note: Most common strategy themes derived from short answer responses for other roles.

Table 22

Most Common Challenges Working with Medical Students	Frequency (N=38)	Percentage
Non-Academic Challenges that Contribute	6	15.79%
Overwhelmed/High Workload	5	13.16%
Mental Health Difficulties	12	31.58%
Academic Failures	3	7.89%
Lack of Necessary Skills	8	21.05%
Financial Difficulties	2	5.26%
Social Comparison	2	5.26%
Scheduling Difficulties	8	21.05%
Perfectionism/Unrealistic Expectations/Imposter Syndrome	9	23.68%
Stigma/Unwillingness to Get Help	11	28.95%

Note: Most common challenges working with medical student themes derived from short answer responses.

Table 23

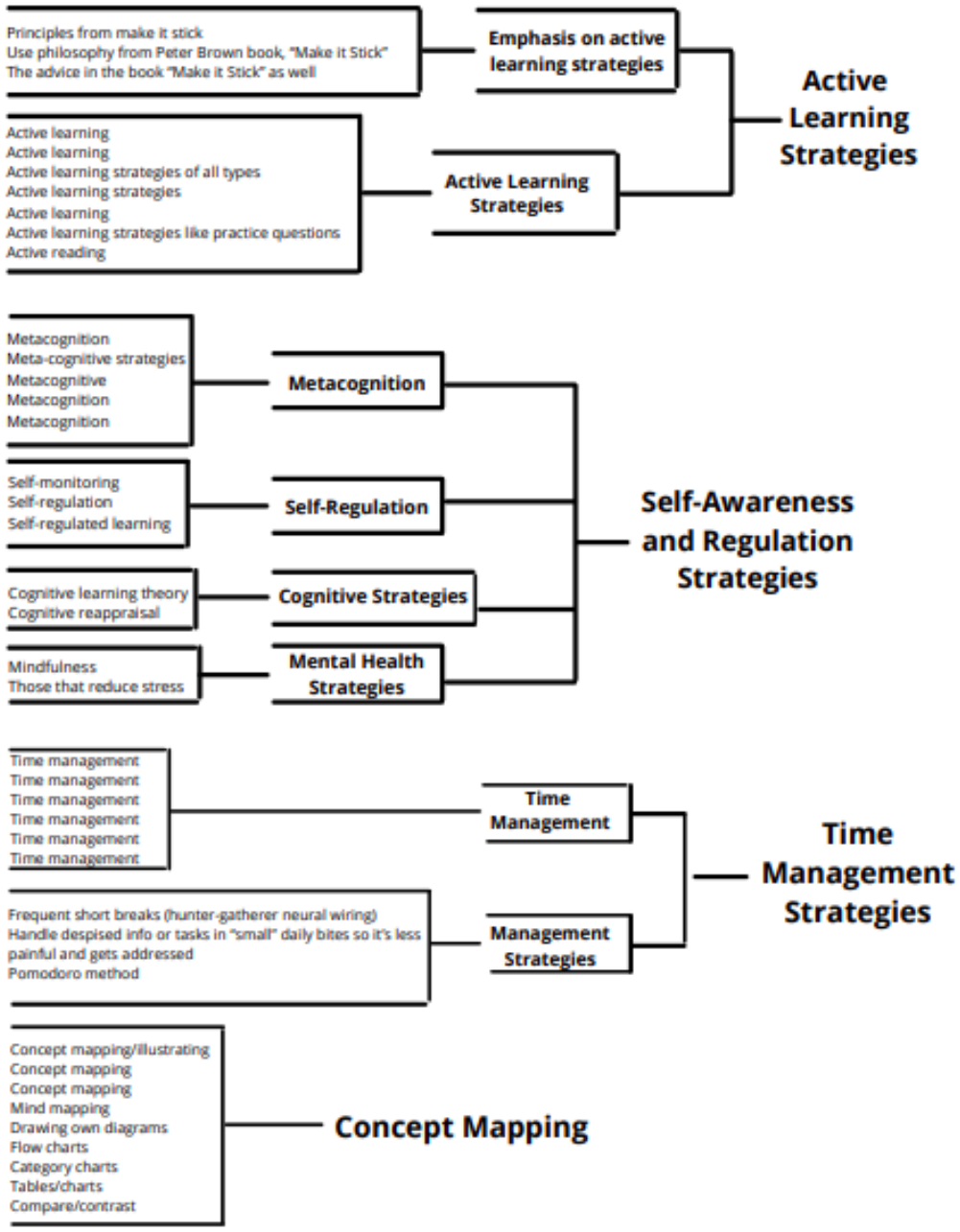
Most Common Professional Challenges Faced by Academic Advisors	Frequency (N=37)	Percentage
Lack of Representation/Support from Faculty	10	27.03%
Lack of Staff	14	37.84%
Difficult Workload	9	24.32%
Effects of Job on Advisor	4	10.81%
Misunderstanding of Office Roles	3	8.11%
Financial Difficulties	4	10.81%
Racism	2	5.41%
Lack of Professional Development	13	35.14%
Lack of Time	6	16.22%
Lack of Buy-In from Students	2	5.41%
Lack of Resources	4	10.81%
Lack of Input and Policy Issues	6	16.22%

Note: Most common professional challenge themes derived from short answer responses.

Appendix A: Figures for Short Answer Clustering and Themes

Figure 1

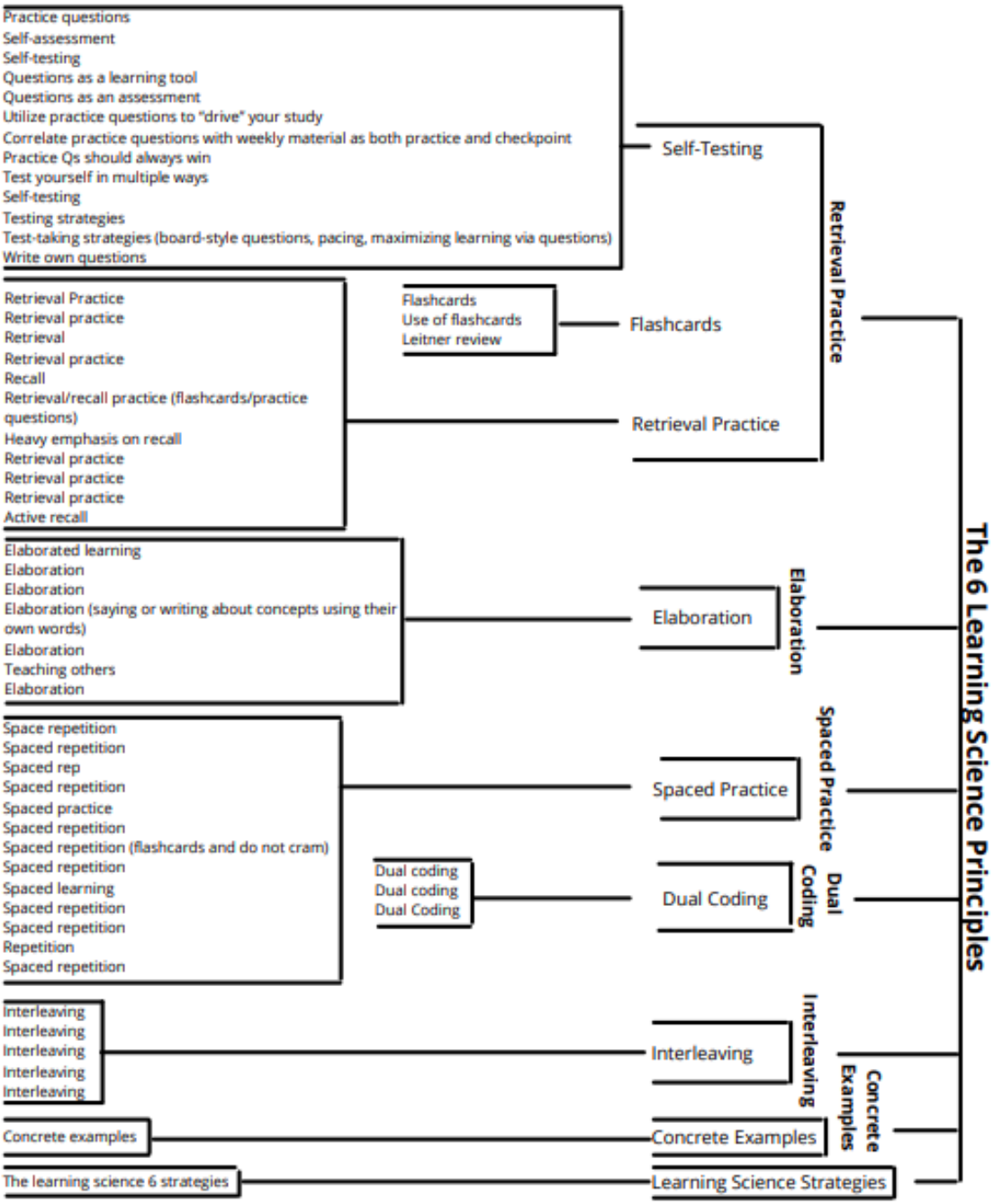
Most Common Learning Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 1 cont.

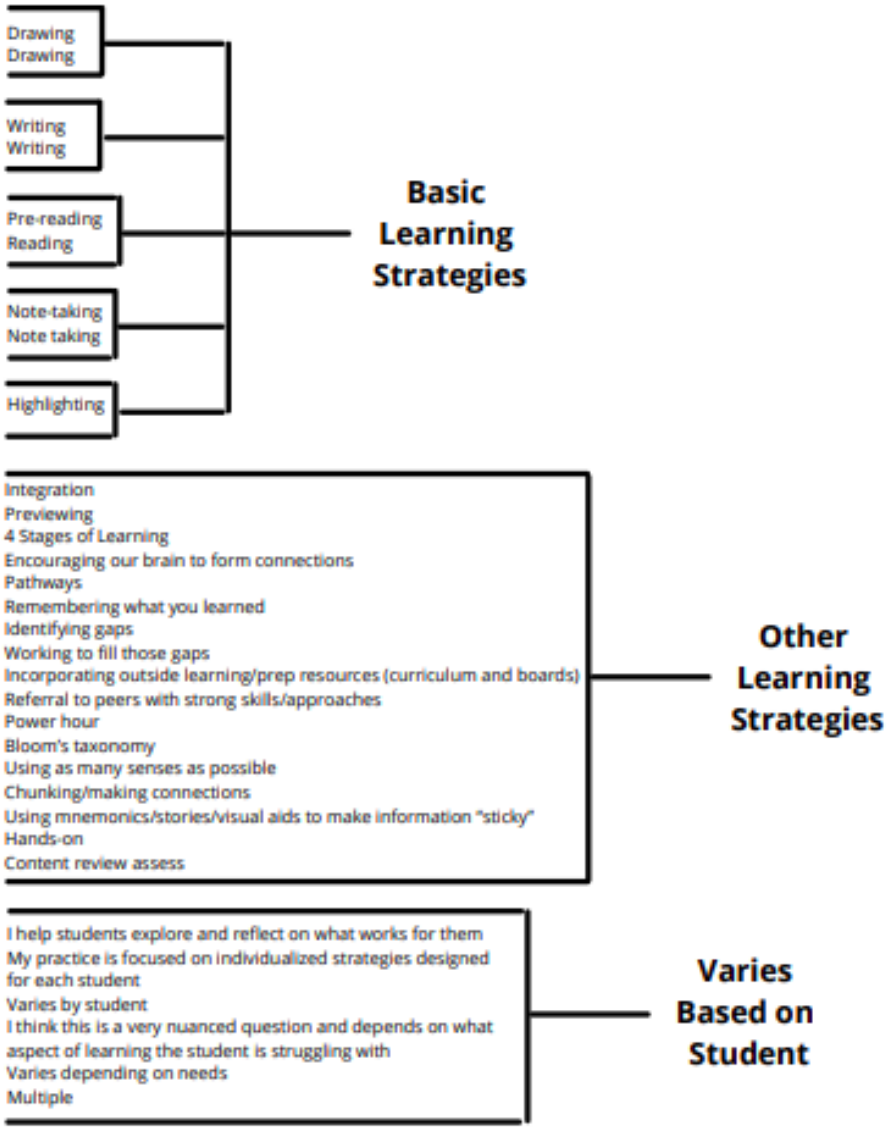
Most Common Learning Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 1 cont.

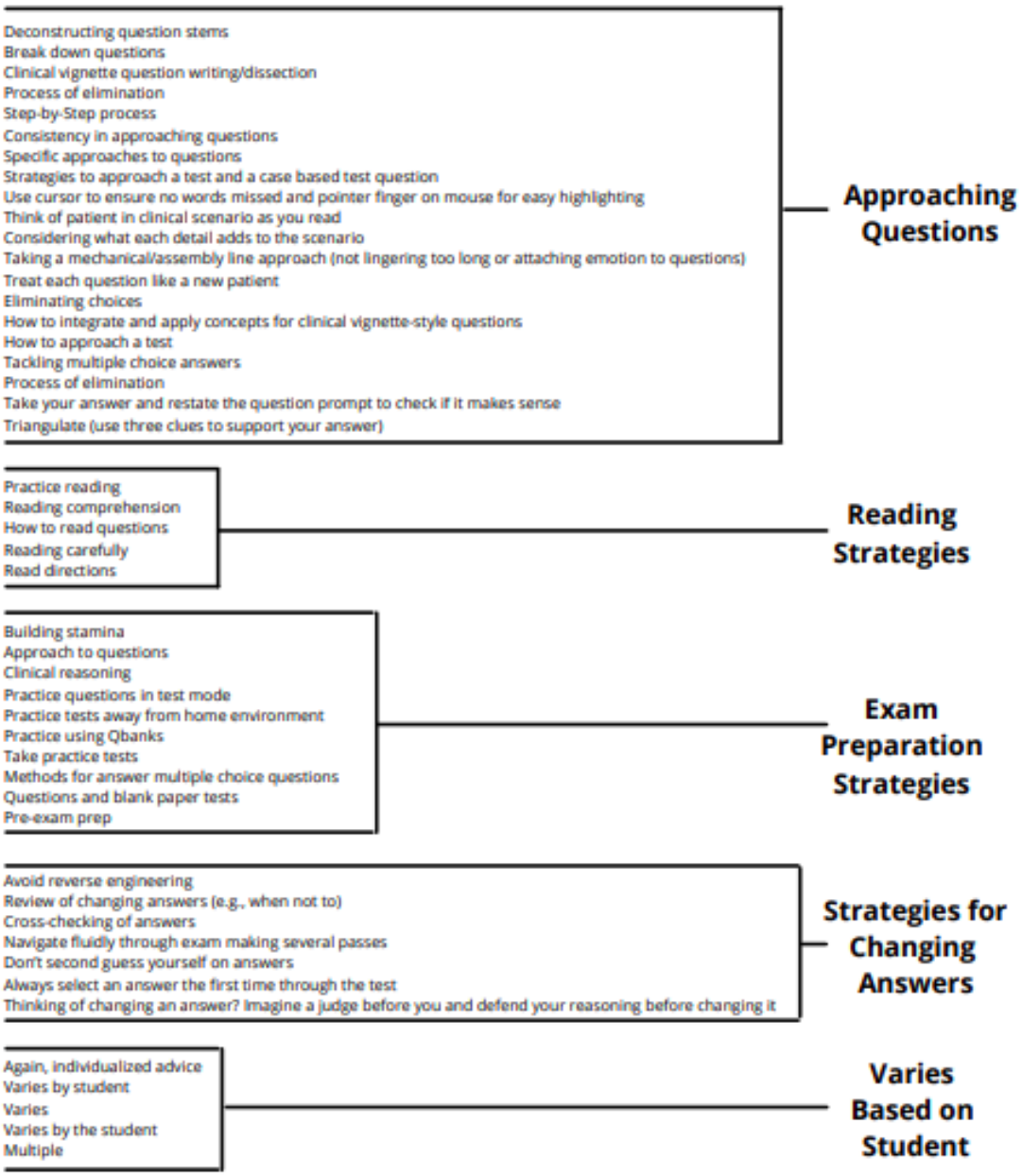
Most Common Learning Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 2

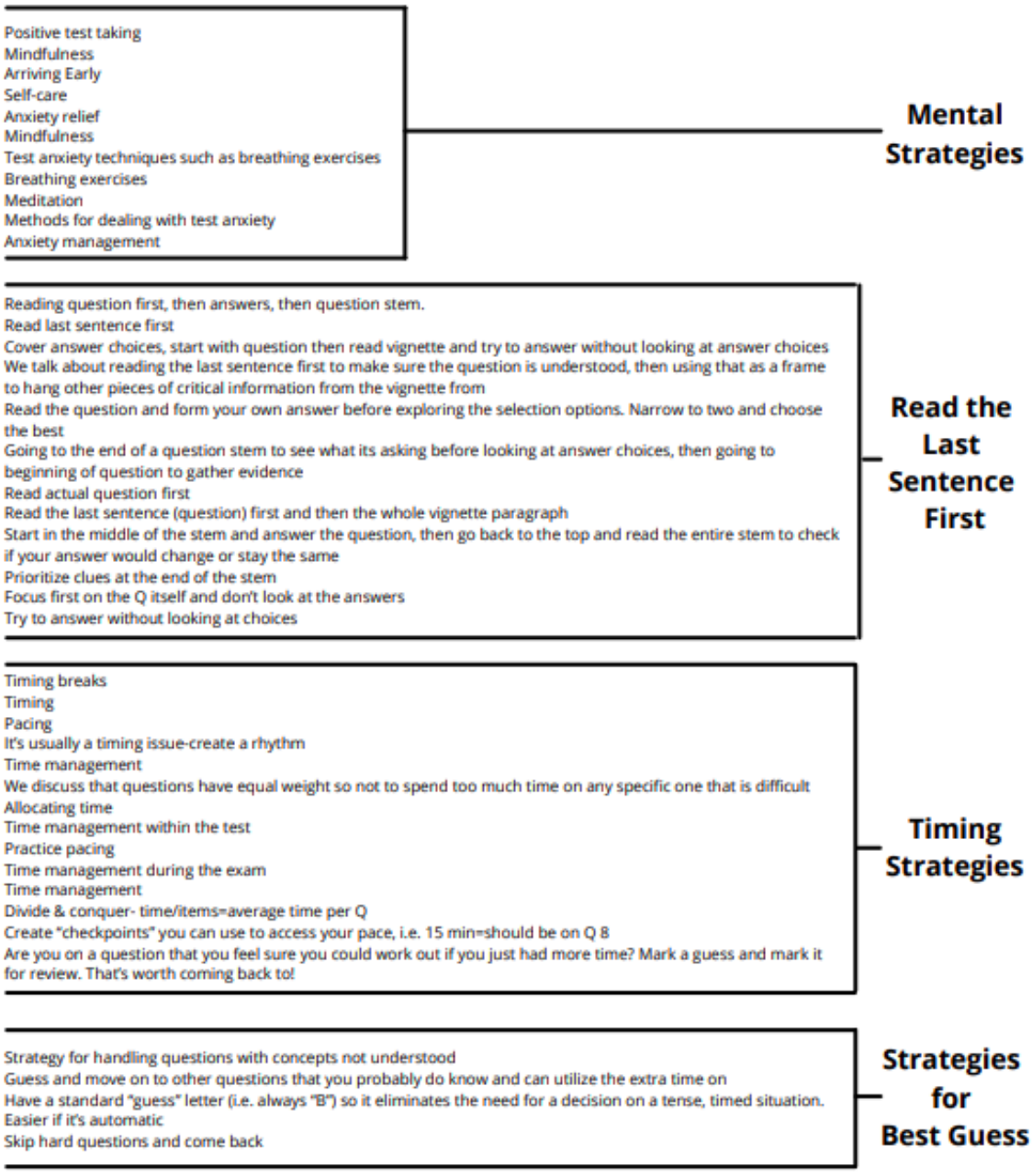
Most Common Test Taking Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 2 cont.

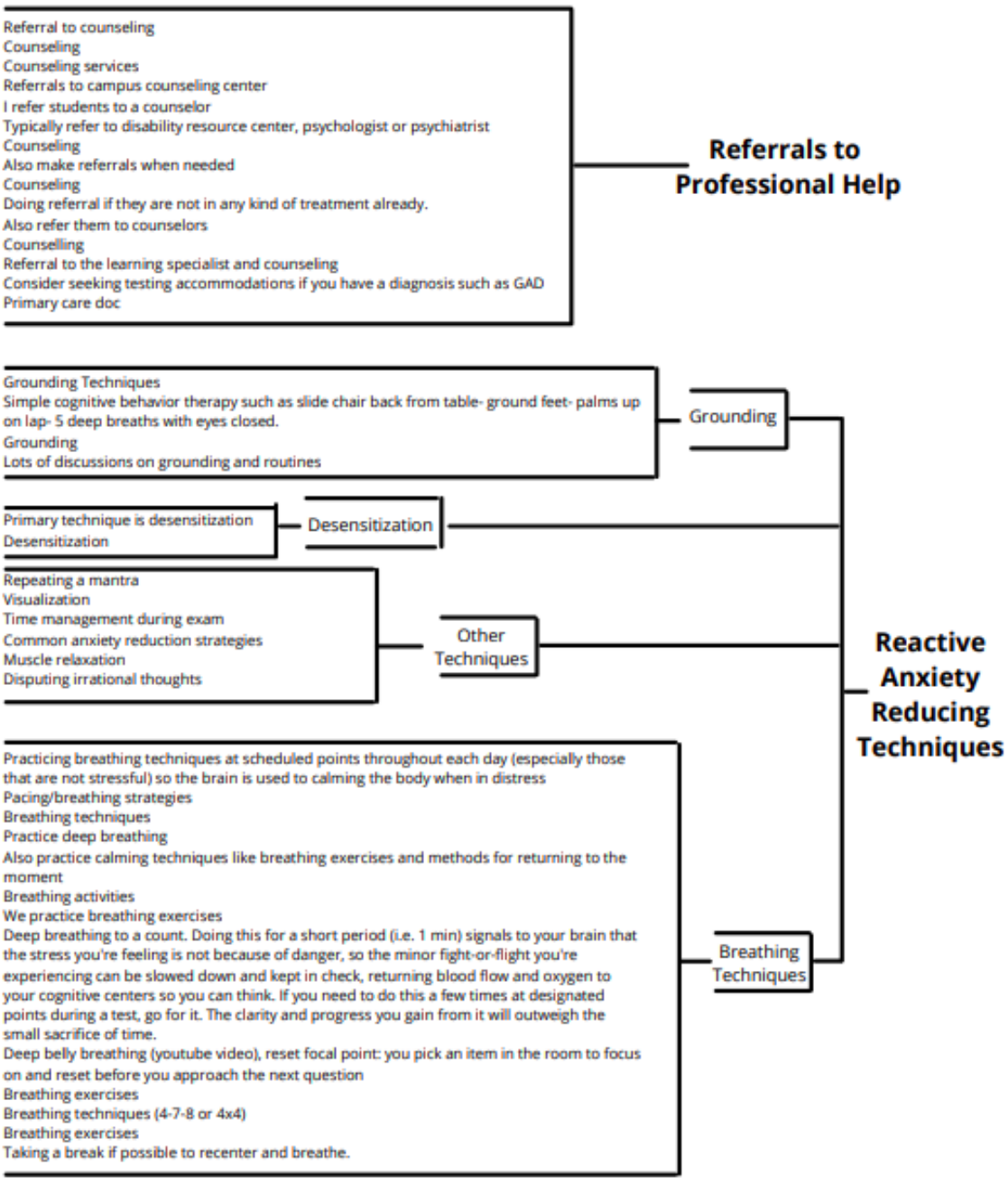
Most Common Test Taking Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 3

Most Common Test Anxiety Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 3 cont.

Most Common Test Anxiety Strategies

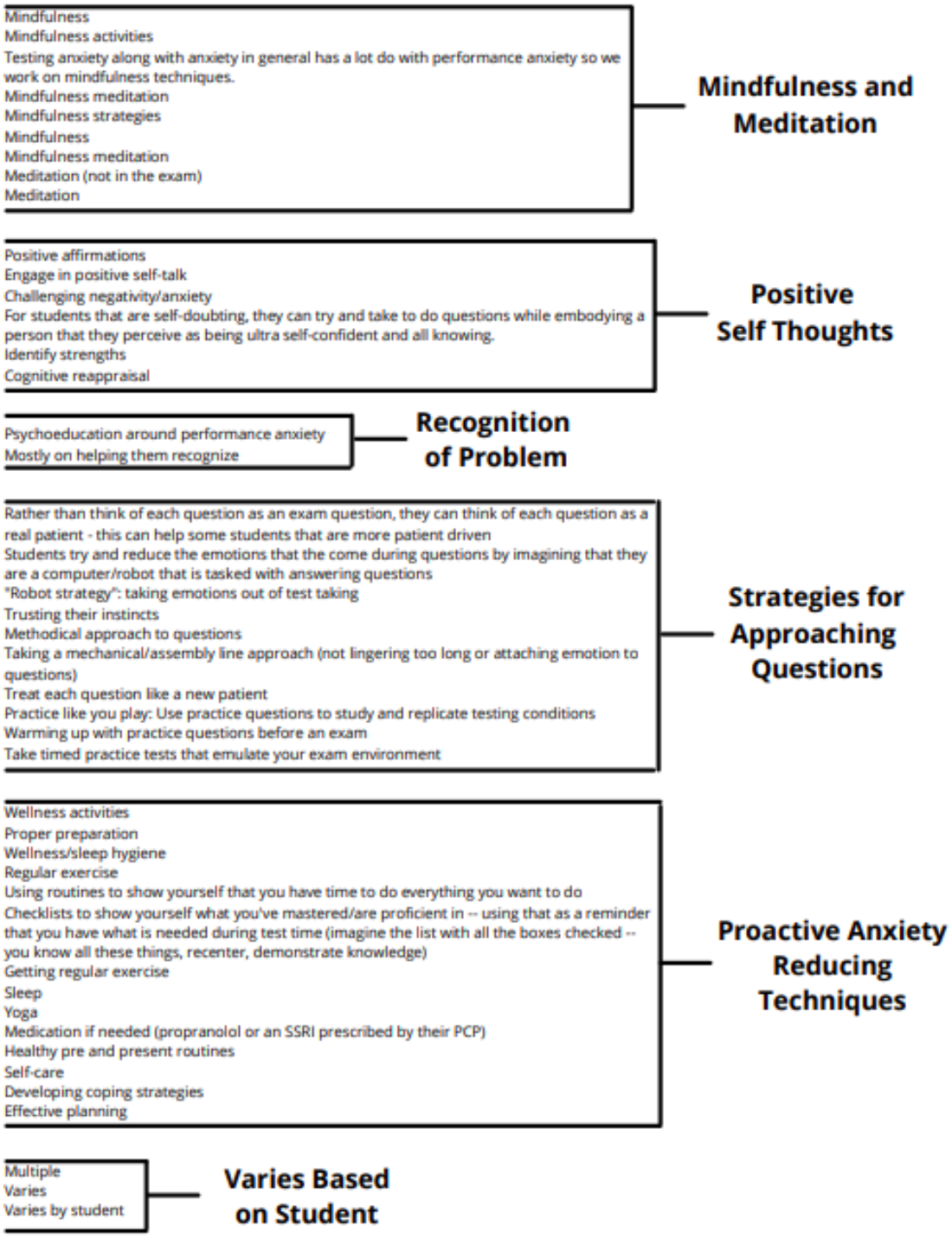
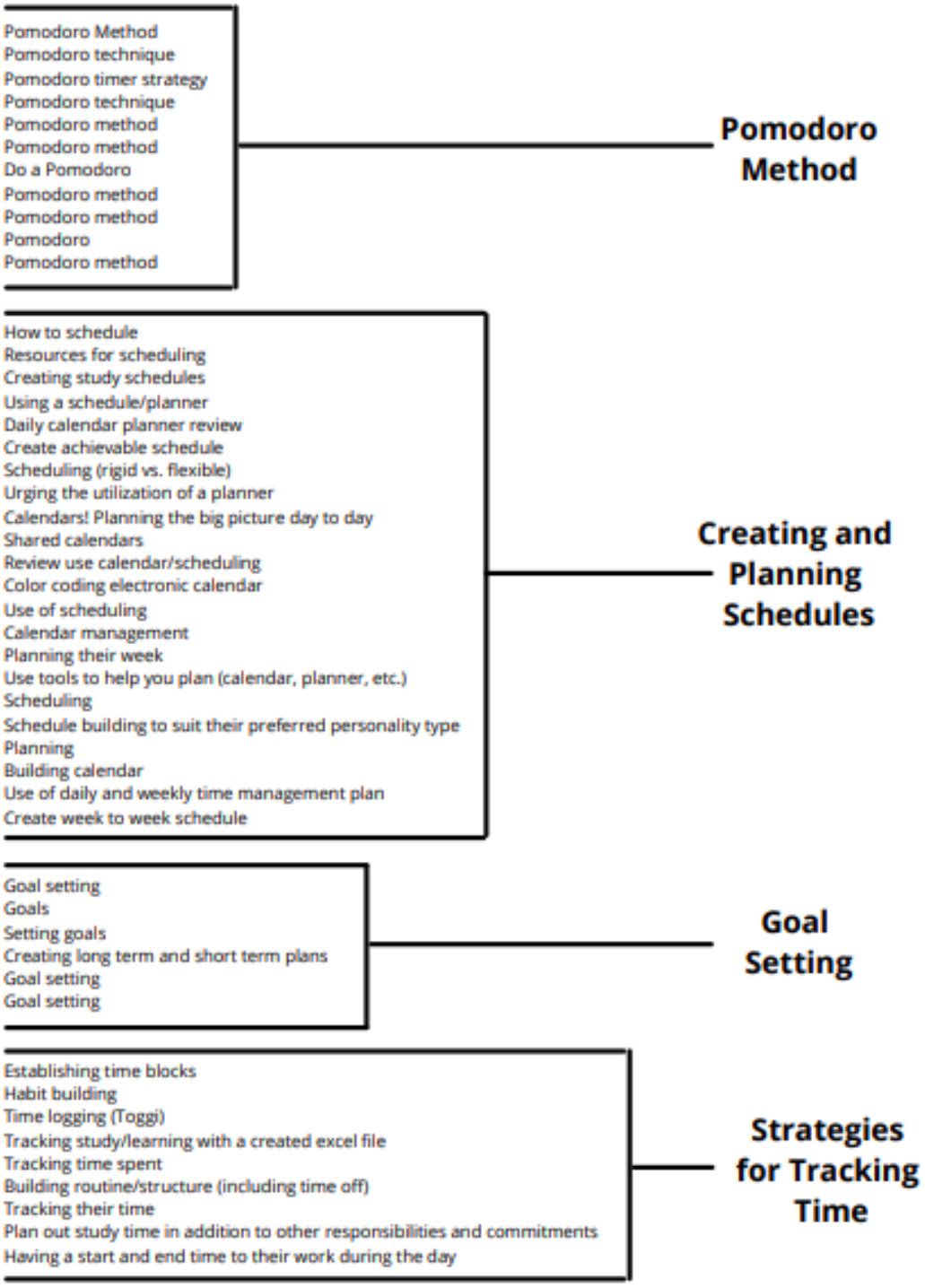


Figure 4

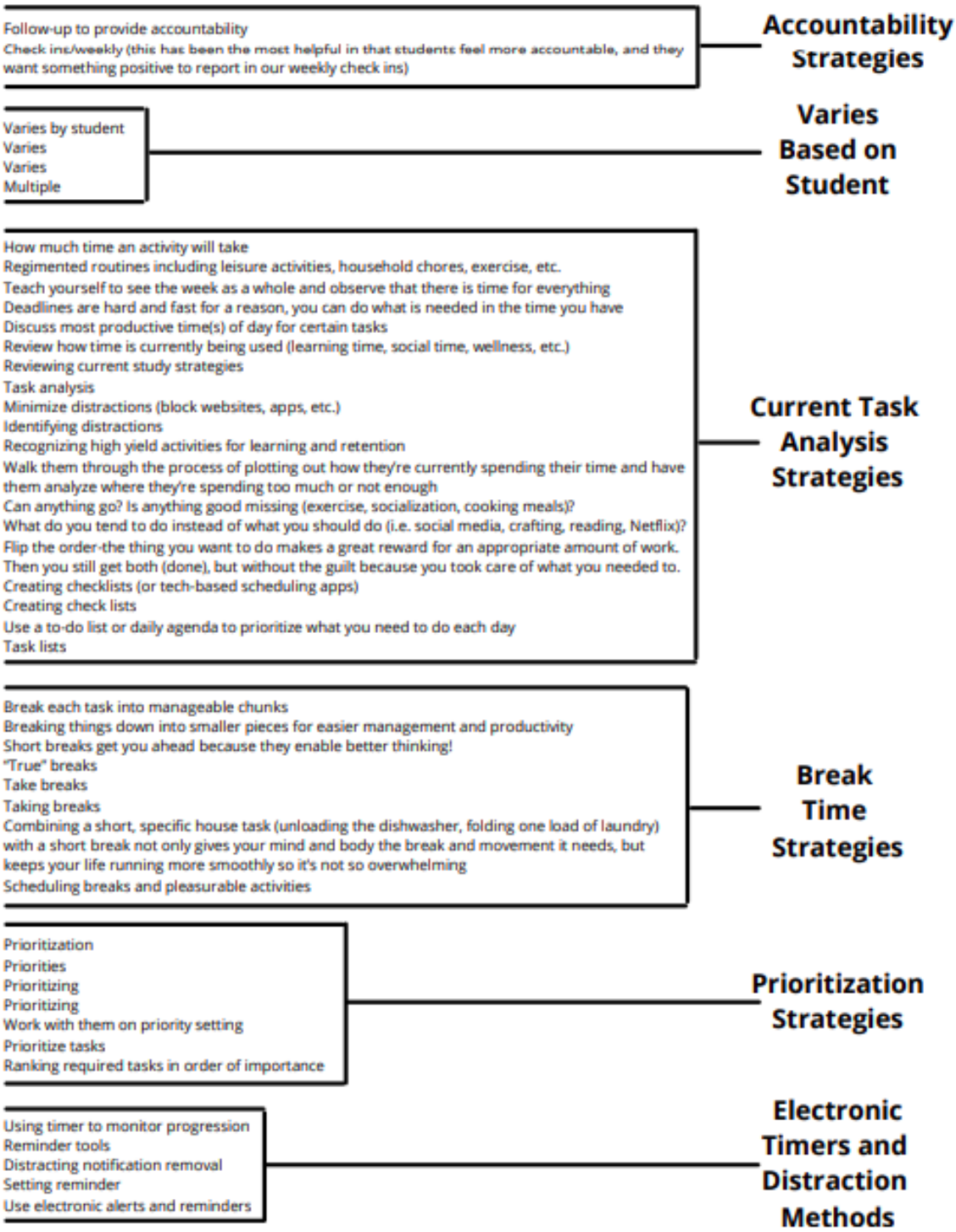
Most Common Time Management Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 4 cont.

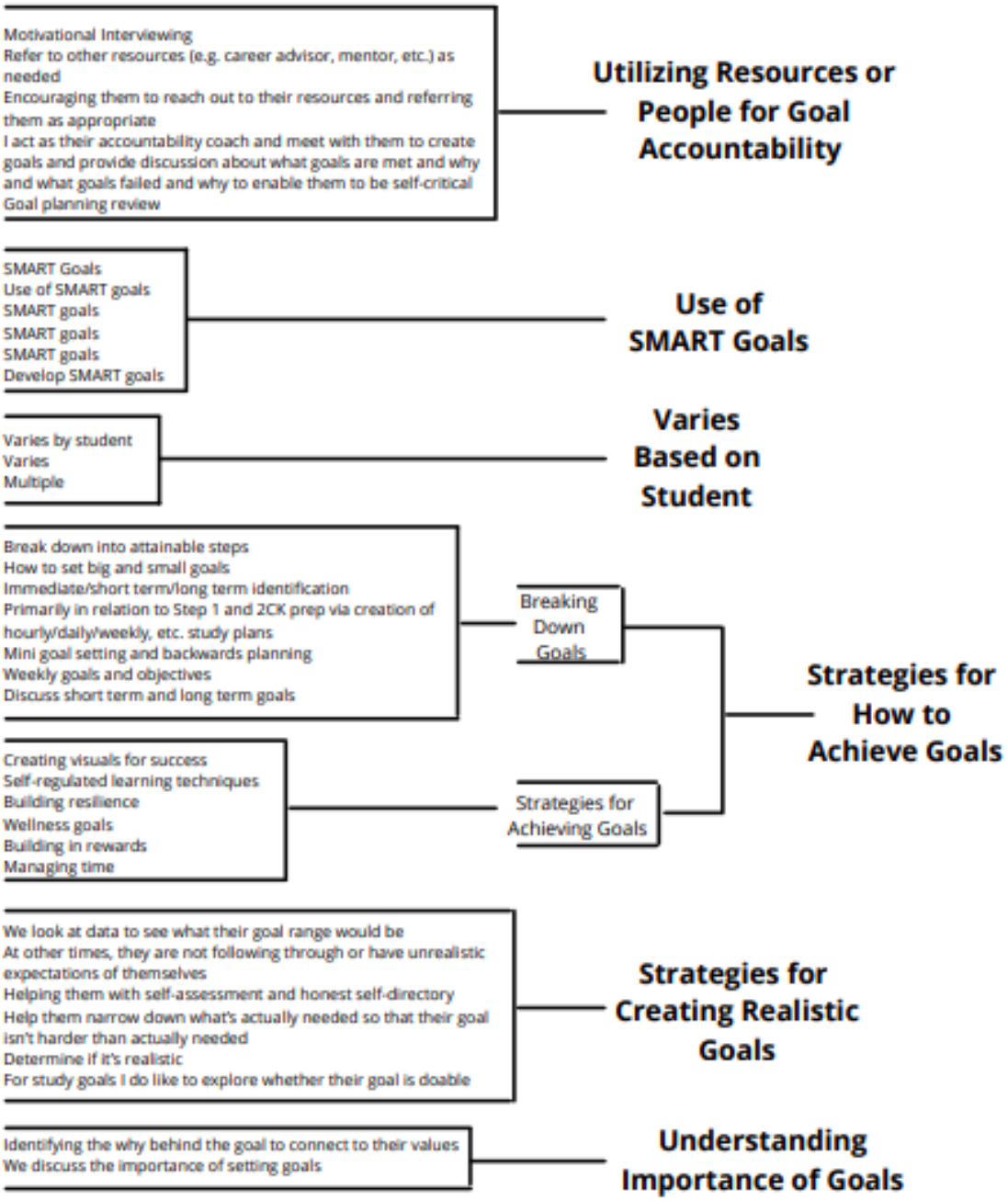
Most Common Time Management Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 5

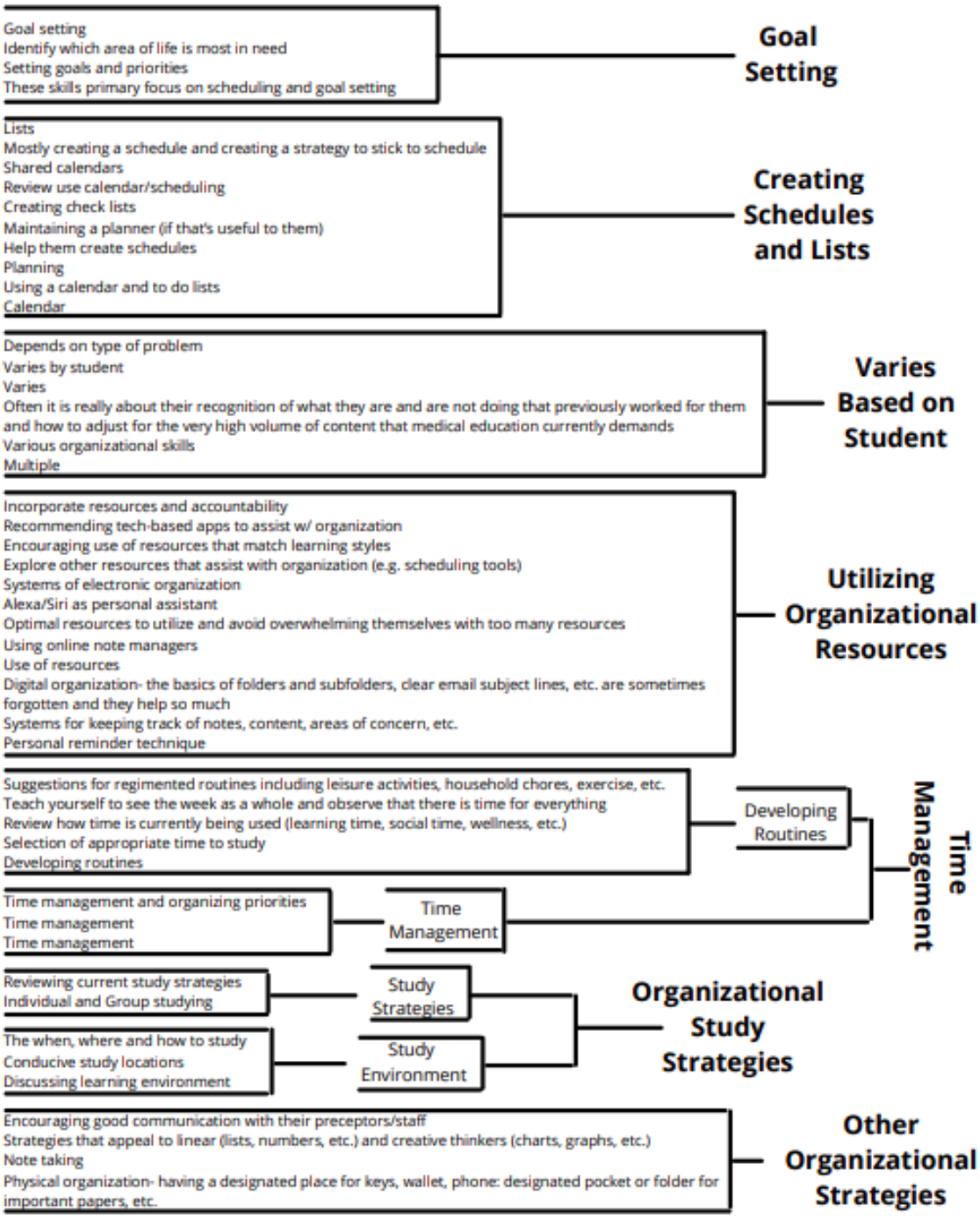
Most Common Goal Setting Practices



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 6

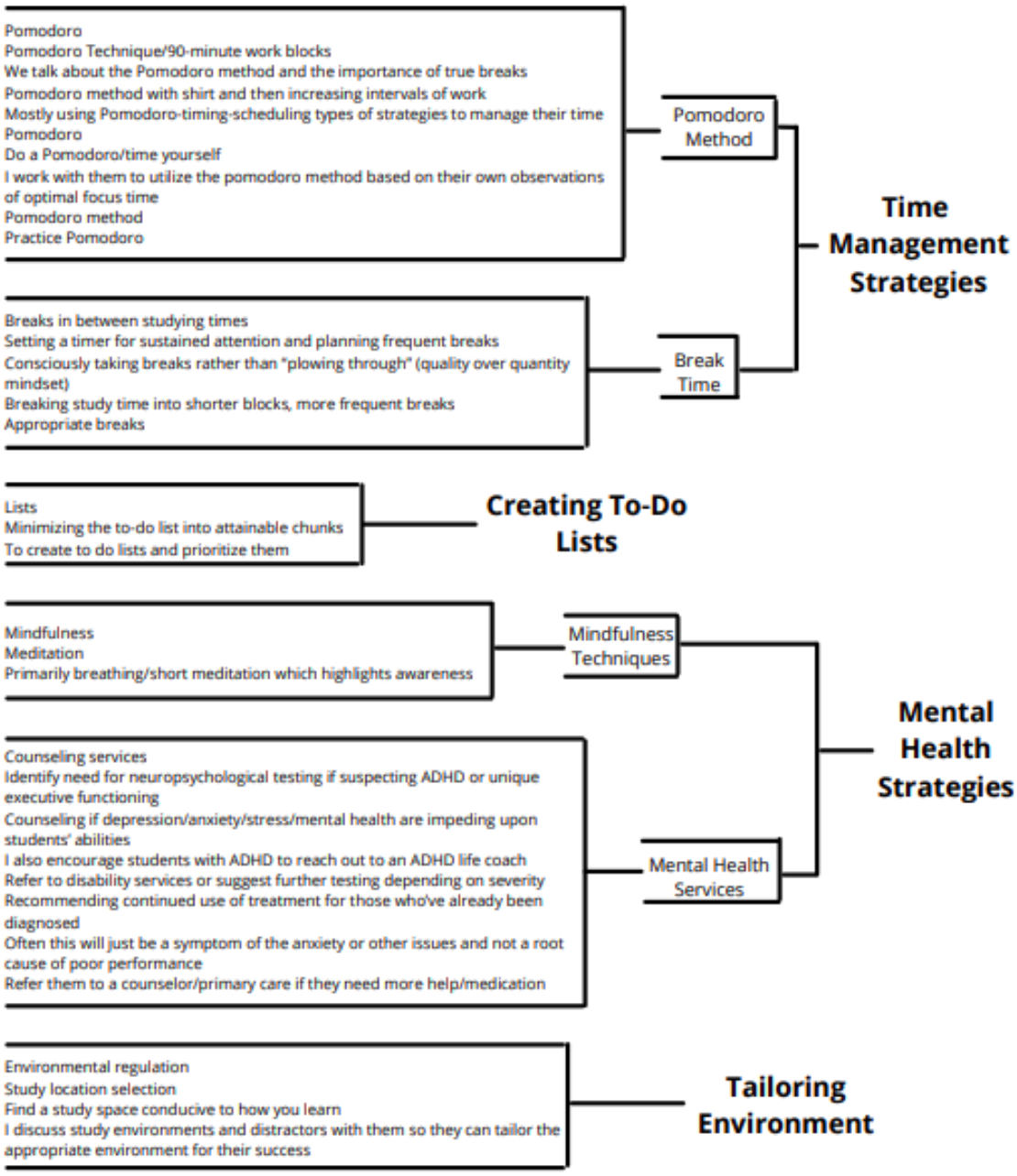
Most Common Organizational Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 7

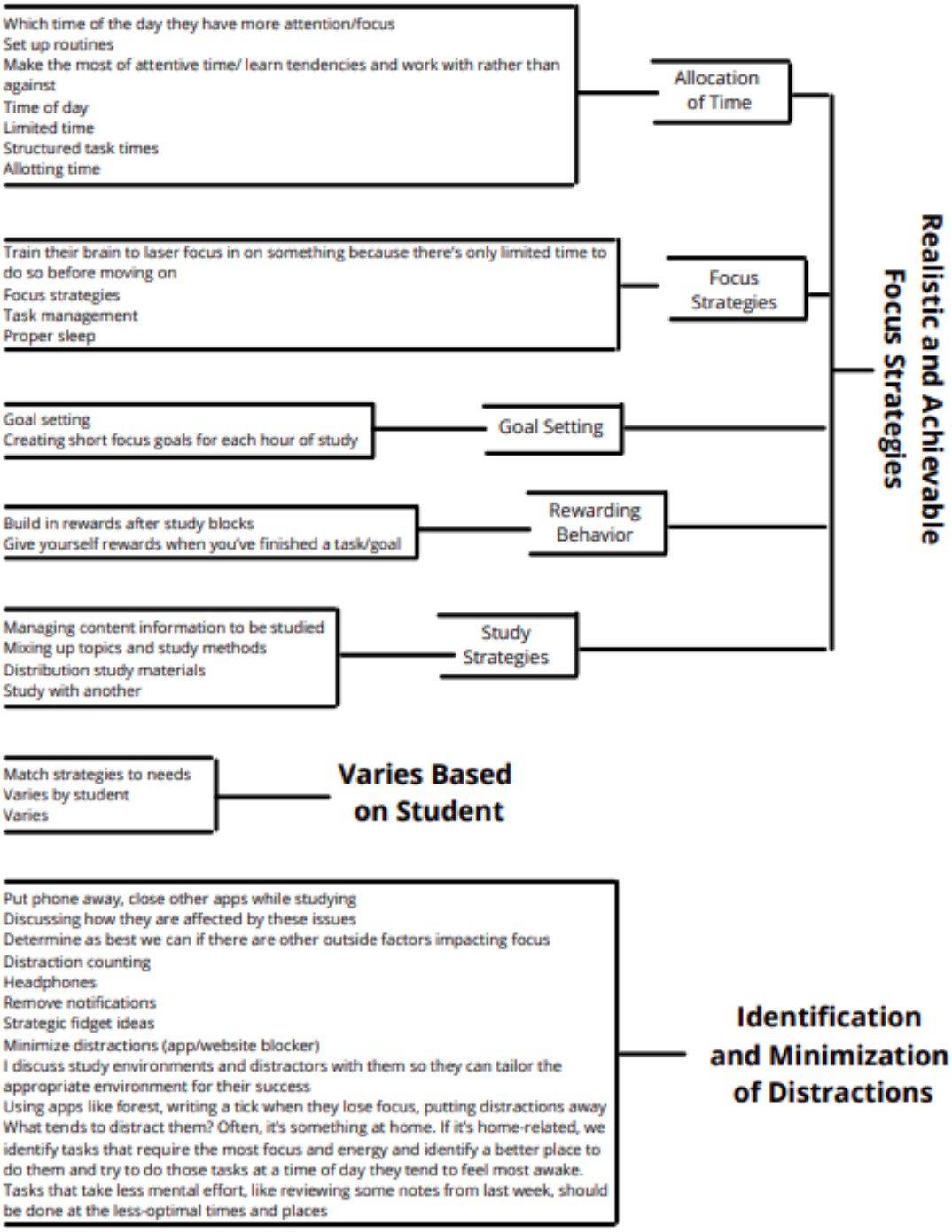
Most Common Concentration and Focus Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 7 cont.

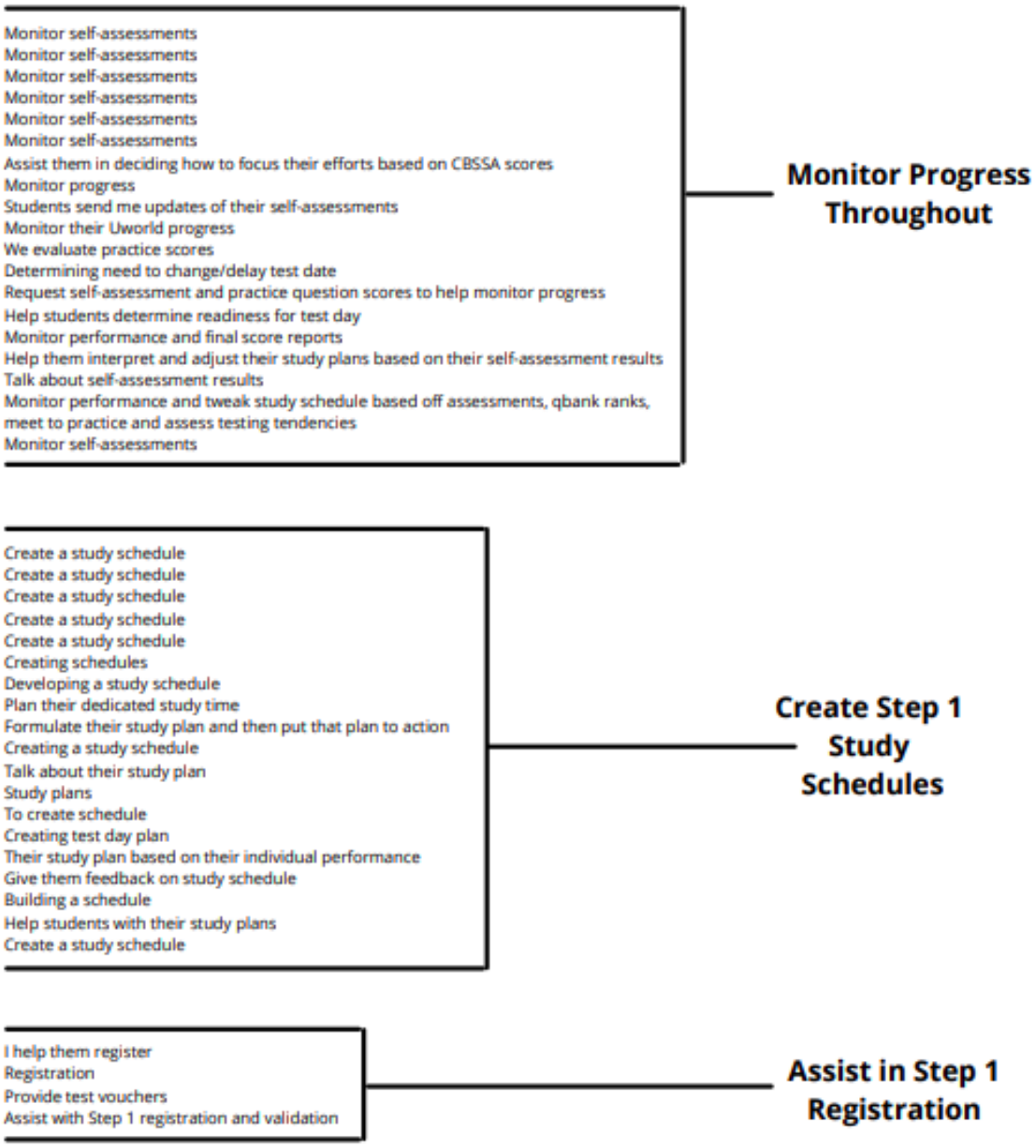
Most Common Concentration and Focus Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 8

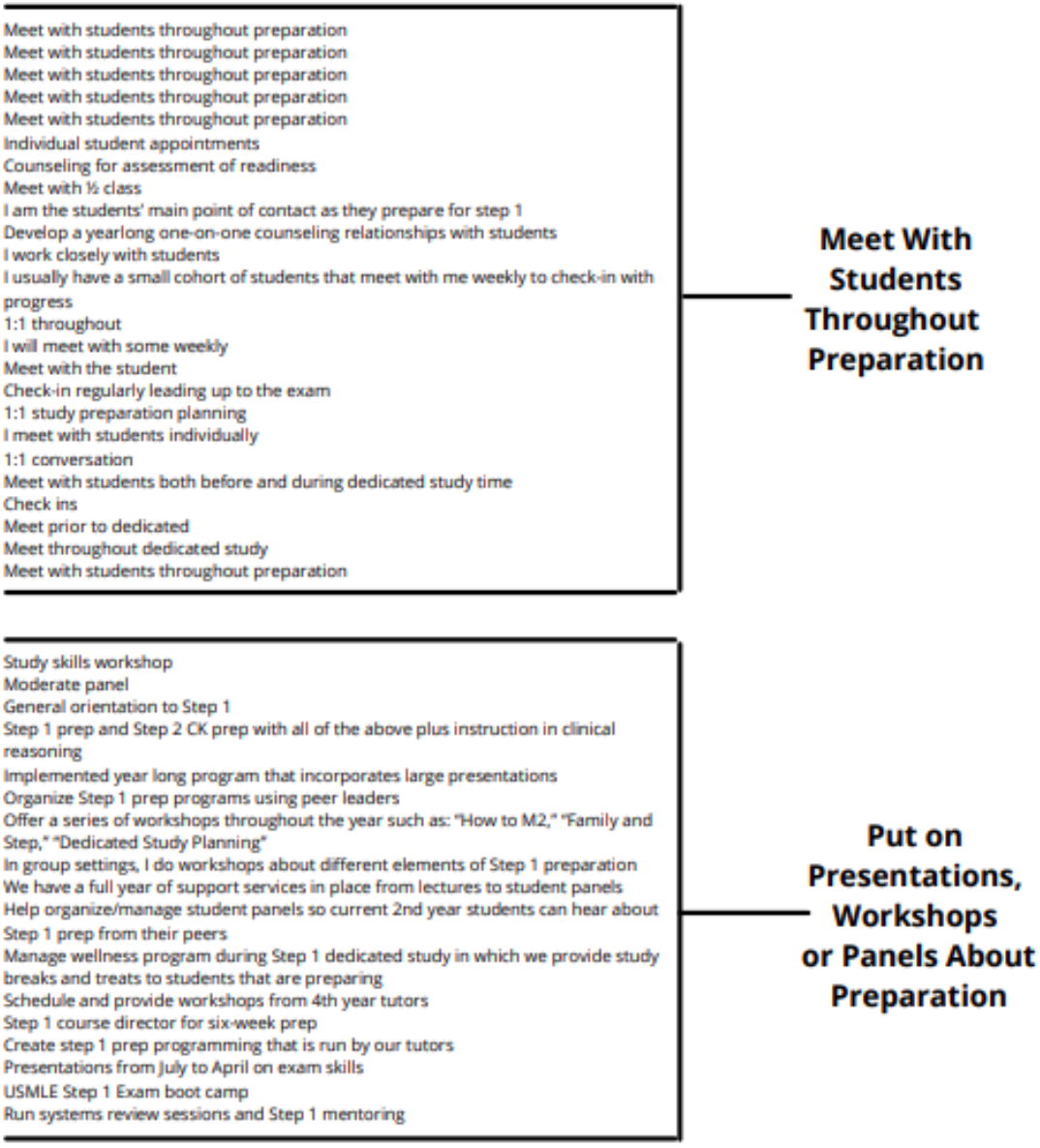
Most Common USMLE Step 1 Preparation Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 8 cont.

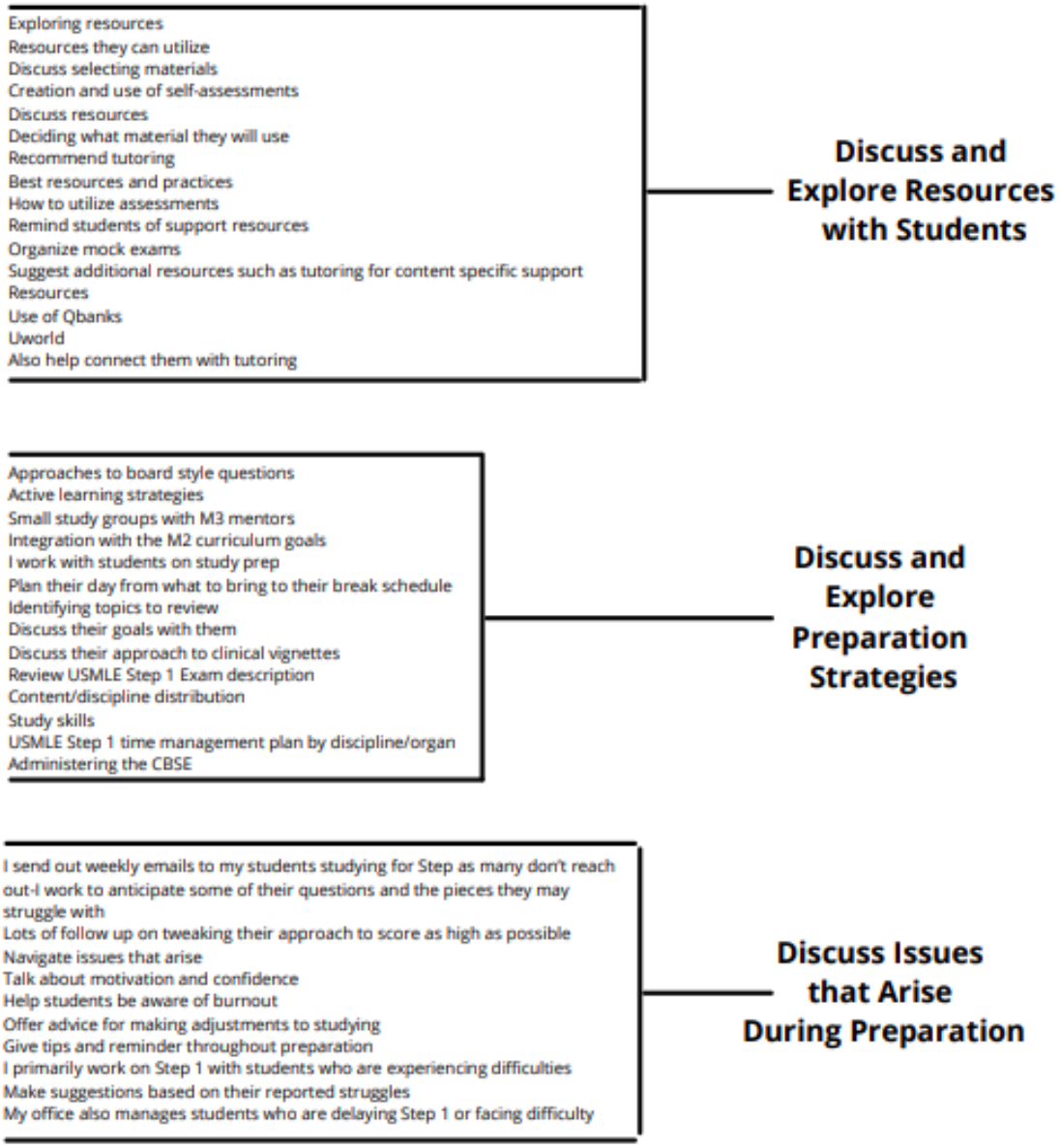
Most Common USMLE Step 1 Preparation Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 8 cont.

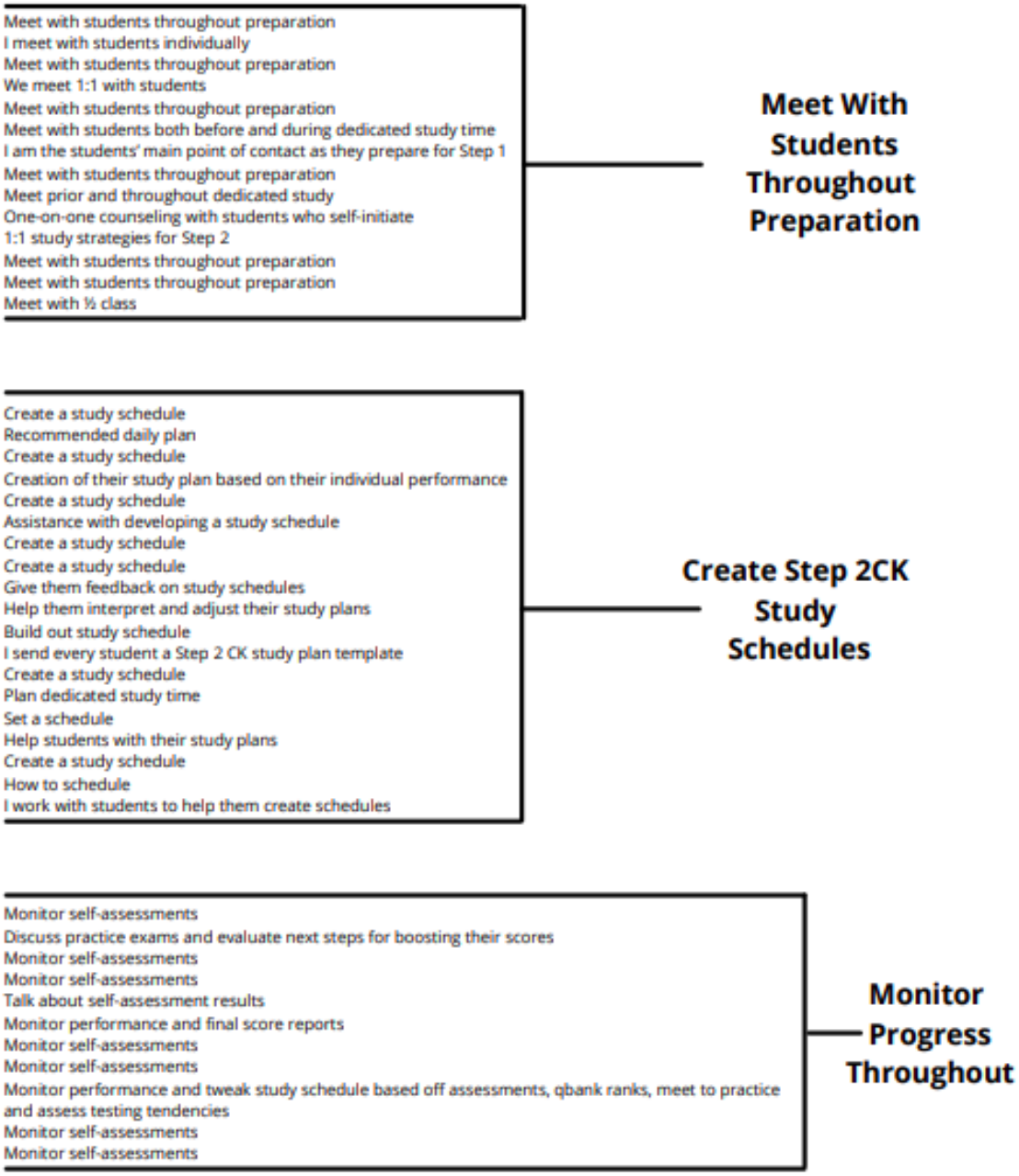
Most Common USMLE Step 1 Preparation Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 9

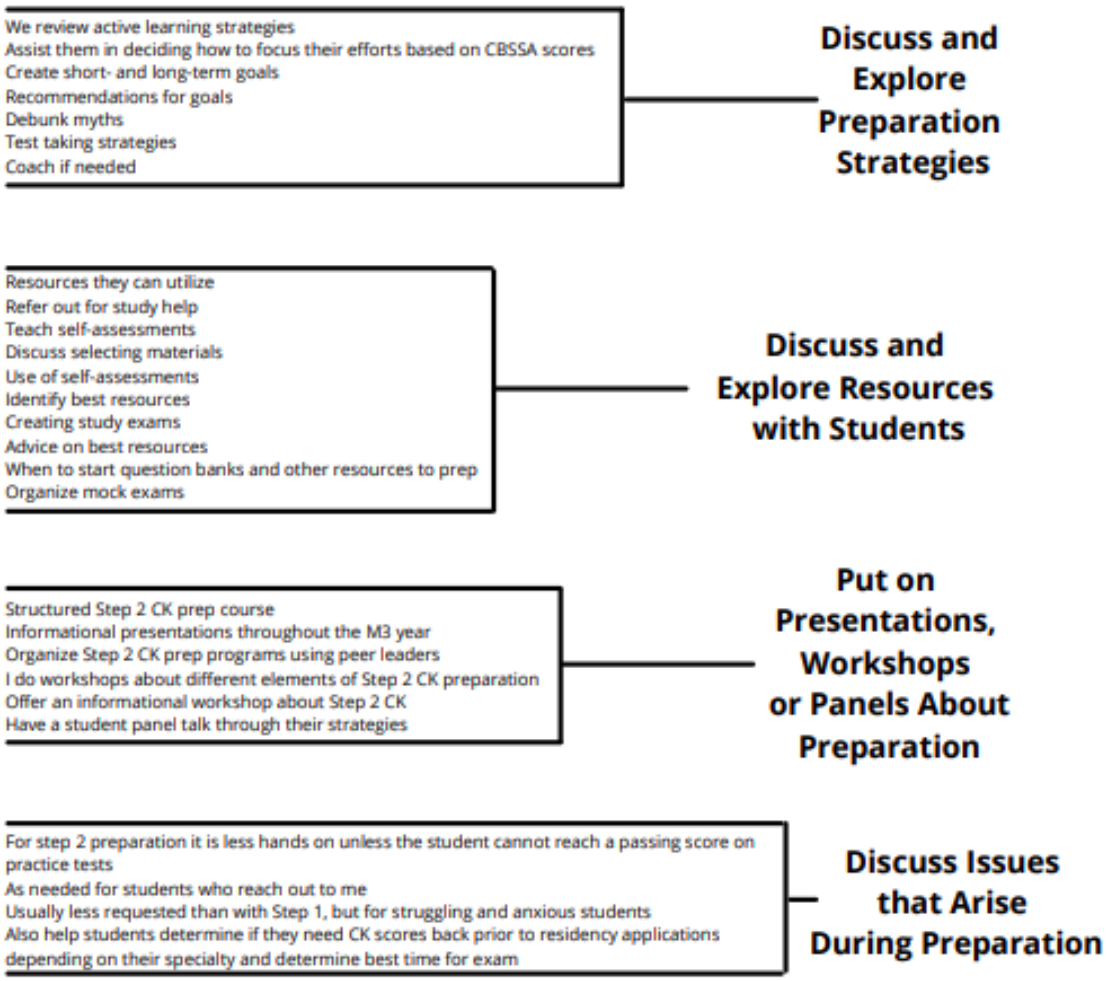
Most Common USMLE Step 2CK Preparation Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 9 cont.

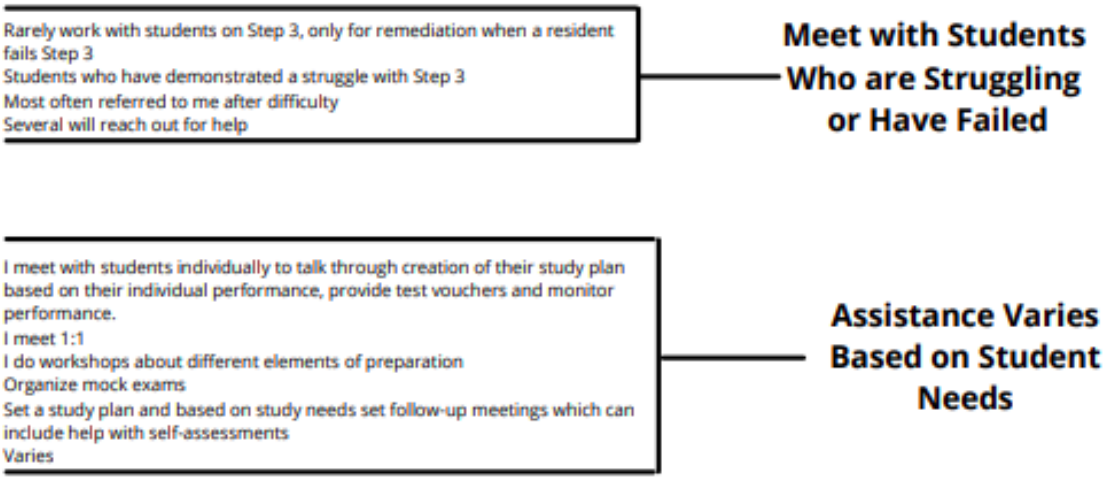
Most Common USMLE Step 2CK Preparation Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 10

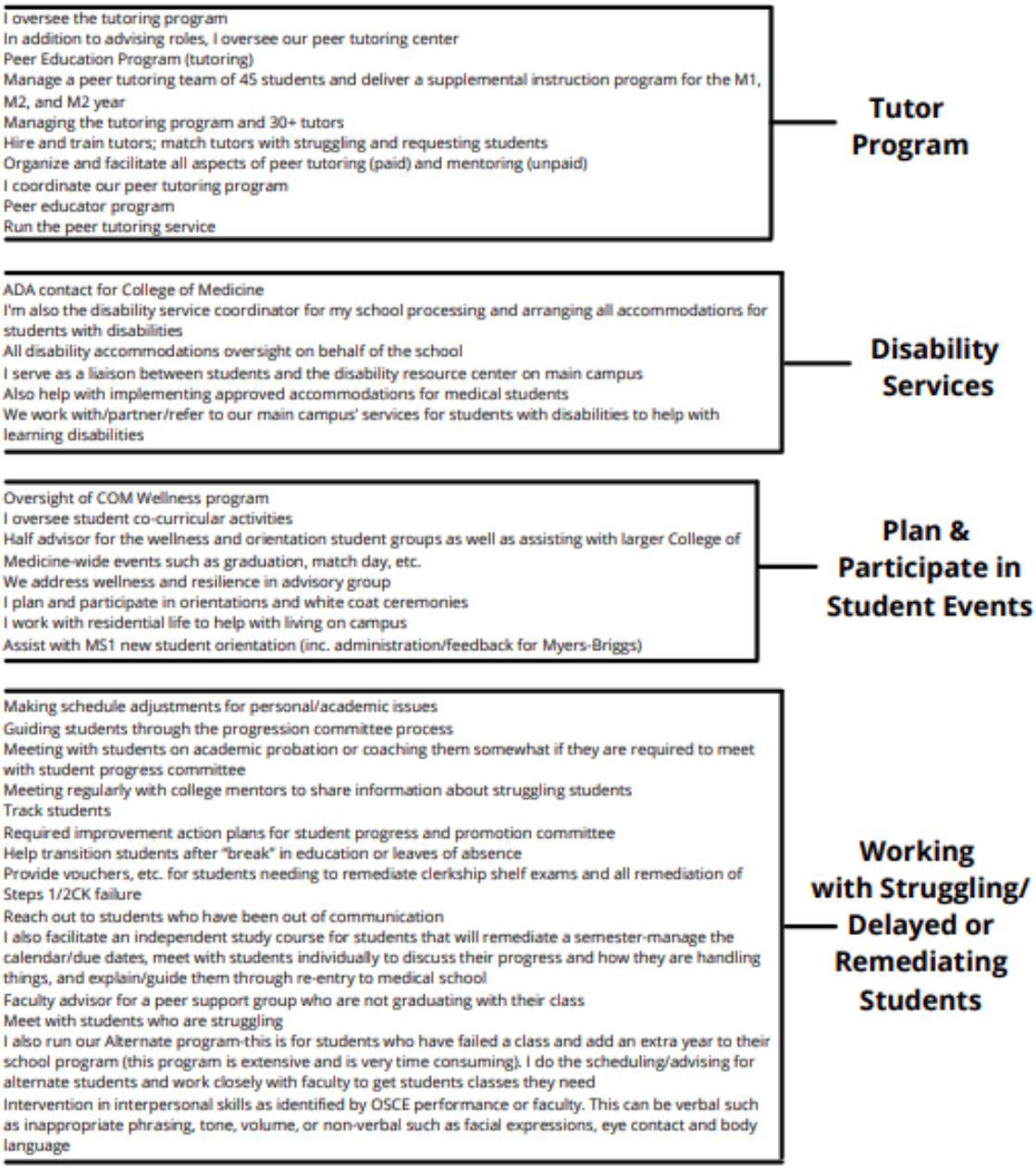
Most Common USMLE Step 3 Preparation Strategies



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 11

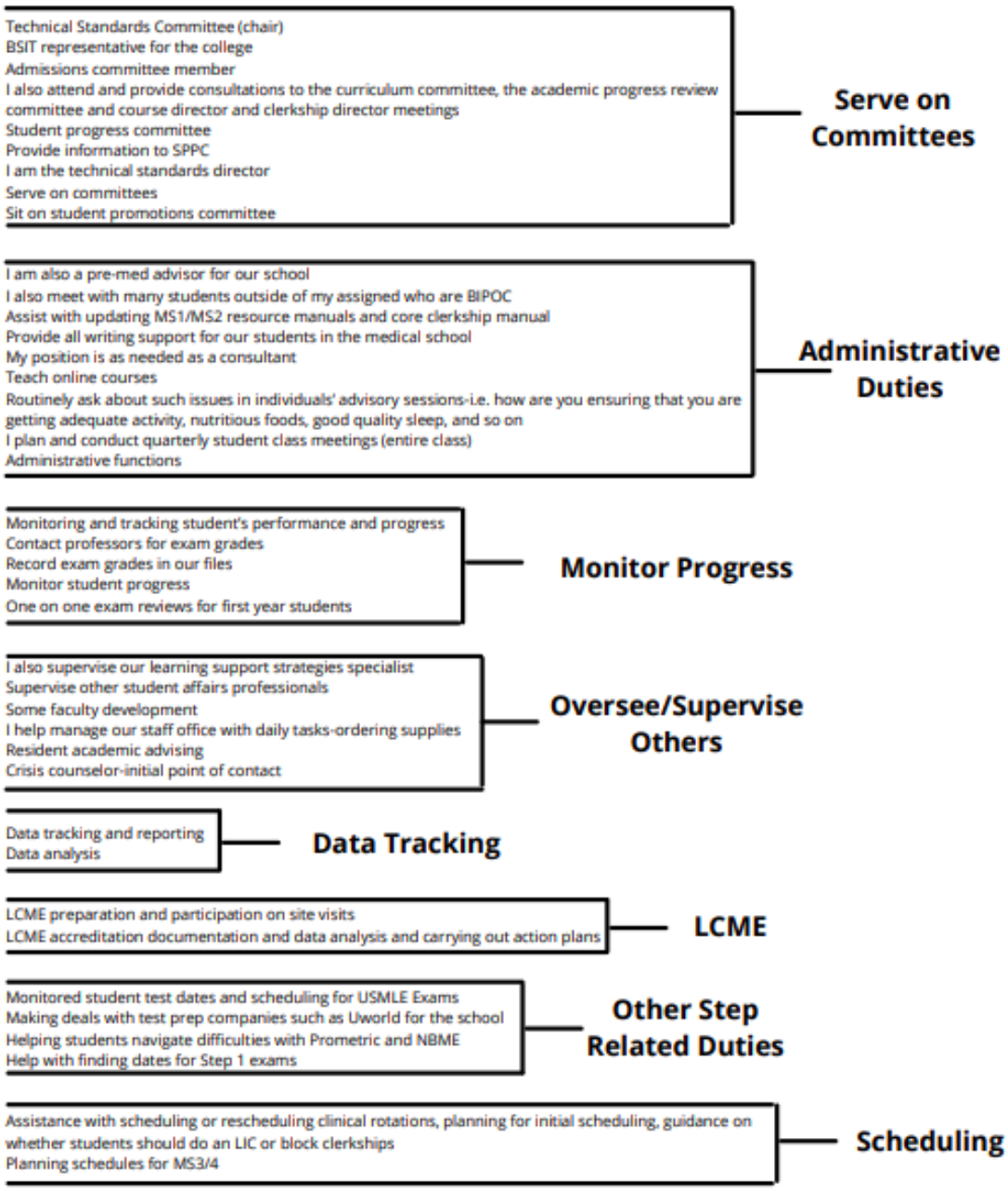
Other Job Roles Described by Advisors



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 11 cont.

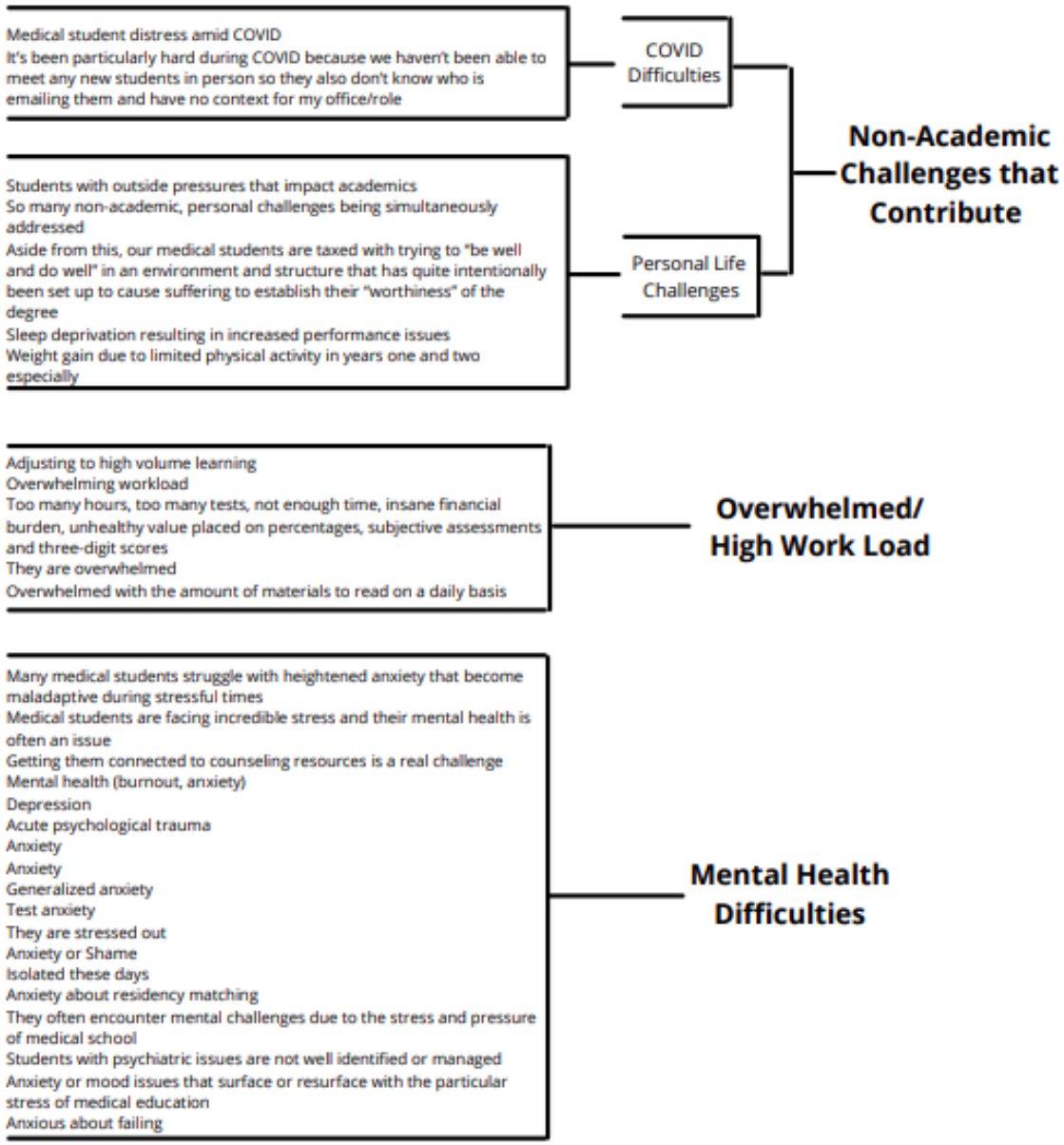
Other Job Roles Described by Advisors



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 12

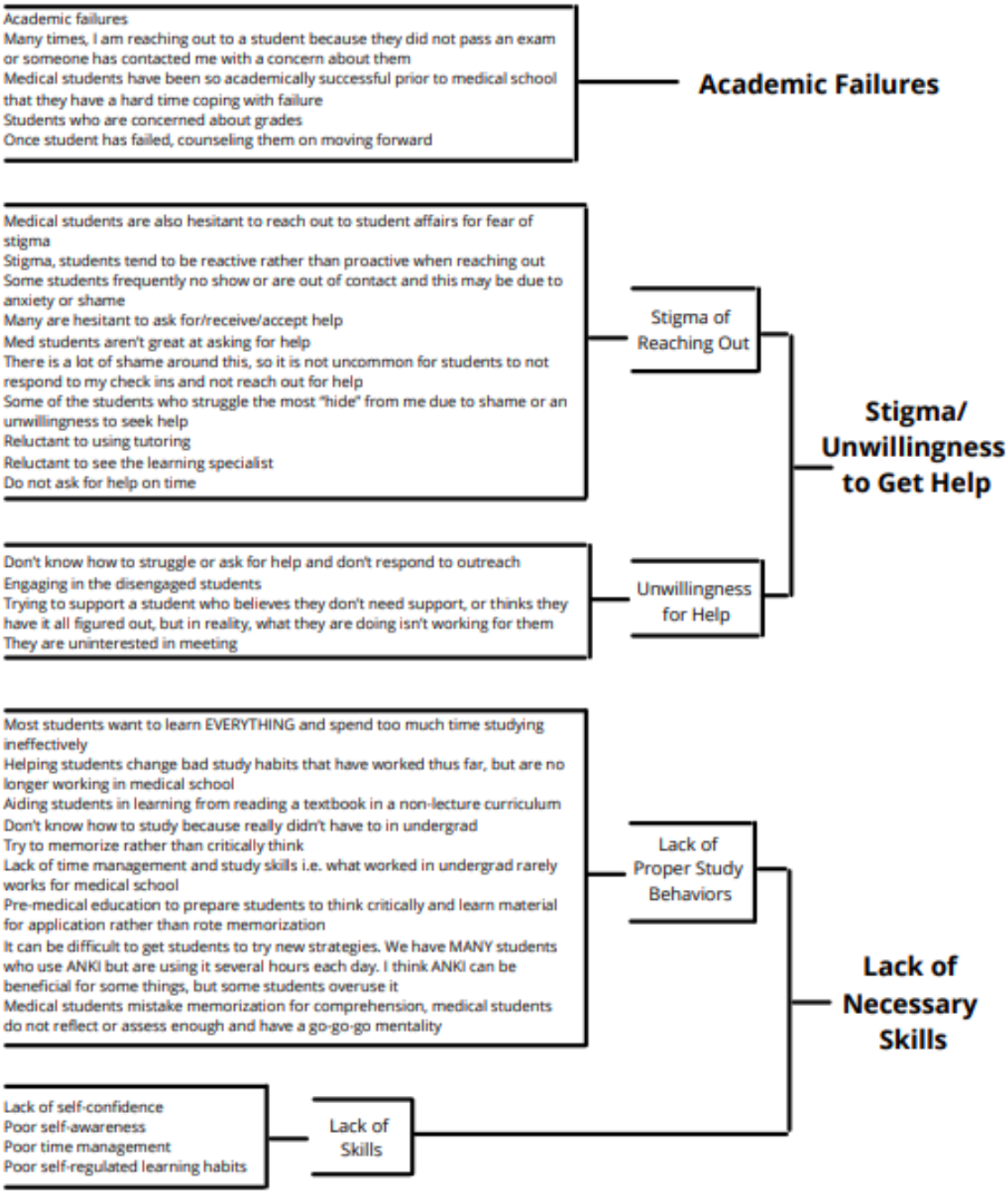
Most Common Challenges Working with Medical Students



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 12 cont.

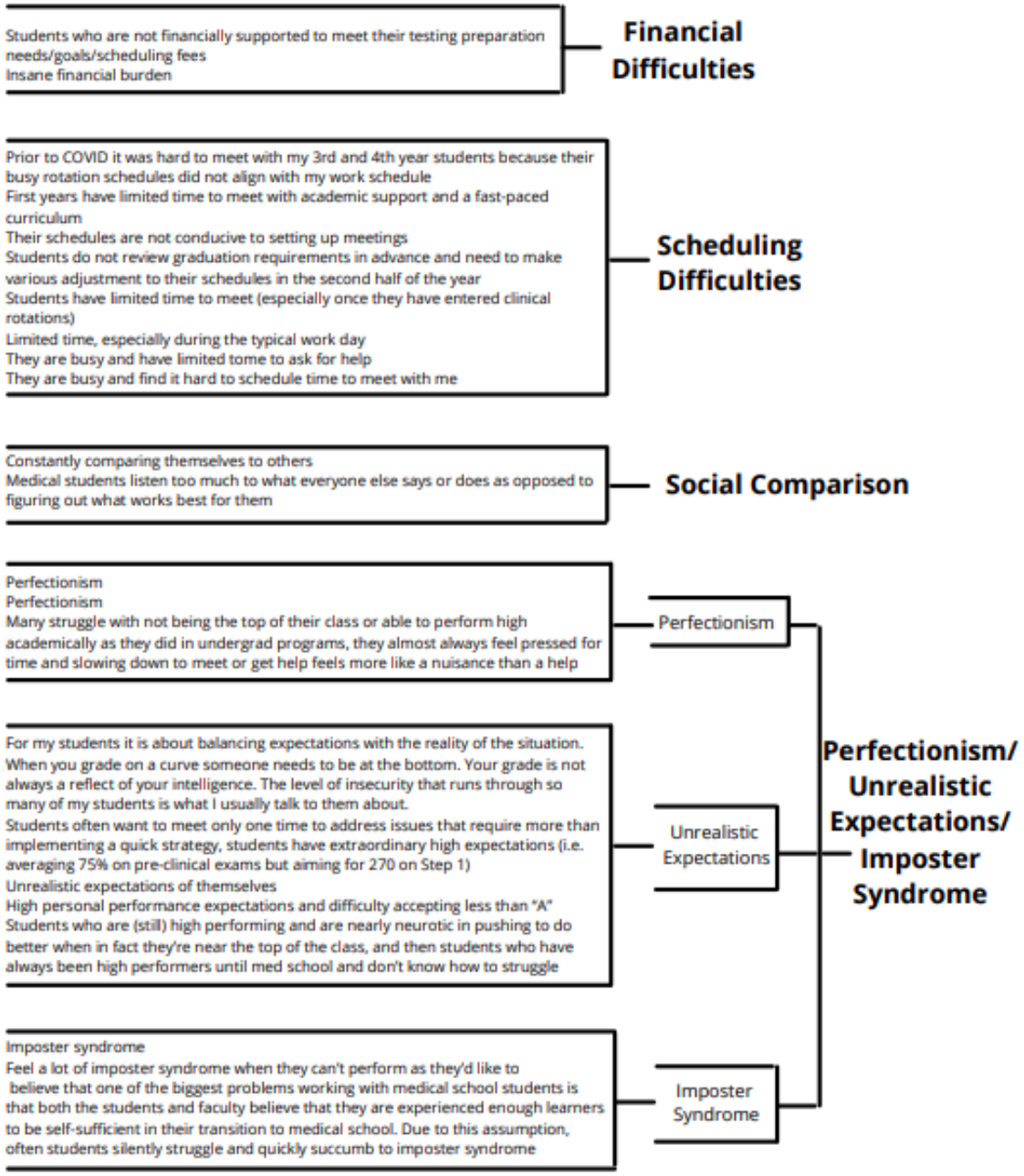
Most Common Challenges Working with Medical Students



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 12 cont.

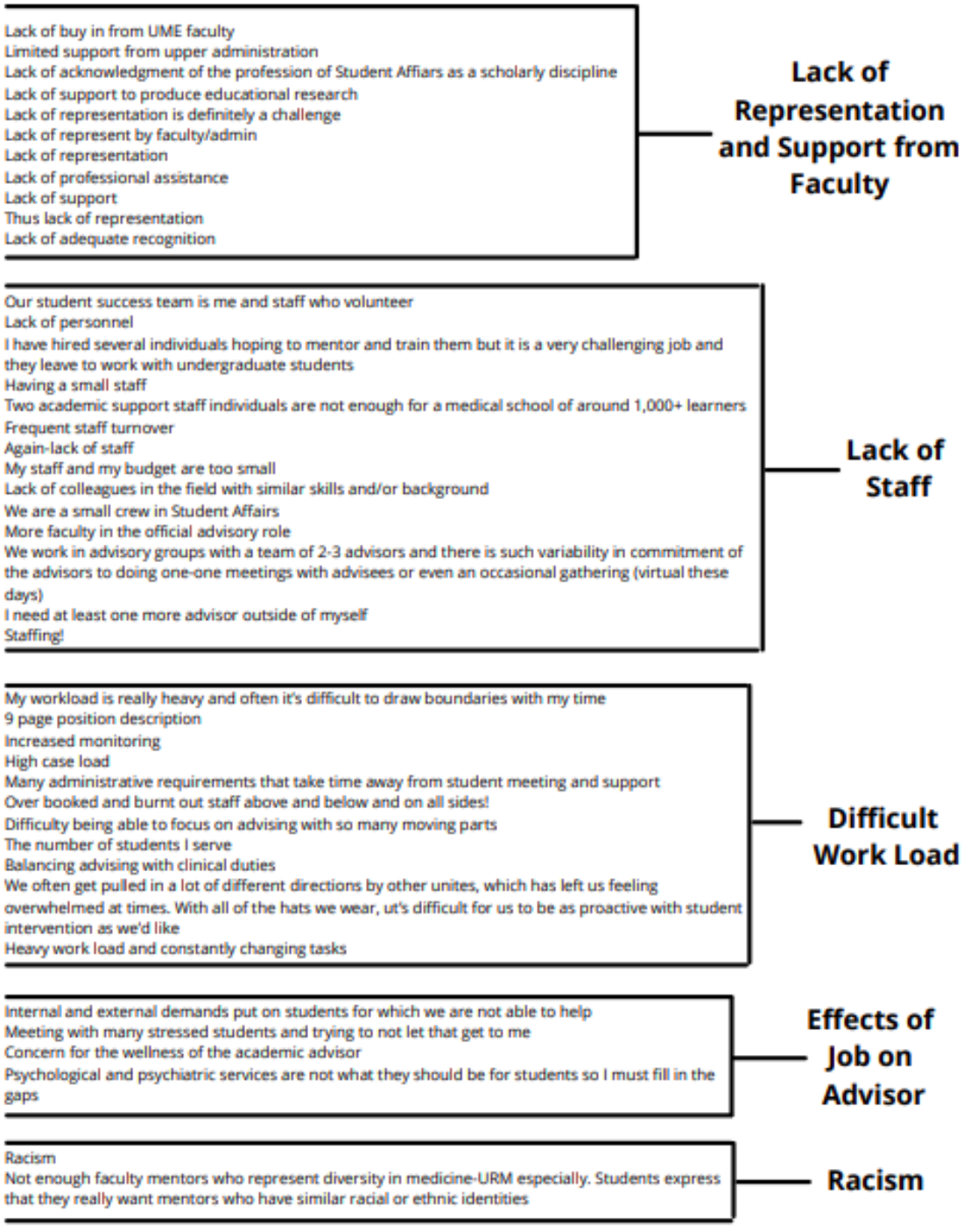
Most Common Challenges Working with Medical Students



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 13

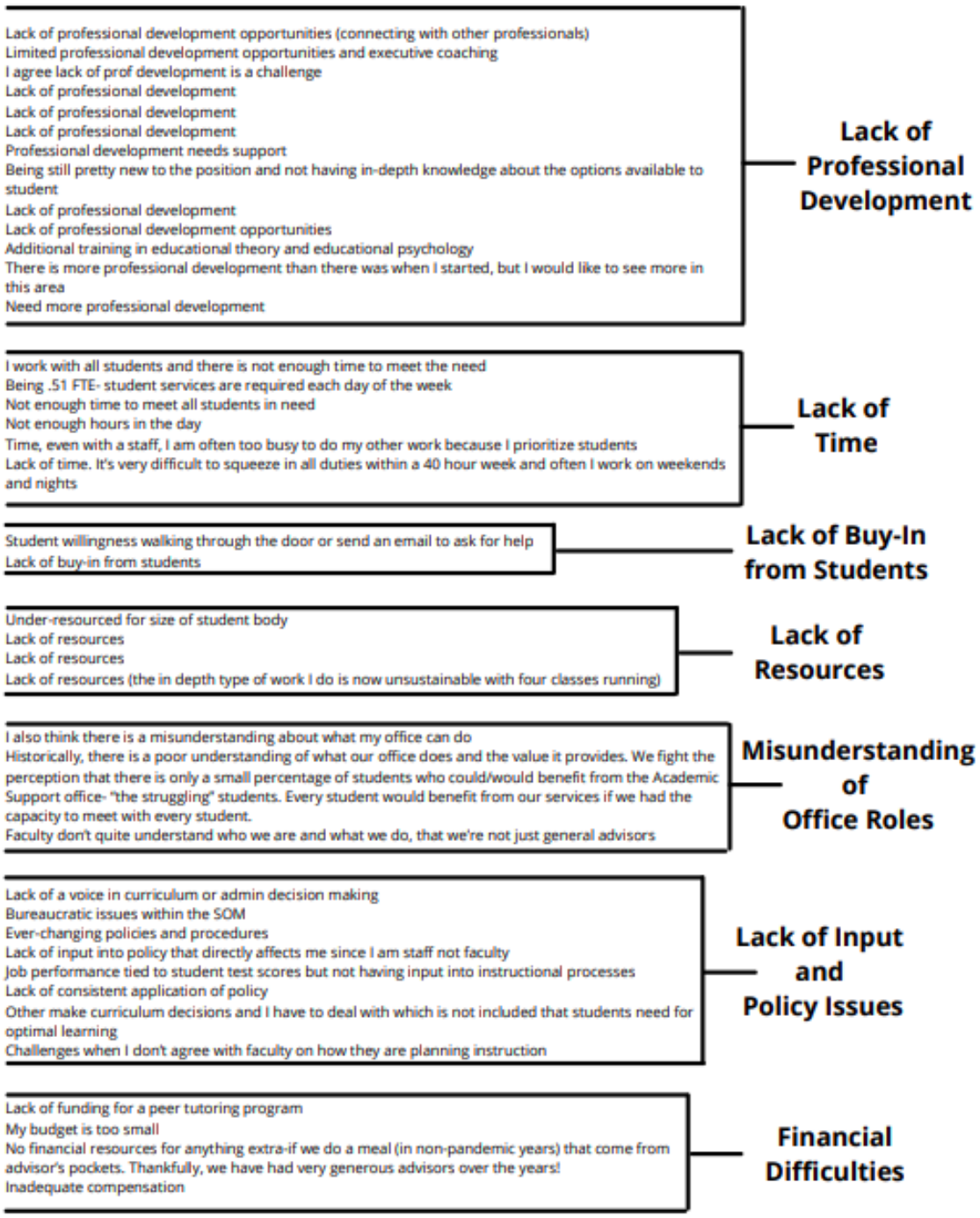
Most Common Professional Challenges Faced by Academic Advisors



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Figure 13 cont.

Most Common Professional Challenges Faced by Academic Advisors



Note. This figure documents the process of pulling categories and themes from the responses provided by the participants.

Appendix B: Final Survey Questions

Demographics

1. Name of Medical School (optional)
2. Job Title
3. Number of years in current position
4. Gender
5. Race
6. Age

Job Preparedness

1. What is your level of education?
2. What educational field was your highest degree in?
3. What type of specific training do you have in academic advising?
    a. Self-taught, written manual, trained by a mentor, previous education, none, other (please list)
4. Did you have specific training in adult learning?
    a. Self-taught, written manual, trained by a mentor, previous education, none, other (please list)
5. Before entering your current position, did you work with medical students in prior professions? Yes/No
6. Before entering your current position, did you work with college level students other than medical students in prior professions? Yes/No
7. Does your institution provide you a specific set of written job roles for your position? Yes/No

8. Do you also serve as a teaching faculty member at the medical institution or are you specifically employed only for academic support? Yes/No

Job Roles

1. Please indicate what year (s) of medical school that you provide specific academic support for (select all that apply)
    a. First Year: Yes/No
    b. Second Year: Yes/No
    c. Third Year: Yes/No
    d. Fourth Year: Yes/No
2. Referrals
    a. Do you contact students who are struggling or at-risk? Yes/No
    b. Do students get referred to you when someone else perceives that they are struggling? Yes/No
    c. Can students contact you when they believe they are struggling? Yes/No
    d. Do you refer students to outside resources such as counseling services, disability resources, financial aid, etc.? Yes/No
3. Meeting Set Up
    a. Do you meet with students…?
        i. Individually
        ii. In Groups
        iii. Both
    b. To set up a meeting, do you use:
        i. A scheduling tool (e.g. schedule once, acuity, etc.)

ii. Email correspondence

iii. Phone correspondence

iv. Other (please list)

4. Career Advising/ Clinical Assistance

    a. Do you assist students with medical career exploration? Yes/No

    b. Are there career advisors at your institution? Yes/No

    c. Do you assist students with clinical shelf exams? Yes/No

    d. Do you assist students experiencing difficulties in clinical skills? Yes/No

    e. Do you assist students with preparing residency applications? Yes/No

    f. Do you assist students in preparing for residency interviews? Yes/No

5. Learning/Study Strategies

    a. Do you teach/explain learning strategies to students? Yes/No

        i. If yes, please explain what learning strategies you recommend your students use.

    b. Do you teach/explain test taking strategies to students? Yes/No

        i. If yes, please explain what specific test taking strategies you recommend your students use.

    c. Do you assist students experiencing test anxiety? Yes/No

        i. If yes, please explain what strategies you recommend to students to help them overcome test anxiety.

    d. Do you assist students with issues of time management? Yes/No

        i. If yes, please explain what strategies you provide your students to improve time management.

e. Do you assist students with goal setting? Yes/No
    i. If yes, please explain what strategies you provide your students to help them set goals.
f. Do you assist students with organizational skills? Yes/No
    i. If yes, please explain what strategies you provide your students to help them with their organizational skills.
g. Do you assist students with concentration and focus issues? Yes/No
    i. If yes, please explain what strategies you provide your students with to help them concentrate and focus more efficiently.

6. USMLE Board Preparation
    a. Do you assist students with USMLE Step 1 preparation? Yes/No
        i. If yes, briefly describe what your role is during student Step 1 preparation. Do you meet with students throughout preparation, create a study schedule, monitor self-assessments, etc.?
    b. Do you assist students with USMLE Step 2 CK preparation? Yes/No
        i. If yes, briefly describe what your role is during student Step 2 CK preparation. Do you meet with students throughout preparation, create a study schedule, monitor self-assessments, etc.?
    c. Do you assist students with USMLE Step 3 preparation? Yes/No
        i. If yes, briefly describe what your role is during student Step 3 preparation. Do you meet with students throughout preparation, create a study schedule, monitor self-assessments, etc.?
7. Other Duties

a. Do you monitor student performance on coursework and exams? Yes/No
b. Do you help students if they are having issues with a faculty member? Yes/No
c. Do you assist students with the transition to medical school prior to their first day? Yes/No
d. Do you discuss personal issues not related to academics with students? Yes/No
e. Do you discuss psychiatric/neurological test results with students regarding learning disabilities? Yes/No
f. Do you give group presentations on general academic advising concerns (e.g. study skills, testing strategies, etc.)? Yes/No

8. Please list any other job roles that you perform that were not listed above.

Job Challenges

1. Think of the most common student challenges that you face working with medical students and list them below. Example: medical students are busy and have limited time to meet, they are over-motivated, they are uninterested in meeting, etc.
2. Think of the most common professional challenges that you face as an academic advisor and list them below. Example: lack of training and professional development, lack of representation at medical school, etc.

VITA

Author: Brittney L. Haong

Place of Birth: Bellevue, Washington

Undergraduate Schools Attended: Green River College
Eastern Washington University

Degrees Awarded: Associate of Arts, 2015, Green River College
Bachelor of Science, 2018, Eastern Washington University

Honors and Awards: Graduated Cum Laude, Eastern Washington University, 2018

Graduate Assistantship, Physical Education Department, 2018-2020, Eastern Washington University

Professional Experience: Internship, Joel E. Ferris High School, Spokane, Washington, 2019