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(Re)defining Success in Academic Medicine: From Metrics to Meaning

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ABSTRACT
Physician burnout is a national epidemic, with many dissatisfied and unfulfilled with their careers. This threatens an already strained healthcare system. Though numerous studies have explored these issues in medicine, data are lacking on what constitutes a successful medical career that is satisfying and fulfilling. We conducted 40 semi-structured, 50-minute interviews of physicians who had achieved the rank of professor in our school of medicine. The interviews centered on how participants defined success and what it took for them to achieve that in their careers. We used inductive content analysis to identify content categories around the topic of success and reviewed all transcripts to identify how participants discussed success in academic medicine. From these, we identified major themes that were synthesized into a new explanatory model of success in academic medicine. Our 40 physician-cohort discussed their perspectives of success and the contributors to it. Four major themes emerged and suggested that success in academic medicine 1) is individually defined; 2) involves making an impact; 3) is based on pursuit of personal passion; and 4) is not defined by traditional metrics of academic productivity. Some or all of these themes were articulated by all participants as being fundamental to their definition of success.

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Accomplished academic physicians defined success as finding personal meaning and "making an impact through one's greatest passion." Multiple participants stated traditional metrics of productivity do not define success. These findings may have significant implications on the epidemic of burnout among academic physicians.

KEYWORDS: Physician, faculty development, career, success, passion

A career in academic medicine can be both highly rewarding and physically and emotionally taxing. Within the typical tripartite mission—clinical care, teaching, and research—of most academic medical centers, there are rich opportunities for service, personal growth, and accomplishment. With those opportunities come a host of expectations for contribution and excellence. Advancement through the ranks of the academe to recognized success requires verifiable excellence across multiple domains. In the process of pursuing broad-based accomplishment, many academic physicians are left doing things that leave them unfulfilled.

Physician burnout has been described as an epidemic, with multiple studies over the last decade indicating that 40-50% of physicians in the United States experience high levels of burnout, and symptoms of burnout are consistently higher in physicians than workers in other fields (Shanafelt et al., 2025). Burnout among physicians is directly tied to one's level of career engagement and professional fulfillment. Physicians experiencing burnout are also more likely to reduce their clinical work effort (Shanafelt et al., 2016), are at increased risk of patient complaints (Welle et al., 2020), providing suboptimal clinical care (Hodkinson et al., 2022; Tawfik et al., 2019; Yuguero et al., 2017), and departing their institution (Hamidi et al., 2018; Willard-Grace et al., 2019; Windover et al., 2018). Shanafelt et al. (2009) have shown the risk of burnout is substantially reduced among physicians who spend at least 20% of their time working on those things they find most fulfilling. Additionally, those engaged in work they find fulfilling are more productive, which has implications for academic achievement. While previous studies have explored what physicians find meaningful about their work, those studies did not focus on the unique values of academic physicians or consider how they define success.

In recent decades, increasing attention has been paid to the value of academic physician faculty development and mentoring programs. These programs are designed to help academic physicians navigate their careers and achieve academic success while providing patient care. One of the first formal physician faculty development programs was developed by Bland and colleagues at the University of Minnesota (Bland et al., 1985; Bland & Froberg, 1982). Thereafter, other similar programs have been developed, such that many academic medical centers now have some type of formal faculty development program and a formal leadership role to oversee it, all with the goal of assisting their faculty to achieve success (Lucas et al., 2018; Sonnino et al., 2013). Several of these programs have been described in detail in the medical literature (Choi et al., 2019; Sandi & Chubinskaya, 2020; Thorndyke et al., 2006; Tung et al., 2021).

Within most of the published literature on faculty development programs, the concept of success—the actual target of the programs' efforts—is either defined and assessed almost entirely by research productivity and academic promotion (Buckley et al., 2000; Hackworth et al., 2021; Jackson et al., 2003; Mandel, 2020; Sambunjak et al., 2006; Sandi & Chubinskaya, 2020; Tung et al., 2021) or not defined at all (Bland, 1995; Bland et al., 1988; Kashiwagi et al., 2013; Morzinski et al., 1994; Pololi et al., 2002; Thorndyke et al., 2006; Vassie et al., 2020). If success in such programs is defined primarily by research productivity, then the many academic physicians who are devoted to clinical care and/or teaching will invariably face limitations to their advancement unless compelled to engage in research activities they find unfulfilling. This narrow definition of success may increase the perception of values misalignment between physicians (Shanafelt et al.,

2021) and may not assess the full value of such programs to help faculty develop and focus their efforts on dimensions that provide meaning and purpose (Buckley et al., 2000). Conversely, if success is undefined, it is nearly impossible to determine with any objectivity if one is on track toward or has achieved it, and advancement is felt to be a highly subjective process. This set of circumstances may drive many academic physicians into pursuing 'safe' activities that may not provide them with career success nor personal fulfillment—both of which greatly increase the risk for attrition and burnout. Such activities in pursuit of traditional measures of academic productivity represent extrinsic motivators which may not align with how faculty physicians define professional success. However, the greatest degree of fulfillment is achieved through intrinsic motivators, especially those that result in optimal experience, what is more often referred to as "flow" (Csikszentmíhalyi, 1990).

If there is misalignment between traditional external motivators and metrics of career success and physicians' intrinsic motivators and personal metrics of career success, then those physicians are unlikely to achieve fulfillment, thereby contributing to burnout. Improved understanding of the ways academic physicians define success may provide a better framework to advance professional fulfillment and mitigate this risk of burnout.

Guided by a constructivist grounded theory orientation and sensitized by self-determination theory (Ryan & Deci, 2000), we explored how full professors in a large, academic medical center define "success" and what conditions and mechanisms they believe produce it. Our aim was to derive a data-driven, explanatory framework of success rather than testing *a priori* hypotheses.

Methods

The Physician Leaders Study (PLS) was a single-center, qualitative, cross-sectional investigation of perceived contributors to career success amongst academic physicians (Collins et al., 2024, 2025). Study interviews were conducted from November 2020 through December 2021. We used a constructivist grounded theory approach (Charmaz, 2006) with inductive coding and constant comparison, treating self-determination as sensitizing—not determinative—constructs. We performed study interviews using an inductive content analysis approach. We made observations, and major themes/categories and subcategories emerged regarding perceived contributors to physician success in academic medicine. We then developed a cohesive explanatory framework of success (Vears & Gillam, 2022).

Participants

Participants in the PLS were full professors with current faculty appointments in the school of medicine who currently or previously held leadership roles within the school. We employed a purposive sampling technique (Cochran et al., 2019). We recruited participants in a stepwise fashion beginning with leaders in the principal investigator's clinical division (Pediatric Cardiology), followed by the Department of Pediatrics, and subsequently the broader school of medicine. In keeping with a purposive methodology, additional participants were identified after the study was ongoing, with the goal of achieving a robust study cohort with equal representation of men and women, which was set *a priori* at 20 in each of the two groups.

Interviews

Interviews were conducted by a single interviewer (M.S.) with training and experience in qualitative interview methodology. Interviews were scheduled for 60 minutes according to the

availability of the interviewees with the intention of spending at least 50 minutes conducting the interview. All interviews were conducted via videoconference using Zoom (Zoom Video Communications, San Jose, CA). With interviewees' assent, the sessions were recorded. When interviewees declined to be recorded (3 participants), manual notes of participants' responses were taken by the interviewer. Since our intent was exploratory, no *a priori* conceptual framework was employed to shape the interviews (Glaser & Strauss, 1967; Vears & Gillam, 2022). The study interviews were initiated with the question, "What are the experiences, aptitudes, and competencies physicians need to be successful in academic medicine?" That question was followed by "What do you see as important for success in academic medicine?" and "How would you define success in an academic medical career?" Based on participant responses to these questions, the interviewer asked clarifying questions to allow the participant to develop their comments more fully (Supplemental Table). Some questions were iterative as early, distinct concepts emerged.

Upon completion of each interview, the audio recordings were transcribed using an online speech-to-text transcription service (Rev.com, Austin, TX). The transcripts were deidentified and assigned the study identification number. The interviewer reviewed all transcripts against the audio recordings and edited them for accuracy as needed. The finalized transcripts were uploaded into a secure, web application for managing, analyzing, and presenting qualitative and mixed-methods research data (Dedoose Version 7.0.23, SocioCultural Research Consultants, Los Angeles, CA).

Codification and Thematic Review

As the PLS interviews were performed, the interviewer identified several major emerging themes regarding success in academic medicine. As the themes emerged, the study team used a web-based document as a virtual canvas on which codes could be arranged and rearranged to formulate a thematic map of relationships amongst themes and subthemes. Themes in the data were identified by respondents' use and repetition of terms, phrases, and/or concepts related to accomplishment and career success. Throughout the course of the interviews, the emerging themes and subthemes were reviewed in a group context with two other study team members (R.T.C. and R.A.S.), and those other study members provided feedback on the codes, concepts, and emerging themes. Upon completion of the interviews, the study interviewer analyzed and codified each transcript in accordance with inductive content analysis (Vears & Gillam, 2022). Specifically, informed by the foregoing discussions and group meetings, the interviewer made observations and identified given patterns and themes in the data. The study interviewer completed the initial inductive coding phase for all transcripts and assigned topical codes for sections throughout the texts (Singh & Estefan, 2018). This analysis of the transcripts was conducted in a three-part process, beginning with open coding of small segments that generated categories, moving to defining the categories, and finishing with selective coding of an evidence-based conceptual framework (Cochran et al., 2019).

After completion of the initial inductive coding phase of all transcripts, the interviewer reviewed the completed coding with the two other study team members (R.T.C. and R.A.S.). These two team members then, individually, conducted the same inductive review process of the transcripts, using iterative coding to assign topical and concept codes into emerging groups surrounding the concepts of accomplishment and career success. This process allowed triangulation of codes and themes and led to further dialogue and direction with evolving thematic categories (O'Connor & Joffe, 2020). Our approach to triangulation was one of consensus, wherein excerpts, codes, and themes were only utilized when there was consensus amongst the three transcript reviewers/coders (M.S., R.T.C., and R.A.S.). After completion of this stage of review and coding,

the group again reviewed and discussed the virtual canvas of themes and subthemes. These themes and subthemes were then used to form conceptual models for given major themes.

Ethical Considerations

The study was approved by the institutional review board of our university's school of medicine (protocol #56839). Potential participants were invited via email to participate in the study. Each potential subject received a study information sheet describing the study purpose and procedures, as well as standard regulatory information such as risks and benefits, participant's rights, and contact information. Participation in the study was deemed implied consent.

Comparisons of Themes of Success Among Groups

Following completion of all qualitative procedures, we identified participant characteristic groups with enough numbers to allow for meaningful comparisons of study themes and codes. These groups included gender, age group (dichotomized as 45-to-59 years versus ≥ 60 years), and current leadership position. We calculated frequencies and proportions of study themes and codes as a means of descriptive pattern-assessment. We then used χ^2 proportion test to compare those themes and codes with a difference in proportions of ≥20%. We considered an alpha < 0.05 as significant.

Results

Forty interviewees (50% female) participated in the study. The median age of participants was 56 years (IQR 49, 64). Table 1 presents participant characteristics.

Table 1.
Characteristics of Study Cohort

Characteristic	Number [IQR] or (%) N = 40
Female	20 (50%)
Age (years)	56 [49, 64]
Age grouping	
45-49 years	12 (30%)
50-54 years	6 (15%)
55-59 years	8 (20%)
60-64 years	4 (10%)
≥65 years	10 (25%)
Years as Professor	8 [2, 18]
Current role*	
Medical director	15 (38%)
Division chief	8 (20%)
Department chair	11 (28%)
Served in a leadership role prior to current role	40 (100%)
Served in a leadership role in a professional society	36 (90%)
Publications at time of interview	119 [59.3, 183.4]

Four major themes emerged from participants' responses regarding the definition of success in academic medicine: 1) success is individually defined; 2) involves making an impact; 3) is based on pursuit of personal passion; and 4) is not defined by traditional metrics of academic productivity. Some or all of these themes were articulated by all participants as being fundamental to their definition of success. Table 2 summarizes the themes and provides illustrative quotes from participants.

Table 2.
Summary of the Major Themes of Success and Illustrative Quotes

Theme	Example Participant Quote
Success in individually defined	…depending on who you are, I think you define success differently. And I think a lot of that depends on the individual. (Participant 9, Division Chief)
Success involves making an impact in one's field	Success in an academic career, I think one part is having an impact. People go into academic sort of careers to try to have some meaningful impact. (Participant 3, Medical Director)
Success is based on pursuing one's personal passion	…to be successful, and to me what that ends up meaning is that people need to think about those things that really matter to them […] what areas they're passionate about. (Participant 19, Department Chair)
Success is not defined by traditional academic metrics	Traditionally, academic success has been measured in grants, publications, and advancement, promotions. I don't think that applies as universally today as it may have 20 or 30 years ago. (Participant 6, Division Chief)

Success is individually defined

Over one-third of participants expressly stated that success is defined by the individual. Those participants generally described the individual nature of the definition as being related to one's career goals, personal interests, and a sense of accomplishment or personal fulfillment in the two. Participant 2, a Division Chief, demonstrated this:

> "I think each person has to have his or her definition or understanding of what success is, or what success looks like."

Similarly, Participant 5 also said:

> "The definition, of course, depends on the individual. How I define it is […] fulfilling your potential in what you want to achieve."

Success involves making an impact in one's field

Half of participants believed success involved making an impact on or contributing to one's field of interest. For many of the participants, their concept of impact was associated with a legacy,

something that would extend beyond their own careers. For example, Participant 20, a Department Chair, stated:

> "[…] creating new knowledge that is impactful in the field of science and medicine […], the brass ring […] What can I do that will really make an impact, that will make a difference? Does it really have an impact? Does it make a difference? Because we want to spend our time and energy on things that make a difference."

Participant 14, a Division Chief, said:

> "...you have to have a piece of yourself that's making a contribution to the field, where you are going to leave the field in some way better than the way you found it."

Participants also cited being able to create an impact through improved health of patients, scientific discovery, and investing in the development of future generations of physicians as dimensions of success.

Pursuing one's personal passion

Over one-fourth of participants identified pursuing one's personal passion in an area of interest as being integral to their definition of success in academic medicine. Following their passion provided participants with motivation, a sense of happiness and fulfillment, and being absorbed in their endeavors. Participant 24, a Department Chair, expressed this thusly:

> "One of the biggest failings I see is that people don't find that particular passion […] figure out what that is that you want to do, not what your mentors do and not what someone tells you to do and not what you think you should do, but what you really want to do. […] and you're willing to wake up at two in the morning and think about it, and you're willing to work a little extra hard, so you can get the support you need to be able to do it."

Similarly, Participant 38 said:

> "The people who are successful in their careers, they must be driven. They must be driven by a passion..."

Participants who discussed the role of passion in success often used terms, such as "happy," "invigorated and excited," and enjoyment, that conveyed an elemental part of success is emotional.

Success is not defined by traditional metrics of academic productivity

When elaborating their personal definition of success, only one participant referred to traditional metrics of academic productivity, specifically achieving the academic rank of Professor. Including that one participant, there were six others who spoke about traditional metrics of success, the remaining five of whom spoke specifically about the importance institutions place on those metrics.

Apart from not equating traditional metrics of academic productivity (e.g., promotion, academic rank, publications, grant funding, etc.) with success, nearly a quarter of participants specifically commented those metrics are not equivalent to success. A few of those stated though those metrics may be a byproduct of the thing's participants viewed as indicative of success, by themselves they were not representative of actual success. For example, Participant 30, a Department Chair, stated:

> "Sitting back on a rocker at 80-years-old […] I'm not going to sit on my porch and say, 'I had this much funding from the NIH' or 'I had an H-factor of…', that means I was productive. Can you be successful if those metrics are poor? Probably not—one is related to the other. I think having reasonable performance in those metrics is necessary, but not sufficient […]"

In fact, only one participant (Participant 23) defined success as achieving traditional academic metrics. The remainder of study participants described it in terms of the previously identified themes (e.g. achieving personal goals, making an impact, and pursuing one's passion) and achieving personal fulfillment.

Discussion

This relatively large qualitative study explored how highly accomplished academic physician leaders define success in an academic medical career. There were four principal findings. First, those highly accomplished academic physician leaders define success in individual terms and apart from traditional metrics of academic productivity. Second, they perceive success as closely tied to one's drive and subsequent ability to make a lasting impact—what could be called an academic legacy—in one's principal area of interest. Third, success is borne out of one's personal passion and interest. Finally, in the collective opinion of these highly accomplished academic physicians, success in academic medicine centers on finding meaning and could be defined as "making an impact through one's greatest passion."

Our original intent with this study was to determine the competencies, aptitudes, and experiences that academic physicians need to achieve professional "success," and our interview questions reflected that. Yet, when posed the questions, participants repeatedly redirected away from traditional academic metrics and toward intrinsic motivators. They framed success in regard to personal fulfillment. This common, overarching theme stands in contradistinction to the metrics that formal mentoring programs, promotion boards, academic medical centers, and professional associations espouse when assessing an academic physician's success: scientific productivity, publications, grant funding, and promotion (Mandel, 2020; Sambunjak et al., 2006; Sandi & Chubinskaya, 2020). The discrepancy between how successful physicians (who had all achieved the rank of full professor at a prestigious academic institution) reflected on their definition of success and what formal organizations use as indicators calls attention to critical gaps. These gaps could be viewed as an opportunity to improve person-organization fit. Person-organization fit is a conceptual framework that broadly describes the degree of alignment or compatibility of values, goals, physical, cultural, structural, or other elements between an individual and an organization in which the individual works (Kristof-Brown et al., 2002). Among physicians, person-organization fit has been positively associated with job satisfaction and hospital performance (Chen et al., 2020; Shanafelt et al., 2021). Conversely, lack of person-organization fit is associated with decreased engagement and intention to leave (Song et al., 2019). When considered in light of the importance of engagement, fulfillment, and satisfaction in preventing physician burnout, the gap resulting from lack of fit between physicians and their organizations as to what constitutes success seems a significant finding of this study (Shanafelt et al., 2009, 2015). This finding must be considered within the reality that the traditional measures of academic productivity are fundamentally important to the accomplishment of the mission of any given academic medical center. Several participants in the study indicated that their own academic productivity was a byproduct of identifying their passion and making an impact in that area. Thus, while the two things (i.e. the metrics of the academic institution and those of the individual physician) can seem at odds, they

are not intrinsically antagonistic. In fact, the greatest level of success seems most likely in an environment where both are recognized and fostered. This observation may represent an opportunity to formally incorporate both components as part of the goal and success measures of faculty development programs. Further investigation is warranted to assess not only how our finding might help mitigate physician burnout, but also how the degree of person-organization fit and a mutually supportive environment may contribute to occupational well-being.

Participants viewed success as making a meaningful and lasting contribution or impact in one's primary area of passion and interest. Making a positive contribution in one's field in a way that improves the lives of others is consistent with the concept of generativity. Generativity has been described in myriad ways, including "a desire to nurture, assist, or be of some important use to other people" (McAdams & Aubin, 1992, p. 1005). In a manner more aligned with the comments from our participants, McAdams described generativity as "the creation of a self-defining legacy that may be offered to society and to succeeding generations as a gift" (McAdams & Aubin, 1992, p. 1005). Contributing to others in such a way has been shown to predict a sense of meaning or purpose more than any other activity (Fuligni, 2019). Higher levels of generativity have also been associated with increased meaning in one's work and greater degrees of life satisfaction (Csikszentmíhalyi, 1990; Shilo-Levin et al., 2021). Given the strong associations of burnout and meaning in satisfaction with one's work, it should come as no surprise that increased generativity prevents burnout and fosters professional fulfillment (Aparisi et al., 2020; Shanafelt et al., 2009). Additionally, beyond the work environment, higher self-perception of generativity has been associated with improved health and psychosocial functioning (Gruenewald et al., 2012). Considering these data, it is clear academic physicians would benefit from a greater sense of generativity—in the words of our respondents, making an impact or contribution—in their careers. Further, it seems that efforts to increase physicians' ability to make and recognize their professional impact or contribution would be highly beneficial not only for physicians, but also for the patients they serve and the academic medical centers in which they work.

The physicians in our study identified success as being able to make an impact in the area where they were most passionate. Our participants described those things about which they were passionate as the things that would lead them to get up early, stay late, and get lost in their work. Their passions led them to high levels of engagement and a sense of fulfillment. Passion has been defined as "a strong inclination toward a self-defining activity that one likes (or even loves), finds important, and in which one invests time and energy on a regular basis" (Vallerand, 2012, p. 3). When one has a harmonious passion for an activity, that activity comes to represent a central feature of their identity (Vallerand, 2012). Harmonious passion, as opposed to obsessive passion, plays a crucial role in positive psychological well-being. Regularly engaging in a meaningful activity driven by harmonious passion leads to a positive effect, protection against negative affect, and significantly increased psychological well-being over time (Philippe et al., 2009, 2010; Rousseau & Vallerand, 2008). The positive effects of harmonious passion on well-being are facilitated by positive emotions associated with the activity about which one is passionate (Fredrickson, 2001). Harmonious passion toward activities is positively related to life satisfaction and vitality (Vallerand, 2012; Vallerand et al., 2008). In multiples studies, harmonious passion in one's work has been shown to increase work satisfaction and decrease burnout (Lavigne et al., 2012; Vallerand et al., 2010). When physicians engage regularly in those activities by which they are most fulfilled, which could be equated to that about which they are most passionate, the risk of burnout is significantly reduced and professional fulfillment enhanced (Shanafelt et al., 2009). These data suggest when physicians can invest themselves regularly in a professional activity about which they are passionate, they will have greater psychological well-being, less risk of burnout, and a sense of professional success.

Finally, the academic physician leaders in our study have provided the basis for defining success in an academic medical career as intrinsically driven by self-motivation, passion to pursue interest, and desire for lasting impact. These drivers align remarkably with longstanding evidence from positive psychology that points to what contributes to optimal performance (Csikszentmíhalyi, 1990; Nakamura & Csikszentmihalyi, 2014). Our participants, including all those in Department Chair roles, did not view the extrinsic motivations of the traditional metrics of academic success as reflecting how they define success. This finding has important implications regarding the ongoing problem of physician burnout across the country (Shanafelt et al., 2017). If physicians have to achieve certain traditional metrics to be recognized as successful, but they do not see the value of those to the mission of the academic medical center or to their own definition of success, the majority of their efforts may be toward things they find unfulfilling, and they will ultimately end up unfulfilled in their careers and will be at much higher risk of burnout (Shanafelt & Noseworthy, 2017). When considered with the three preceding principal findings of our study, it is clear there is work to be done. While important, traditional academic measures of productivity are not the ways in which academic physicians define success. It is important that academic medical centers recognize and embrace this, including providing tools and resources to help physicians define and accomplish personal aspirations for making an impact in the dimensions that matter most to them; professional coaching is an example of such a resource that has been shown to reduce burnout and disengagement, while increasing professional fulfillment (Kiser et al., 2024). When the need for harmonizing these domains is recognized, it provides new opportunities to reimagine mentoring programs, help physicians engage in career crafting, and simultaneously advances the mission of academic medical centers and promote meaning in work for individual physicians. By doing so, there is every reason to believe that significant, positive improvements could be made in decreasing the problem of physician burnout.

Implications

As the first study to our knowledge investigating how academic physician faculty define professional success, our research provides novel and important insights into what leads to a satisfying and fulfilling academic medical career. Our data clearly demonstrate that traditional metrics of academic productivity are not how academic physicians define a successful career. Rather, we identified that a career that one is most likely to actively experience, as well as look back on, as successful is grounded in pursuing with passion something personally interesting and then being able to make a lasting difference related to it. Consequently, one experiences a deep sense of career satisfaction and professional fulfillment.

While it could be suggested these findings should be self-evident, two considerations should be noted. First, from the outset, we asked participants about traditional academic experiences and metrics that produce "success," yet they consistently directed the interviews toward intrinsic motivators and individual standards of success. This is a somewhat unexpected finding, as the self-evident result should have been related to traditional metrics. Second, and likely more importantly, if these findings are self-evident, it is unclear why academic physicians across the country report being professionally unfulfilled, disengaged, and burned out. It is clear that both within academic medicine and many traditional efforts to foster faculty development, our findings are not self-evident. This potential disconnects between what seems intuitive and what is happening in academic medical centers across the country represents an opportunity and, we believe, makes our findings important and timely.

There are two notable practical implications of our work. First, pursuing traditional academic metrics of productivity in the absence of a connection to one's passion is a recipe for

professional burnout and dissatisfaction. Hence, both are needed. By reframing one's mindset from focusing only on traditional metrics and incorporating areas of personal interest and fulfillment, physicians may not only have more career satisfaction, but based on our data, may also remain highly academically productive. Additionally, these findings have implications for physician career development efforts. To help academic physicians build careers they will someday deem as successful, career development programs should enhance efforts to help physician faculty identify their greatest areas of passion and how they may center their career development and academic pursuits around them.

Limitations

Although our study has multiple strengths, there are limitations that must be considered. Our inferences are intended as analytic generalizations (i.e., transferability where contextually appropriate) rather than population estimates. Our study is from a single, elite private academic medical center in the United States, which may have implications for the generalizability of our findings. We only interviewed academic physicians who had attained the rank of Professor, most of whom were in the Department of Pediatrics, and our results may not be reflective of other ranks, specialties, institutions, cultures, or career stages. We interviewed Professors only because we sought the perspective of those academic physicians who could, by standard academic metrics, be reasonably argued to be highly successful. It is important to note that nearly-half of our study population were recruited to our institution as full Professors, and over half of those were recruited from public institutions. We investigated how academic physician leaders define professional success and did not explore how they define success in personal life. Based on their ages, our participants are generational representatives of the Baby Boomers and Generation X. It is possible, as younger generations advance in their careers, they might have different perspectives on success. Given the results of our study and the known proclivity of Millennials to seek out meaningful and fulfilling work, we suspect, if anything, younger generations may be more aligned with our data than older generations such as Baby Boomers (Williams et al., 2017). Given our consensus approach to triangulation of excerpts, codes, and themes, we did not perform inter-rater reliability analyses, which could have implications on the strength of our data. While our data provide important insights regarding what constitutes success in academic medicine, formal theory development and multi-site, multi-rank validation testing is required.

Author Contributions

Dr. Collins developed the study concept, developed the methodology, analyzed and codified the data, and wrote the original draft of the manuscript, as well as having made subsequent revisions. Dr. Shanafelt made critical revisions to the manuscript. Dr. Purkey made critical revisions to the manuscript. Ms. Singh conducted the study interviews and aided in data codification and analysis. Dr. Sanford participated in the design of the study, analyzed and codified the data, and made critical revisions to the manuscript.

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Institutional Review Board Statement

The study was approved by the institutional review board of our university's school of medicine (protocol #56839). The study adhered to the Declaration of Helsinki. Each potential subject received a study information sheet describing the study purpose and procedures, as well as standard regulatory information such as risks and benefits, participant's rights, and contact information. They had the opportunity to review the study information and ask questions if desired. Participation in the study was deemed implied consent. This constituted the informed consent process as approved in the study protocol, and informed consent was obtained from every participant.

Informed Consent Form

Each potential subject received a study information sheet describing the study purpose and procedures, as well as standard regulatory information such as risks and benefits, participant's rights, and contact information. Participation in the study was deemed implied consent.

Data Availability Statement

We do not have institutional review board approval to share the study data.

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Supplemental Table. Study interview questions

What are the experiences, aptitudes, and competencies physicians need to be successful in academic medicine?
What do you see as important for success in academic medicine?
How would you define success in an academic medicine career?
What are one or two pivotal experiences that made your success possible?
What were some of the skills you had to develop as you moved into new roles in your career?
How did you acquire new important skills?
What role did mentors play in your career development and success?
What are some of the most important pieces of advice you give to trainees or junior faculty?
What were the important events that directed you in selecting a career path?
In a world with no limitations, what do you think would be the ideal physician career development opportunities that an academic medical center would provide?
If you could travel back in time and give advice to your earlier-career self, what might you tell yourself?