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EXPLORING THE RELATIONSHIP BETWEEN GRIT, WORK ENGAGEMENT, AND CAREER SUCCESS AMONG U.S. PHARMACISTS

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Abstract

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Background. Career success can be examined from an objective perspective by assessing tangible measures of success, such as salary, or from a subjective perspective by examining an individual's reflections of their own career. While previous literature has identified characteristics of pharmacists that contribute to professional success, there is a lack in literature regarding whether certain traits or job-related characteristics may predict success.

Purpose and Objectives. The purpose of this study is to investigate the effect of grit and work engagement on career success among practicing pharmacists in the United States (U.S.). A secondary objective is to identify how pharmacists describe career success.

Methods. This cross-sectional study was conducted through an anonymous, online survey distributed to pharmacists throughout the U.S. The 65-question survey included the Grit-S, UWES-9, and SCSI scales to measure grit (goal-oriented resilience), work engagement with positive emotions, and subjective career success, respectively. The survey captured demographics, included validity questions, and asked open-ended questions to describe career success. After validity testing, multiple regression analysis was performed using SPSS® to examine the impact of grit and work engagement on subjective career success. Open-ended responses underwent conventional content analysis.

Results. 586 survey responses were included in the data analysis. Multiple regression analysis revealed that both work engagement ($p < 0.001$, $\beta = 0.52$) and grit ($p < 0.001$, $\beta = 0.18$) uniquely accounted for variation in subjective career success, with the variables collectively explaining 36.7% of the variation ($R = 0.6060$, $p < 0.001$). Work engagement is a stronger predictor than grit, supported by the comparison of the standardized coefficient. However, grit is not a significant moderator of the relationship between work engagement and success ($\Delta R^2 = 0.001$, $p = 0.437$). Qualitative analysis indicated that the three most common themes pharmacists employed to describe career success included "satisfaction" (29.1%), "impact on patient care" (22.7%), and "impact on students" (16.7%), while "financial compensation" (4.2%) and "leadership" (1.1%) were among the least common themes utilized to describe success.

Conclusion. The findings indicate that cultivating grit and encouraging a positive work-related mindset among pharmacists may lead to their potential career success. By identifying factors or concepts that can be predictors of professional success among pharmacists, we may provide pharmacy practice sites with information to spark conversations between pharmacists and management leaders regarding long-term planning and career goals.

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AACP	American Association of Colleges of Pharmacy
CI	confidence interval
CINAHL	Cumulative Index to Nursing and Allied Health Literature
COVID-19	Coronavirus disease 2019
CPhA	California Pharmacists Association
CSHP	California Society of Health--System Pharmacists
df	degrees of freedom
IRB	Institutional Review Board
MS	Master of Science
OR	odds ratio
PGY1	Post-graduate year 1
PGY2	Post-graduate year 2
PharmD	Doctor of Pharmacy
RPh	registered pharmacist
RR	relative-risk ratio
SCSI	Subjective Career Success Inventory
SD	standard deviation
Std.	standard
U.S.	United States
UWES	Utrecht Work Engagement Scale
VIF	variance inflation factor

CHAPTER 1: INTRODUCTION

The concept of career success is one that has a different meaning to each individual, and as such can be examined from multiple perspectives (Gunz & Heslin, 2005). While objective career success can be measured by examining visible indicators of success, such as salary or number of promotions, subjective career success is measured by assessing how people feel about their work experiences. The 2020 Industry Outlook by the National Healthcareer Association explored trends impacting daily work and success among various allied health professions. It was found that while each individual has a different path to career success, there are various factors, such as education, socioeconomic status, ethnicity, years of experience, and professional certifications, which may play a role in navigating that path (National Healthcareer Association, 2020).

Each pharmacist within the numerous fields of the profession has their own unique background and experiences that led them to their current position, whether that be their education, history of post-graduate training, practice setting, specialty, or personality traits and characteristics. Objectively, their success can be measured by examining differences in salary or job promotions. However, in a continuously evolving career landscape, an individual's perception of their career success may be influenced by factors such as autonomy, work-life balance, satisfaction, and goal fulfillment (Poon et al., 2015; Shockley et al., 2016). After gaining an understanding of what a pharmacist values as markers of career success, we can attempt to identify personal or professional qualities and experiences that may predict career success among pharmacists.

Background

Grit

One such personality trait that has proven to predict successful outcomes in both adult and adolescent populations is grit (Duckworth & Quinn, 2009). Defined by Angela Duckworth and colleagues (2007) as an "individual's perseverance and passion toward their long-term goals", grit has been found to be a predictor of success in both the medical profession and medical education (Dam et al., 2019; Duckworth et al., 2007; Miller-Matero et al., 2018). An individual with a high level of grit is thought to express unrelenting commitment toward completing a specific goal, despite experiencing obstacles.

Duckworth and colleagues (2007) initially created a 12-item scale to measure grit, called Grit-O, which was later shortened to the eight-item Grit-S (Appendix A). The Grit-S was found to be psychometrically stronger than the Grit-O and is, therefore, the preferred instrument to measure grit (Duckworth & Quinn, 2009). The Grit-S is a self-administered survey that consists of two subscales: consistency of interest and perseverance of effort. Consistency of interest reflects the tendency to avoid changing goals and interests frequently, while perseverance of effort reflects the tendency to work hard despite being faced with setbacks.

Work Engagement

While grit examines one's determination and dedication towards long-term goals, the concept of work engagement examines an individual's emotions surrounding their current work activities. According to Schaufeli and Bakker (2004), work engagement can be considered a counterpart to burnout. Individuals who experience high levels of burnout may be more exhausted and express cynical emotions and thoughts regarding their work. In contrast, individuals who are engaged in their work have a sense of energy and connection with their work

activities, and thus perceive themselves as being able to meet the demands of their present work (Schaufeli & Bakker, 2004). Schaufeli and Bakker (2004) developed and validated the Utrecht Work Engagement Survey (UWES), which is a 17 question self-reported questionnaire that reflects how often a respondent experiences positive emotions towards their work. The UWES is comprised of three subscales: vigor, dedication, and absorption. Vigor is described by as having high amounts of energy and mental resilience while working, the willingness to devote effort into one's work, and having determination despite any setbacks. Dedication refers to being strongly involved in one's work and feeling significance, enthusiasm, and pride towards work. Absorption is associated with being fully focused and happily immersed in one's work.

The UWES-9 is a shortened version of the original UWES questionnaire, composed of nine items rather than 17 (Appendix B). This shortened version of the questionnaire correlated highly with its original, longer counterpart, sharing greater than 80% of the subscales' variances, and its use is preferred over the original UWES to measure work engagement (Schaufeli, Bakker, & Salanova, 2006).

Career Success

As previously mentioned, career success can be measured from both objective and subjective perspectives. A multidimensional approach to assess career success was developed by Shockley and colleagues in 2014, in the form of the Subjective Career Success Inventory (SCSI) (Appendix C) (Shockley et al., 2016). The scale consists of eight dimensions: recognition, quality work, meaningful work, influence, authenticity, personal life, growth and development, and satisfaction. Each dimension consists of three items, giving the scale a total of 24 items that prompt an individual to consider their career as a whole. Overall, the SCSI was created as a way

to obtain a more comprehensive picture of subjective career success, particularly as a concept that is distinct from career satisfaction and traditionally objective measures of success.

Statement of the Research Problem

A literature search was conducted through PubMed, PsychInfo, and CINAHL. Search terms included "grit", "work engagement", and "pharmacy". The search included articles that were published through 2020. It was found that the impact of grit and work engagement on career success among a sample of practicing pharmacists had not yet been investigated. Therefore, this study will focus on both subjective and objective career success within the pharmacy profession and will examine whether two constructs, grit and work engagement, impact career success.

Research Questions

The purpose of this study is to investigate the effects of grit and work engagement on career success among practicing pharmacists in the United States (U.S.). The research questions guiding this study are:

In a sample of practicing pharmacists in the U.S.,

1. Does grit impact career success? If so, in what ways?
2. Does work engagement impact career success? If so, in what ways?
3. Does the interaction effect of grit and work engagement impact career success? If so, in what ways?
4. How is career success described?

CHAPTER 2: REVIEW OF LITERATURE

Investigation of Career Success

The concept of career success is one that is difficult to define, as its meaning has become more broad and encompassing over time due to the evolution of the present career landscape (Shockley et al., 2016). Traditional definitions of career success have focused on its objective meaning, including criteria that are externally visible (Urquijo et al., 2019). Examples of these observable, measurable criteria include promotions and salary (Shockley et al., 2016). Subjective career success has historically focused on job satisfaction. However, as individuals progress through their careers, career success broadens into more of a multidimensional concept that can encompass one's feelings of satisfaction along with feelings of recognition, influence, and work-life balance (Shockley et al., 2016). When studying career success, objective and/or subjective perspectives may be examined.

Several studies have explored potential predictors of career success among working adults. In a prospective study conducted among Swedish men and women, job promotion and above-average salary increase were used as measures of objective career success (Nyberg et al., 2015). This study found that while men and women received the same extent of promotions throughout the study period, men experienced above-average salary increases more often ($p < 0.001$). It was also found that lower age was associated with statistically significant higher odds of both promotion and receiving an above-average salary increase. This study was conducted among a broad cohort of the Swedish working population and, thus, was not limited to a specific field of work.

Dan et al. (2018) explored the relationships among innovative behavior, self-efficacy, colleague solidarity, and career success of nurses working at tertiary and secondary hospitals in

Mainland China. The Chinese version of the Career Success Scale was used to measure subjective career success. Multiple linear regression analysis was used to reveal the relationships among career success and the other variables. It was found that self-efficacy (measured using the Chinese version of the General Self-Efficacy Scale), academic solidarity (measured using the Chinese version of the Colleague Solidarity of Nurses' Scale), and innovative behavior (measured using Scott's personal innovation behavior scale) contributed to the variation in career success ($p < 0.05$).

Lonie et al. (2015) utilized income level as a measure of career success and investigated the relationship between pharmacists' career success and Emotional Thinking Scale scores. Emotional thinking is defined in the study as an excessive influence of emotions on thought processes or of an inability to separate emotions from thoughts (Lonie et al., 2015). Several items on the Emotional Thinking Scale showed correlations with annual income. Item 3 "often being incapacitated by strong feelings" showed a negative correlation with annual income ($r = -0.309$, $p = 0.008$); item 5 "relying on feelings to deal with complex situations" demonstrated a negative correlation with annual income ($r = -0.253$, $p = 0.026$); and item 7 "focusing on details thus losing the big picture" was also negatively correlated with annual income ($r = -0.215$, $p = 0.05$). The study investigators postulated that having high levels of emotional thinking may negatively impact pharmacists' financial success. This stems from the belief that highly emotional pharmacists may perceive situations and relationships in an inaccurate manner, thus impacting their career and financial success (Lonie et al., 2015).

A study conducted among emergency physicians investigated career success (Pachulicz, et al., 2008). This study was unique in that it was a longitudinal study over the course of 10 years and it also considered both subjective and objective measures of success. For this study,

objective career success was defined as the number of academic and emergency medicine leadership positions held and salary change over the 10-year study period. Subjective career success was measured by four Likert-scale items that were considered to be indicators of career satisfaction. It was found that as income among the emergency physicians increased, the likelihood that they were retired or intending to leave medicine or the emergency medicine specialty decreased ($p < 0.05$). Interestingly, the study found that the number of special certifications received was not related significantly to any of the three objective career success criteria. Income change was related to both age (standard estimate = -0.29, $p < 0.05$) and race (standardized estimate = -0.8, $p < 0.05$), where non-Caucasian emergency physicians were more likely to hold leadership positions and experience greater salary changes over time. This study also found that subjective career success was related significantly to physicians' intentions to leave medicine, leave emergency medicine, and retire (standardized estimates = -0.17, -0.10, and -0.11, $p < 0.05$). Overall, it was found that emergency physicians were more likely to indicate the intention of leaving their practice when their career satisfaction was low.

Similar to Pachulicz and colleagues, Delgado et al. (2016) conducted a study that explored both subjective and objective career success. This study focused on family physicians in Spain and examined gender differences in subjective and objective career success. This study was particularly unique because researchers sought to create scales to measure subjective and objective career success. The constructed subjective career success scale included dimensions pertaining to concepts such as career satisfaction and self-efficacy, while the objective career success scale considered professional activities. These professional activities were encompassed by three dimensions –merits of the professional system, institutional merits, and academic merits. This study revealed that female family physicians had lower scores for the three

previously mentioned dimensions of objective career success ($p < 0.005$, $p = 0.002$, and $p = 0.009$, respectively). However, there was no significant differences between females and males in the dimension scores for subjective career success ($p = 0.815$ and $p = 0.766$, respectively).

A 10-year longitudinal study conducted by Tartas et al. (2011) in Poland investigated the relationships between success in a medical career, academic achievement, and personality characteristics of medical students and graduates. The personality traits of interest included levels of depression, levels of anxiety, coping styles, value systems, and the need for social approval. The study investigators defined success as high professional competence, career satisfaction, low levels of stress and burnout, and a high quality of life for the physician. Quality of life was measured by general well-being and health, life satisfaction, and income. The study found that none of the aforementioned personality characteristics showed a relation to professional competence. It was also found that grades obtained during medical school explained 21% of the variance of professional competence, indicating that professional competence is influenced by additional factors. The study reported that physicians' quality of life, as determined by levels of general well-being and health, was predicted by level of anxiety (58%) and level of depression (23%).

Defining Career Success

While quantitative studies have focused on exploring potential predictors of career success, qualitative studies are useful in helping researchers understand the thoughts of their target population. A study conducted in Mauritius by Banerjee et al. (2020) sought to discover undergraduate medical students' and teaching faculty members' perceptions of success. This study was a descriptive phenomenological qualitative study conducted through one on one interviews. The medical students' and faculty members' views of success were grouped into six

themes: satisfaction, accomplishment, actions, motivations, extrinsic factors, and intrinsic factors. The researchers were able to consolidate these themes into three overarching groups: concepts of success, mechanisms of success, and products of success. The results from this study demonstrate the variability in individuals' perceptions of success, as some individuals are able to define success for themselves while others rely on definitions from external entities. Some individuals view success as a journey, while others focus on the end-results. Although the subjects in this study come from a single institution, the findings confirm that success is a highly personal concept. A consideration that must be made is that this study was conducted among individuals in an academic setting (either as students or faculty members) rather than a practice setting.

Similarly, Columbus et al. (2020) conducted a qualitative study to identify common characteristics associated with career success among female surgical department chairs in the U.S. The study was conducted through semi-structured one on one telephone interviews with surgical chairs. The results of this study found that female surgical chairs frequently voiced personality traits, such as confidence, determination, perseverance, resilience, and servant leadership, as instrumental in their ability to succeed. Adaptability was also identified as a common factor that supported their careers. This study was unique in that it only included the perspectives of female academic general surgeons; however, it may be interesting to explore if a male's perspective would impact the findings.

Another study was conducted among nurses in Iran by Zamanzadeh et al. (2019) and attempted to explore nurses' perceptions of career success through conventional content analysis. After conducting semi-structured face to face interviews, five overarching themes representing career success in nursing were identified: providing quality care, being an exemplary employee,

embracing career growth, possessing positive professional attributes, and feeling internal satisfaction. These results indicate that career success among nurses is a multidimensional concept, encompassing personality traits, internal feelings, and career outcomes.

Similar qualitative studies have been conducted among pharmacists. In Australia, Jepsen and O'Neill (2013) investigated hospital pharmacists' views on their career success. The study found that hospital pharmacists felt most successful in their careers when they received acknowledgement for their work, when they felt self-confidence in their abilities, and when they experienced a sense of autonomy in their work. While Ward et al. (2019) also conducted a study to identify characteristics of pharmacists that contribute to success, their study included Canadian pharmacists from various practice settings (hospital, community, and ambulatory care). At the time, this study was the first that explored personal characteristics of practicing pharmacists that could contribute to their success. Five categories of characteristics that supported pharmacists' success were defined: motivated and goal oriented, problem-solving and critical thinking skills, emotional intelligence, core competencies/advanced scope, and work-life balance. These characteristics were thought to either directly contribute to success or play a supportive role to facilitate success.

Lastly, a review article by Dikun et al. (2016) sought to identify literature that provided descriptions of characteristics that play a role in pharmacists' success in providing patient care. The review isolated 10 articles, including editorials/commentaries, interviews, surveys, and observational studies, which were then qualitatively analyzed. Content analysis revealed two themes pertaining to success: what successful pharmacists do and what successful pharmacists should be. The findings from this scoping review revealed information pertaining to activities

pharmacists can engage in to be successful as well as innate and cultivated characteristics of successful pharmacists.

Investigation of Grit as a Predictor of Success

Grit has been defined by Duckworth and colleagues (2007) as one's "perseverance and passion for long-term goals". Studies have examined grit as a predictor of success, in both academic and professional settings. Duckworth and Quinn (2009) created the Grit-S as an instrument to measure grit. While developing and validating the Grit-S, Duckworth and Quinn investigated the relationship between grit and cadet retention at West Point training camp. The study found that cadets who scored a standard deviation higher than average on the Grit-S were more likely to complete training at West Point ($B = 0.69$, OR = 1.99, $p < 0.001$). Lechner et al. (2019) investigated grit in relation to career success among a general working adult population in Germany. This study attempted to identify whether grit is related to career success, even more so than cognitive ability may be. Income, job prestige, and job satisfaction were used as markers of career success. The study found that grit was not a stronger predictor of success, defined by objective measures, than cognitive ability.

Grit has also been explored within the field of health sciences. Dam et al. (2019) conducted a study in 2016 to examine the relationship between grit and burnout and well-being among emergency medicine residents. It was found that residents with higher levels of grit were less likely to feel burnout and low well-being compared to those with lower grit scores (OR = 7.67, 95% CI: 2.06-33.21; and OR 2.76, 95% CI: 1.31-5.79, respectively). Miller-Matero and colleagues (2018) examined grit as a predictor of performance in medical school. Of note, this study utilized the Grit-O scale, rather than the Grit-S scale, to measure grit levels, despite the Grit-S being proven as a more efficient measure of grit (Duckworth & Quinn 2009). The study

found no significant differences in grit scores between the ethnicity and age subgroups. Students who had an exceptional class rank had statistically significant higher grit scores than those with a lower rank in their class (4.28 ± 0.40 vs. 3.89 ± 0.45, $p < 0.001$).

The study of grit within pharmacy literature is limited. When conducting a literature search, it was found that grit has only recently been tied to pharmacy literature, specifically in the area of pharmacy education. Palisoc et al. (2017) found that Grit-S scores were positively correlated with the pursuit and attainment of post-graduate training ($t = 3.3$, $p = 0.001$), but not correlated with academic success in didactic coursework of a Doctor of Pharmacy program ($r = 0.19$, $p = 0.057$). While the findings of Gruenberg et al. (2019) also indicated that there were no significant associations between grit and academic achievement (OR = 0.89, 95% CI: 0.61-1.28), Pate et al. (2017) found that Grit-S scores were, in fact, a significant and independent predictor of academic success among student pharmacists (RR = 1.8, 95% CI: 1.5-2.3). These conflicting findings further reveal the need for continued investigation of grit within the field of pharmacy.

Examination of the Construct of Work Engagement

Work engagement has been defined by Schaufeli and Bakker (2004) as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption". Work engagement is considered to be a counterpart to burnout. Therefore, while individuals who experience high levels of burnout may express more cynical emotions and thoughts towards their work, individuals who are engaged in their work have a sense of energy and connection with their work activities (Schaufeli & Bakker, 2004). The UWES-9 was created as an instrument to explore the three previously mentioned dimensions of work engagement (Schaufeli et al. 2006).

Suzuki et al. (2015) investigated the association between grit and work engagement in working adults in Japan, where work engagement was used as an outcome indicator for work performance. The study found that grit had a significant positive association with work engagement ($r = 0.26$, $p < 0.001$), and could therefore be considered a predictor for work performance. This study did not target a particular field of work, as it included any Japanese working adult, regardless of profession. Additionally, while the study did examine the relationship between grit and work engagement, it did not consider career success and whether grit or work engagement may impact career success.

The construct of work engagement has also been explored within health sciences literature. Wan et al. (2018) studied work engagement in order to identify its predictors in registered nurses in China. Of the demographic characteristics, age, marital status, employee status, years of work, and work unit were significantly related to work engagement. It was found that nurses who were < 25 years old, single, had permanent employment (rather than contracted), had < 5 years of work experience, and worked in the surgical unit had statistically significant higher work engagement scores than their counterparts ($p < 0.05$). However, when a multiple regression analysis was conducted, it was found that only age was significantly related to work engagement ($\beta = 0.16$, $t = 5.32$, $p < 0.001$) and accounted for 3% of the variance in work engagement ($R^2 = 0.03$, $F = 28.33$, $p < 0.01$), indicating that nurses 25-44 years old had significantly lower work engagement scores than nurses < 25 or > 44 years old.

As work engagement is thought of as the counterpart to burnout, Loerbroks et al. (2017) conducted a study in Germany to investigate how burnout and work engagement relate to physicians' self-perceived quality of patient care provision. The results of the study found that increased work engagement total score was linked with higher quality of perceived patient care

provision (*b* = -0.20, 95% CI: -0.29 - -0.11). In contrast, burnout was linked with lower quality of perceived patient care provision (*b* = 0.45, 95% CI: 0.37-0.54).

Work engagement has also been investigated within the context of pharmacy education. Kaur et al. (2020) examined both burnout and work engagement in first- and second-year pharmacy students and assessed the relationships between burnout and work engagement to students' perception of their academic ability. This was the first study that examined the concept of work engagement in pharmacy students. Of note, this study did not include measures of academic success, such as student grade point average, but instead investigated students' perception of their academic ability. The results of the study found that only a single subscale of the UWES-9 scale had a statistically significant correlation with students' perceptions of academic ability. Among first- and second-year pharmacy students, the dedication subscale had a statistically significant positive correlation with self-perception of academic ability (*p* = 0.003, 95% CI: 0.9-4.4).

Contribution of the Present Study

In sum, grit and work engagement have been explored in the literature among various populations of working adults, both in general populations as well as health professions-focused populations. Additionally, literature have explored grit and work engagement within the fields of pharmacy and medical education. However, to the researcher's best knowledge, no study has investigated whether a relationship exists between grit, work engagement, and career success in a sample of practicing pharmacists in the U.S. Therefore, the present study has a unique place in pharmacy literature.

Collectively, past quantitative and qualitative studies have revealed the wide variety of definitions that contribute to subjective and objective career success. Within pharmacy

literature, in particular, career success seems to be a concept that has yet to be extensively explored. Additionally, the concepts of grit and work engagement have recently been linked to pharmacy literature, but the opportunities to investigate grit and work engagement in pharmacy remain plentiful. The present study contributes to the existing literature by examining a large population of working pharmacists, encouraging participation from pharmacists of all areas of pharmacy practice, and adopting a mixed-methods design where both qualitative and quantitative aspects of career success are addressed.

CHAPTER 3: METHODOLOGY

Study Design

This cross-sectional study was conducted through an anonymous, online survey using SurveyMonkey®. The survey consisted of a total of 65 questions, including three previously validated scales, and was distributed to pharmacists throughout the U.S. Three of the 65 questions were related to the topic of pharmacy practice and were used as a validity scale. Additionally, three questions in the survey were open-ended questions used for qualitative analysis to gain insight into the participants' definitions of career success. The survey can be found in Appendix D. The survey was designed to capture demographics, job-related characteristics, objective measures of career success, grit, work engagement, and subjective career success of the study participants. The study was approved by the University of the Pacific's Institutional Review Board (IRB) in September 2020 (IRB #: IRB2020-44).

Study Population

Description of Participants

The participants in this study consist of a sample of practicing pharmacists in the U.S. For this study, a practicing pharmacist is defined as an individual who has a current U.S. pharmacist license and who utilizes pharmacy knowledge in their field of work, including but not limited to: community, hospital, academia, government, research, and industry settings. Individuals must have been licensed and working in the pharmacy profession for at least two years. This was to ensure that study participants had been provided time to pursue opportunities to further their career development. Individuals who were not currently working in a field of pharmacy at the time of survey response submission were excluded from the study. This was

because measuring work engagement with the Utrecht Work Engagement scale (UWES-9) requires individuals to rate their current feelings regarding their job(s).

Power Analysis

A power analysis using the software G*Power 3.1 (University of Kiel, Germany) was conducted to estimate the sample size required to adequately power this study. The statistical test that will be used is a multiple linear regression. The test family was set as F tests and a power of 0.80 and alpha of 0.05 was used. The study will have two predictors: grit and work engagement. The effect size was determined by examining previous grit-related studies (Lechner et al., 2019; Suzuki et al., 2015). Overall, previous research with study designs similar to the present study examined the relationships between grit, work engagement, and/or career success and found small effect sizes (Lechner et al., 2019; Suzuki et al., 2015). Therefore, an effect size of 0.05 was used in this power analysis. The results of the power analysis indicated that a minimum of 196 pharmacists would be required for the study to be adequately powered. Due to the possibility of invalid responses with survey data, the target sample in this study was at least 300 pharmacists. The actual sample of the study is 586 pharmacists, which is above the target sample.

Procedure of Recruitment and Survey Administration

For participant recruitment, an invitation to participate in the study was sent via email to members of three unique pharmacy organizations: California Pharmacists Association (CPhA), California Society of Health-System Pharmacists (CSHP), and American Association of Colleges of Pharmacy (AACP). Approximately 1,700 pharmacist members of CPhA, 800 pharmacist members of CHSP, and 3,400 pharmacy practice members of AACP were contacted via email. The recruitment emails can be found in Appendix E and Appendix F. Additionally,

study participants were recruited through announcements posted on various social media sites, including Facebook, LinkedIn, and Instagram (Appendix G). Participation in the study was voluntary and study investigators were blinded to the identity of all participants. Participants provided informed consent through the electronic form approved by the university's IRB (Appendix H). The informed consent form was comprised of information regarding the study purpose, eligibilities required to participate in the study, estimated duration of participation, risks of the study, compensation for participation, option of voluntary withdrawal from the study, confidentiality statement, and contact information of the primary investigator. The first question of the survey was utilized to verify eligibility of survey participants and receive their consent.

As an incentive to participate in the study, participants could choose to enter into a raffle to win various prizes: Amazon Echo Dots, Hydro Flasks, Yeti Mugs, and Amazon gift cards. Upon completion of the survey, participants were given a link to a Google Form that allowed them to select which prize they would like to enter into a raffle for and then submit their email address. Adopting two separate websites ensured that the survey responses were not linked with identifiable information. If selected to receive a prize, the participants were contacted via email to gather names and mailing addresses. After delivery of the prizes, all identifiable information and email addresses were permanently deleted.

Participants in this study may have been subject to psychological risk. Survey questions asked participants about their job characteristics, including their professional title, job-tenure, employment status, salary, and achievement of awards or honors. Participants may have felt discomfort while answering questions about their attitudes and experiences regarding their careers. To reduce this risk, the survey was set to allow respondents to skip any open-ended questions or select "prefer not to answer" for multiple-choice questions. Participants also may

have been subject to sociological risk. The survey asked participants to reflect on their experiences with career goals, work engagement, and career success. Some participants may have felt self-conscious about their experiences. To reduce this risk, all responses to survey questions remained anonymous. The anonymity allowed participants to feel a sense of security as they completed the survey. In addition, the data collected in the study was not linked to any identifiable information, was saved in a password-protected computer, and was saved within password-protected files. Study participation was entirely voluntary and the decision about whether to participate involved no penalty or loss of benefits to participants. Participants were also notified that they could withdraw at any time without penalty.

Study Measurements and Instruments

Demographic variables included participant's age, gender, marital status, and ethnicity. Job-related characteristics included the participant's current professional title/rank, practice setting, practice specialty (if applicable), history of post-graduate training, years licensed as a pharmacist, years worked in their current position, and employment status. Objective career success was measured by asking participants questions about their approximate annual salary, history of promotions or rank advancements, recognition of accomplishments at work, and receipt of any awards or honors from professional organizations.

Grit was measured using the Grit-S, developed by Duckworth and Quinn in 2009. The Grit-S consists of two subscales: consistency of interest and perseverance of effort. This is a validated scale that consists of eight items, measured on a five-point Likert scale ranging from 1 = not like me at all to 5 = very much like me. Duckworth presented evidence for the Grit-S's internal consistency, test-retest stability, consensual validity with informant-report versions, and predictive validity through six studies. Overall, the Grit-S was proven to be an effective measure

of an individual's perseverance and passion for long-term goals, regardless of one's profession or age (Duckworth & Quinn, 2009).

Work engagement was measured through the UWES-9. The UWES-9 consists of three subscales: vigor, dedication, and absorption. This is a validated scale that consists of nine questions, using a seven-point Likert scale ranging from 0 = never to 6 = always. The UWES-9 was used to measure participants' emotions towards their current work activities. The scale was developed by Schaufeli et al. in 2006 and factorial validity of the UWES-9 was demonstrated using confirmatory factor analyses. Overall, the three subscales were shown to have good internal consistency and test-retest reliability (Shaufeli et al., 2006).

Subjective career success was assessed using the SCSI, which was developed and validated by Shockley and colleagues in 2016. The SCSI is a validated scale that consists of 24 items, using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. After the scale was developed, quantitative studies examining criterion-related, discriminant, and convergent validity of the scale as a whole as well as each of the individual dimensions were conducted in two different study samples. Overall, the quantitative data provided sufficient evidence to confirm the validity of the SCSI (Shockley et al., 2016).

The instruments used to measure the two predictor variables and the outcome variable are summarized in **Table 1**. The items included in each survey instrument can be found in the Appendices.

Table 1
Summary of Instruments Included in Study Survey

Instrument	Measures	Subscales or Dimensions	Number of Items
Grit-S	Grit	1. Consistency of interest 2. Perseverance of effort	8
UWES-9	Work engagement	1. Vigor 2. Dedication 3. Absorption	9
SCSI	Subjective career success	1. Recognition 2. Quality work 3. Meaningful work 4. Influence 5. Authenticity 6. Personal life 7. Growth and development 8. Satisfaction	24

The research survey also included three open-ended questions, where participants were able to provide insight into how they define career success, describe a time of success in their own careers, and list qualities that they associate with successful pharmacists. Sladek (2017) explained that qualitative data "can be an exploratory endeavor to gain a better understanding of underlying opinions and motivations that are grounded in lived experiences and in participants' own words". The purpose of conducting a qualitative analysis in this study was to help researchers better understand the meaning of success for the sample of pharmacists participating in the study. The survey questions can be found in Appendix D.

Data Collection and Analysis

Data Collection and Response Validity

Survey data was collected through SurveyMonkey® from September 2020 through December 2020. A total of 732 responses were then exported to Microsoft Excel, where the data was organized, sorted, and coded in order to better facilitate statistical analysis.

Several safeguards were embedded into the survey to ensure the validity of the responses, depicted in **Figure 1**. The first question of the survey served as the informed consent attestation and also asked participants to verify that they met the inclusion criteria and that they agreed to participate in the study. 14 respondents indicated that they did not meet the inclusion criteria and one respondent did not agree to participate in the study and were therefore excluded. Another question in the survey asked participants to note the number of years they have been licensed as a pharmacist. If a participant answered with a number that was less than two years, their response was excluded from the study as it did not meet the inclusion criteria. Three participants indicated that they had been licensed as a pharmacist for less than two years and those responses were subsequently excluded. Similarly, another question asked the participants to indicate their current work status. There were six participants who indicated that they were retired, and thus not currently working. As a result, those six responses met the exclusion criteria and were excluded from the study. Overall 24 responses were excluded due to not meeting the study's inclusion criteria.

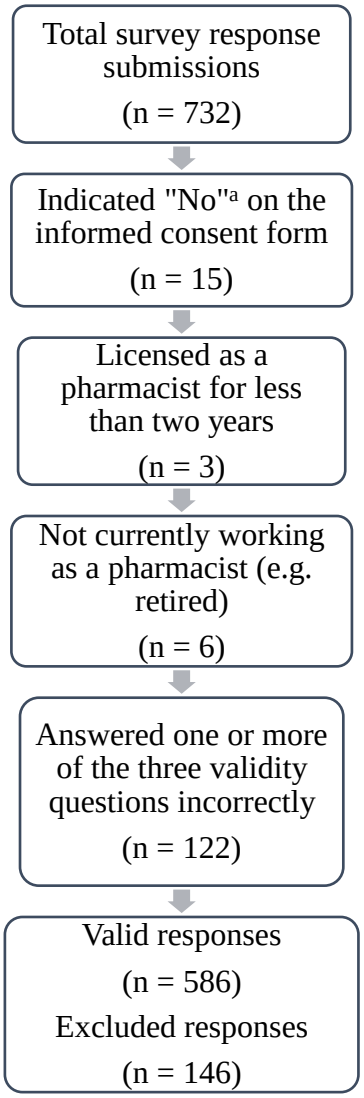

Figure 1. Isolation of valid survey responses.
a. "No" is used to describe those who either self-reported that they did not meet the inclusion criteria or those who did not agree to participate in the study.

The survey consisted of 65 questions and, therefore, the potential of survey fatigue existed. To address this concern, three of the 65 questions in the survey were added to assess the validity of the responses. These three questions were randomly placed throughout the survey. If a survey participant answered one of these three questions incorrectly, a manual inspection by two independent researchers was performed in order to assess the validity of the survey response.

If it was deemed that a participant's response was not valid, that participant's response was excluded from the study. Additionally, the three aforementioned questions were related to the topic of pharmacy practice and were utilized to help ensure that the survey respondents did, in fact, possess pharmacy-related therapeutic knowledge. Overall, 122 responses were excluded as a result of answering one or more of these three questions incorrectly. In sum, 146 responses were excluded from the study, resulting in a total of 586 valid responses.

Reliability of Data

Reliability analyses were conducted by measuring Cronbach's alpha. Cronbach's alpha values greater than 0.7 were acceptable as indications of internal consistency. Cronbach's alpha was used to measure the reliability and internal consistency of the Grit-S, UWES-9, and SCSI scales in the survey. Additionally, the survey collected participants' average annual salary as both continuous and categorical data. The continuous data was converted to categorical data and a correlation analysis of the two categorical salary parameters was conducted as an additional measure of reliability of the data.

Data Analysis

Demographic information and job-related characteristics were reported through descriptive statistics. Frequencies and percentages were utilized to represent discrete variables, while means and standard deviations were utilized for continuous variables. T-tests were conducted to compare means of the various demographic groups and detect statistical differences between Grit-S, UWES-9, and SCSI scores as well as differences between annual salaries. Linear regression analysis and correlation analysis were used to examine whether a relationship exists between demographic variables or job-related characteristics and annual salary. Multiple regression analysis was conducted to determine whether relationships exist between grit, work

engagement, and subjective career success. To test for the presence of collinearity between the two independent variables, bivariate correlation analysis was conducted and the variance inflation factor (VIF) and tolerance values were assessed. Correlation coefficients > 0.7 indicate a strong correlation is present (Vatcheva et al., 2016). A general rule is that VIF values exceeding 5 or 10 implies that the regression coefficients are poorly estimated due to multicollinearity (Kim, 2019; Montgomery et al., 2001; Reddy et al., 2013). Values greater than 5 typically warrant further investigation, while values greater than 10 are signs of serious multicollinearity (Montgomery et al., 2001, Reddy et al., 2013). Similarly, tolerance values lower than 0.1 to 0.2 indicate that multicollinearity exists (Kim, 2019). Therefore, the present study targeted a VIF value of less than 5 and tolerance greater than 0.5. Statistical analyses were performed via IBM SPSS Statistics version 26 (Armonk, NY).

Three open-ended questions were included in the survey in order to gain a better understanding of the survey participants' thoughts surrounding career success among pharmacists. The responses to these three questions were qualitatively analyzed through conventional content analysis. In conventional content analysis, the data is manipulated to derive codes and categories in order to describe a phenomenon, which in this case was career success (Hseih & Shannon, 2005). To begin, the primary researcher read through all the responses thoroughly in order to obtain a general sense of the content. Then, the responses of the participants were condensed into succinct, meaningful phrases that captured the overall essence of each individual response. These phrases were then divided into groups of main themes. In certain instances, smaller sub-themes emerged and were utilized to further group the responses. A debriefer who possessed relevant professional insight in the research topic provided support throughout the qualitative analysis process. The debriefer's role was to provide feedback on the

interpretation of the survey responses and evaluate whether the themes and sub-themes that were created were appropriate.

Regarding researcher positionality for qualitative analysis, the researcher is a pharmacy fellow/Master of Science (MS) student who acknowledged the values and biases that may be affected by their own experiences. Being a pharmacy fellow/MS student, the researcher has been exposed to many individuals who have studied or trained more than an average pharmacist, which may influence the researcher's position to support individuals who have higher levels of grit. Being a pharmacy fellow/MS student, the researcher is driven to pursue long-term goals in order to achieve professional success. These personality traits may also influence the researcher's views on grit and career success. Coming from an immigrant family, the researcher has been surrounded by individuals who value continuous hard work and education, which may influence the researcher to support individuals who have higher levels of grit and work engagement. To minimize bias during qualitative analysis of the research, trustworthiness will be ensured. The researcher identified and bracketed her own values and biases throughout the data analysis. In addition to traditional content analysis, direct quotes from participants were used to limit the influence of the researcher's interpretation. To minimize bias during the qualitative analysis, trustworthiness was ensured through open discussion between the researcher and debriefer. Additionally, direct quotes from the survey participants will be presented in order to limit the influence of the researcher's interpretation.

CHAPTER 4: RESULTS

Demographic Characteristics of Respondents

The demographic characteristics of survey respondents are reported in **Table 2**. Participant demographics in this study seem to be skewed towards pharmacists who are female, Caucasian, 30-39 years old, and married or in a domestic partnership.

Table 2
Demographic Characteristics of Survey Respondents

Demographic Characteristics	n (%)
Age (years)	
20-29	57 (9.7%)
30-39	239 (40.8%)
40-49	129 (22.0%)
50-59	71 (12.1%)
60-69	50 (8.5%)
70-79	12 (2.0%)
≥ 80	2 (0.3%)
Prefer not to answer	26 (4.4%)
Mean ± SD	41.8 ± 11.8
Sex	
Female	404 (68.9%)
Male	176 (30.0%)
Other or No Response	6 (1.0%)
Ethnicity	
Asian American/Asian	99 (16.9%)
African American/African	12 (2.0%)
Caucasian	429 (73.2%)
Hispanic/Latino	24 (4.1%)
Pacific Islander	2 (0.3%)
Other or No Response	20 (3.4%)
Marital Status	
Single (never married)	117 (20.0%)
Single (divorced)	27 (4.6%)
Married or in a domestic partnership	432 (73.7%)
Widowed	7 (1.2%)
Other or No Response	3 (0.5%)

Job-Related Characteristics of Respondents

The job-related characteristics of survey respondents are reported in the tables below. **Table 3** shows the various practice settings, work status, salary distribution, and licensure and current job tenure of the study participants. The post-graduate experiences of participants are reported in **Table 4**. Information regarding promotions, rank advancements, and recognition experiences of the survey respondents are included in **Table 5**. Job-related characteristics included information pertaining to participants' work setting(s), status, salary, pharmacist licensure, job tenure, post-graduate achievements, promotions, rank advancements, recognition, and awards/honors. Job-related characteristics of the survey respondents are skewed towards pharmacists who work in academia, hospital, and ambulatory care settings, specialize in a particular field of pharmacy, and completed some type of post-graduate training.

Table 3
Practice Setting, Status, Salary, License, and Tenure Characteristics of Survey Respondents

Job-Related Characteristics	n (%)
Current Work Setting(s)[a]	
Academia	477 (81.4%)
Ambulatory Care	184 (31.4%)
Community	81 (13.8%)
Compounding	15 (2.6%)
Government	14 (2.4%)
Hospital (inpatient)	163 (27.8%)
Managed Care	10 (1.7%)
Industry	9 (1.5%)
Long Term Care/Consultant	13 (2.2%)
Other	11 (1.9%)
Specialized Setting	
Yes	397 (67.7%)
No	184 (31.4%)
Other or No Response	5 (0.9%)

(Table 3 Continued)

Work Status	
Working full time (≥ 32 hours/week)	559 (95.4%)
Working part time (< 32 hours/week)	25 (4.3%)
On leave, but still employed	1 (0.2%)
Other	1 (0.2%)
Approximate Annual Salary	
< $50,000	3 (0.5%)
$50,000 - $59,999	1 (0.2%)
$60,000 - $69,999	6 (1.0%)
$70,000 - $79,999	5 (0.7%)
$80,000 - $89,999	2 (0.3%)
$90,000 - $99,999	11 (1.9%)
$100,000 - $109,999	76 (13%)
$110,000 - $119,999	96 (16.4%)
≥ $120,000	259 (44.2%)
No Response	128 (21.8%)
Mean ± SD	$134,053 ± $64,389
RPH License (years)	
Mean ± SD	16.5 ± 12.1
Job Tenure (years)	
Mean ± SD	8.5 ± 8.03
[a]Questions were worded in such a way that respondents were able to select all that apply *RPH = registered pharmacist*	

Table 4

Post-Graduate Experiences of Survey Respondents

Job-Related Characteristics	n (%)
Post-Graduate Training	
Yes	484 (82.6%)
No	101 (17.2%)
Other or No Response	1 (0.2%)
Type of Post-Graduate Training[a]	
PGY1	419 (71.5%)
PGY2	212 (36.2%)
Fellowship	65 (11.1%)
Master's Degree	80 (13.7%)
Doctorate Degree (other than PharmD)	20 (3.4%)
[a]Questions were worded in such a way that respondents were able to select all that apply *PGY1 = post-graduate year 1, PGY2 = post-graduate year 2, PharmD = Doctor of Pharmacy*	

Table 5
Promotions, Rank Advancements, and Recognition Experiences of Survey Respondents

Job-Related Characteristics	n (%)
Promotion (with an increase in salary)	
Yes	402 (68.6%)
No	166 (28.3%)
Prefer not to answer	18 (3.1%)
Rank Advancement (irrespective of salary change)	
Yes	319 (54.4%)
No	245 (41.8%)
Prefer not to answer	22 (3.8%)
Recognition at Workplace	
Yes	403 (68.8%)
No	154 (26.3%)
Prefer not to answer	29 (4.9%)
Receipt of Awards or Honors from a Professional Organization	
Yes	263 (44.9%)
No	305 (52.0%)
Prefer not to answer	18 (3.1%)

Quantitative Data Analysis

Data Reliability

To evaluate the internal consistency of the quantitative survey results, questions within the Grit-S, UWES-9, and SCSI scales were correlated. The results are shown in **Table 6**. The correlation between the questions in the Grit-S is 0.73, UWES-9 is 0.89, and SCSI is 0.91. All correlations are greater than 0.7, which is acceptable as an indication of internal consistency of the survey responses.

Table 6
Cronbach's Alpha of the Grit-S, UWES-9, and SCSI Scales

Scale	Cronbach's Alpha
Grit-S	0.728
UWES-9	0.889
SCSI	0.908

As an additional measure of reliability, continuous and categorical survey data related to participants' salary were correlated. First, the continuous data was converted to categorical data, then the two categorical groups were correlated. Cronbach's alpha for the two categorical measures of salary is 1.000, confirming very high consistency of the data.

Demographic Characteristic Comparisons

Independent-samples t-tests were conducted to determine the differences in Grit-S, UWES-9, and SCSI total scores between respondent subgroups for various demographics and job-related characteristics. Data were analyzed to compare Grit-S, UWES-9, and SCSI scale total scores among these different subgroups. Details of comparisons of demographic variables (sex, ethnicity, and marital status) are shown in **Table 7**. The Grit-S, UWES-9, and SCSI scale total scores are not significantly different between the demographic comparisons.

Table 7

Comparison of Grit-S, UWES-9, and SCSI Total Scores Between Demographic Subgroups

Demographic Variable	Grit-S		UWES-9		SCSI	
	Mean ± SD	***t*-value *df* *p*-value**	**Mean ± SD**	***t*-value *df* *p*-value**	**Mean ± SD**	***t*-value *df* *p*-value**
Sex						
Male (n = 176)	30.85 ± 4.02	t = -0.997 df = 578 p = 0.319	39.87 ± 8.00	t = 1.017 df = 578 p =0.310	101.82 ± 10.55	t = 0.021 df = 578 p = 0.983
Female (n = 404)	31.21 ± 4.01		39.19 ± 7.20		101.80 ± 9.90	
Ethnicity						
Caucasian (n = 429)	31.03 ± 4.06	t = -0.743 df = 579 p = 0.458	39.28 ± 7.50	t = -0.988 df = 579 p = 0.324	102.14 ± 10.11	t = 1.439 df = 579 p = 0.151
Non-Caucasian (n = 152)	31.31 ± 3.86		39.97 ± 7.00		100.77 ± 10.09	
Marital Status						
Married (n = 432)	31.16 ± 4.06	t = -0.575 df = 581 p = 0.566	102.17 ± 9.82	t = 0.749 df = 581 p = 0.454	39.26 ± 7.61	t = -1.648 df = 581 p = 0.100
Not Married (n = 151)	30.95 ± 3.83		39.79 ± 6.91		100.60 ± 10.86	

Job-Related Characteristic Comparisons

Details of comparisons of the scales' total scores among different job-related characteristics are shown in the tables below. **Table 8** shows the comparisons of scale scores between various pharmacy practice settings. **Table 9** reports comparisons of scale scores based on the post-graduate experiences of the survey respondents. Comparisons of the scale scores between promotion, rank advancement, and various recognition experiences of respondents are shown in **Table 10**.

Table 8

Comparison of Grit-S, UWES-9, and SCSI Total Scores Between Practice Settings

Job-Related Characteristic	Grit-S		UWES-9		SCSI	
	Mean ± SD	***t*-value *df* *p*-value**	**Mean ± SD**	***t*-value *df* *p*-value**	**Mean ± SD**	***t*-value *df* *p*-value**
Academia Setting						
Yes (n = 477)	31.00 ± 4.08	*t* = 1.228 *df* = 584 *p* = 0.220	39.20 ± 7.28	*t* = 1.379 *df* = 584 *p* = 0.168	101.84 ± 9.66	*t* = -.500 *df* = 584 *p* = 0.617
No (n = 109)	31.52 ± 3.66		40.28 ± 8.00		101.30 ± 11.84	
Ambulatory Care Setting						
Yes (n = 184)	30.72 ± 4.23	*t* = 1.530 *df* = 584 *p* = 0.126	39.10 ± 7.10	*t* = 0.657 *df* = 584 *p* = 0.511	100.82 - ± 9.78	*t* = 1.501 *df* = 584 *p* = 0.134
No (n = 402)	31.23 ± 3.90		39.54 ± 7.57		102.16 ± 10.22	
Community Setting						
Yes (n = 81)	30.84 ± 4.10	*t* = 0.623 *df* = 584 *p* = 0.534	40.67 ± 8.13	*t* = - 1.656 *df* = 584 *p* = 0.098	99.84 ± 11.36	*t* = 1.828 *df* = 584 *p* = 0.068
No (n =505)	31.14 ± 4.00		39.20 ± 7.29		102.04 ± 9.85	
Hospital Setting (inpatient)						
Yes (n = 163)	31.06 ± 4.13	*t* = 0.157 *df* = 584 *p* = 0.875	38.29 ± 8.12	*t* = 2.261 *df* = 584 ***p* = 0.024***	101.6 ± 10.23	*t* = 1.018 *df* = 584 *p* = 0.309
No (n = 423)	31.11 ± 3.97		39.83 ± 7.10		102.00 ± 10.04	
Specialized Setting						
Yes (n = 397)	31.17 ± 3.99	*t* = -0.765 *df* = 579 *p* = 0.445	39.36 ± 7.18	*t* = 0.149 *df* = 579 *p* = 0.880	102.17 ± 9.77	*t* = -1.479 *df* = 579 *p* = 0.140
No (n = 184)	30.90 ± 4.09		39.46 ± 7.18		100.84 ± 10.75	
*Note. * P value was < 0.05*						

Table 9

Comparison of Grit-S, UWES-9, and SCSI Total Scores Between Post-Graduate Experiences of Survey Respondents

Job-Related Characteristic	Grit-S		UWES-9		SCSI	
	Mean ± SD	***t*-value *df* *p*-value**	**Mean ± SD**	***t*-value *df* *p*-value**	**Mean ± SD**	***t*-value *df* *p*-value**
Completed Post-Graduate Training						
Yes (n = 484)	30.97 ± 4.09	*t* = 1.619 *df* = 583 *p* = 0.106	39.00 ± 7.35	*t* = 2.750 *df* = 583 ***p* = 0.006****	101.55 ± 9.75	*t* = 0.848 *df* = 583 *p* = 0.397
No (n = 101)	31.68 ± 3.62		41.22 ± 7.46		102.49 ±11.54	
Completed PGY1						
Yes (n = 419)	30.83 ± 4.14	*t* = 2.562 *df* = 584 ***p* = 0.011***	38.90 ± 7.36	*t* = 2.578 *df* = 584 ***p* = 0.010***	101.34 ± 9.56	*t* = 1.522 *df* = 584 *p* = 0.129
No (n = 167)	31.77 ± 3.60		40.65 ± 7.45		102.74 ± 11.27	
Completed PGY2						
Yes (n = 212)	30.79 ± 4.20	*t* = 1.408 *df* = 584 *p* = 0.160	38.44 ± 7.79	*t* = 2.373 *df* = 584 ***p* = 0.018***	100.81 ± 9.81	*t* = 1.686 *df* = 584 *p* = 0.092
No (n = 374)	31.27 ± 3.89		39.95 ± 7.16		102.27 ± 10.22	
Completed Fellowship						
Yes (n = 65)	30.63 ± 4.23	*t* = 0.994 *df* = 584 *p* = 0.320	37.23 ± 7.27	*t* = 2.512 *df* = 584 ***p* = 0.012***	99.83 ± 9.24	*t* = 1.619 *df* = 584 *p* = 0.106
No (n = 521)	31.16 ± 3.98		39.67 ± 7.40		101.98 ± 10.18	
Obtained Master's Degree						
Yes (n = 80)	30.96 ± 3.88	*t* = 0.323 *df* = 584 *p* = 0.747	39.63 ± 7.52	*t* = -0.290 *df* = 584 *p* = 0.772	102.36 ± 10.60	*t* = -0.594 *df* = 584 *p* = 0.552
No (n = 506)	31.12 ± 4.04		39.37 ± 7.41		101.62 ± 10.02	
Obtained Doctorate Degree (other than PharmD)						
Yes (n = 20)	32.05 ± 3.05	*t* = -1.081 *df* = 584 *p* = 0.280	42.45 ± 5.68	*t* = -1.874 *df* = 584 *p* = 0.061	104.20 ± 9.75	*t* = -1110 *df* = 584 *p* = 0.267
No (n = 556)	31.06 ± 4.04		39.29 ± 7.45		101.65 ± 10.10	

*Note. * P value was < 0.05, ** P value was < 0.01*

PGY1 = post-graduate year 1, PGY2 = post-graduate year 2, PharmD = Doctor of Pharmacy

Table 10

Comparison of Grit-S, UWES-9, and SCSI Total Scores Between Promotion, Rank Advancement, and Recognition Experiences of Survey Respondents

Job-Related Characteristic	Grit-S		UWES-9		SCSI	
	Mean ± SD	***t*-value *df* *p*-value**	**Mean ± SD**	***t*-value *df* *p*-value**	**Mean ± SD**	***t*-value *df* *p*-value**
Promotion (with an increase in salary)						
Yes (n = 402)	31.32 ± 3.91	*t* = -2.362 *df* = 566 ***p* = 0.019***	39.84 ± 7.32	*t* = -2.406 *df* = 566 ***p* = 0.016***	103.08 ± 9.97	*t* = -5.174 *df* = 566 ***p* < 0.001****
No (n = 166)	30.45 ± 4.19		38.19 ± 7.79		98.33 ± 9.94	
Rank Advancement (irrespective of change in salary)						
Yes (n = 319)	31.21 ± 4.00	*t* = -1.127 *df* = 562 *p* = 0.260	39.62 ± 7.63	*t* = -1.133 *df* = 562 *p* = 0.258	103.22 ± 9.54	*t* = -4.196 *df* = 562 ***p* < 0.001****
No (n = 245)	30.83 ± 3.96		38.91 ± 7.58		99.67 ± 10.52	
Recognition at Workplace						
Yes (n = 403)	31.32 ± 3.95	*t* = -2.589 *df* = 555 ***p* = 0.010***	40.07 ± 7.13	*t* = -3.571 *df* = 555 ***p* < 0.001****	103.33 ± 9.58	*t* = -6.393 *df* = 555 ***p* < 0.001****
No (n = 154)	30.34 ± 4.09		37.58 ± 7.95		97.39 ± 10.35	
Receipt of Awards or Honors from a Professional Organization						
Yes (n = 236)	31.38 ± 3.95	*t* = -1.753 *df* = 566 *p* = 0.080	40.57 ± 7.13	*t* = -3.575 *df* = 566 ***p* < 0.001****	103.72 ± 9.27	*t* = -4.522 *df* = 566 ***p* < 0.001****
No (n = 305)	30.79 ± 4.05		38.34 ± 7.60		99.93 ± 10.52	
*Note. * P value was < 0.05, ** P value was < 0.01*						

This study found that pharmacists who did not complete PGY1 have statistically significant higher Grit-S total scores (31.77 ± 3.60) compared to those who did (30.83 ± 4.14), $t(584) = 2.562$, $p = 0.011$. Pharmacists who had received a promotion with an increase in salary have statistically significant higher Grit-S total scores (31.23 ± 3.91) compared to those who did not receive a promotion (30.45 ± 4.19), $t(566) = -2.362$, $p = 0.019$. Additionally, pharmacists who had been recognized for accomplishments at their workplace have statistically significant

higher Grit-S total scores (31.32 ± 3.95) compared to those who had not received recognition (30.34 ± 4.09), $t(555) = -2.589$, $p = 0.010$.

The results of this study revealed that pharmacists who work in a hospital setting have statistically significant lower UWES-9 total scores (38.29 ± 8.12) compared to those who do not work in a hospital setting (39.83 ± 7.10), $t(584) = 2.261$, $p = 0.024$. Pharmacists who reported completing some type of post-graduate training have statistically significant lower UWES-9 total scores (39.00 ± 7.35) compared to those who did not complete post-graduate training (41.22 ± 7.46), $t(583)$, $p = 0.006$. When each type of post-graduate training was examined individually, the study found that pharmacists who had completed PGY1, PGY2, and fellowships all have statistically significant lower UWES-9 total scores compared to those who did not complete the same type of post-graduate training. Pharmacists who reported receiving a promotion with an increase in salary have statistically significant higher UWES-9 total scores (39.84 ± 7.32) compared to those who did not (38.19 ± 7.79), $t(566) = -2.406$, $p = 0.016$. Pharmacists who reported being recognized for accomplishments at work have statistically significant higher UWES-9 total scores (40.07 ± 7.13) compared to those who had not received recognition (37.58 ± 7.95), $t(555) = -3.571$, $p < 0.001$. Additionally, pharmacists who had received awards or honors from a professional organization have statistically significant higher UWES-9 total scores (40.57 ± 7.13) compared to those who had not received similar awards or honors (38.34 ± 7.60), $t(566) = -3.575$, $p < 0.001$.

Pharmacists who had received a promotion with an increase in salary have statistically significant higher SCSI total scores (103.08 ± 9.97) compared to those who had not (98.33 ± 9.94), $t(566) = -5.174$, $p < 0.001$. Pharmacists who had received a rank advancement irrespective of salary changes possess statistically significant higher SCSI total scores (103.22 ±

9.54) compared to those who had not received a rank advancement (99.67 ± 10.52), $t(562) = -4.196$, $p < 0.001$. Pharmacists who had been recognized for achievements at their workplace have statistically significant higher SCSI total scores (103.33 ± 9.58) compared to those who had not been recognized at their workplace (97.39 ± 10.35), $t(555) = -6.393$, $p < 0.001$. Lastly, this study found that pharmacists who had received an award or honor from a professional organization have statistically significant higher SCSI total scores (103.72 ± 9.27) compared to those who had not received similar awards or honors (99.93 ± 10.52), $t(566) = -4.522$, $p < 0.001$.

Independent-samples t-tests were also conducted to explore the relationships between respondent subgroups and differences between salary, which was used as an objective measure of career success. The results of the t-tests conducted for demographic variables are shown in **Table 11**. There are no significant differences in salary between the demographic subgroups.

Table 11
Comparison of Salary Between Demographic Subgroups

Demographic Variable	**Salary**	
	Mean ± SD	***t*-value** ***df*** ***p*-value**
Sex		
Male (n = 129)	$138,734.26 ± 44,539.29	*t* = 0.944 *df* = 453 *p* = 0.346
Female (n = 326)	$132,391.75 ± 70,937.45	
Ethnicity		
Caucasian (n = 343)	$133,135.07 ± 69,794.04	*t* = -0.574 *df* = 451 *p* = 0.566
Non-Caucasian (n = 110)	$137,210 ± 45,541.45	
Marital Status		
Married (n = 341)	$134,991.00 ± 70,063.32	*t* = -0.499 *df* = 454 *p* = 0.618
Not Married (n = 115)	$131,5517 ± 44,346.17	

The results of the t-tests conducted for salary differences among job-related characteristics are shown in the tables below. **Tables 12** displays a comparison of salary between pharmacists in different practice settings. **Table 13** shows a comparison of salary based on various post-graduate experiences of respondents. **Table 14** compares salary between promotion, rank advancement, and recognition experiences of study participants.

Table 12
Comparison of Salary Between Practice Settings

Job-Related Characteristic	Salary	
	Mean ± SD	***t*-value** ***df*** ***p*-value**
Academia Setting		
Yes (n = 374)	$128,848.42 ± 64,577.89	*t* = 3.701 *df* = 456 ***p* < 0.001****
No (n = 84)	$157,227 ± 58,487.25	
Community Setting		
Yes (n = 67)	$130,136.12 ± 56,075.77	*t* = 0.539 *df* = 456 *p* = 0.590
No (n = 391)	$134,724.58 ± 65,749.13	
Hospital Setting		
Yes (n = 135)	$145,561.85 ± 103,557.85	*t* = -1.795 *df* = 456 *p* = 0.076
No (n = 323)	$129,243.28 ± 36,640.38	
Specialize in a field of pharmacy		
Yes (n = 318)	$128,606.01 ± 31,765.63	*t* = 1.945 *df* = 454 *p* = 0.054
No (n = 138)	$146,519.71 ± 106,128.50	
*Note. *P value was < 0.05, ** P value was < 0.01* *PGY1 = post-graduate year 1, PGY2 = post-graduate year 2, PharmD = Doctor of Pharmacy*		

Table 13
Comparison of Salary Between Post-Graduate Experiences

Job-Related Characteristic	Salary	
	Mean ± SD	***t*-value** ***df*** ***p*-value**
Completed Post-Graduate Training		
Yes (n = 379)	$134,375.49 ± 66,969.72	*t* = -0.205 *df* = 455 *p* = 0.838
No (n = 78)	$132,732.31 ± 50,817.14	
Completed PGY1		
Yes (n = 329)	$133,390.00 ± 69,989.38	*t* = 0.352 *df* = 456 *p* = 0.725
No (n = 129)	$135,745.12 ± 47,389.99	
Completed PGY2		
Yes (n = 171)	$125,440.64 ± 29,854.32	*t* = 2.219 *df* = 456 ***p* = 0.027***
No (n = 287)	$139,184.95 ± 77,615.93	
Completed Fellowship		
Yes (n = 53)	$156,566.04 ± 156,654.54	*t* = -2.726 *df* = 456 ***p* = 0.007****
No (n = 405)	$131,107.23 ± 38,156.80	
Obtained Master's Degree		
Yes (n = 59)	$137,246.19 ± 43,173.11	*t* = -0.408 *df* = 456 *p* = 0.684
No (n = 399)	$133,581.22 ± 66,986.33	
Obtained Doctorate Degree (other than PharmD)		
Yes (n = 15)	$141,166.67 ± 34,960.01	*t* = -0.435 *df* = 456 *p* = 0.664
No (n = 443)	$133,812.48 ± 65,162.43	
*Note. *P value was < 0.05, ** P value was < 0.01*		

Table 14

Comparison of Salary Between Promotion, Rank Advancement, and Recognition Experiences

Job-Related Characteristic	Salary	
	Mean ± SD	***t*-value** ***df*** ***p*-value**
Promotion (with an increase in salary)		
Yes (n = 310)	$141,340.13 ± 73,701.96	*t* = -3.848
No (n = 136)	$116,437.43 ± 24,274.94	*df* = 444
		p* < 0.001*
Rank Advancement (irrespective of change in salary)		
Yes (n = 244)	$144,325.57 ± 80,488.79	*t* = -4.051
No (n = 199)	$120,030.10 ± 28,781.79	*df* = 441
		p* < 0.001*
Recognition at Workplace		
Yes (n = 311)	$138,886.16 ± 72,901.31	*t* = -2.403
No (n = 127)	$122,427 ± 39,503.27	*df* = 436
		p* = 0.017
Receipt of Awards or Honors from a Professional Organization		
Yes (n = 208)	$142,459.01 ± 85,715.32	*t* = -2.567
No (n = 240)	$126,758.15 ± 37,624.19	*df* = 446
		p* = 0.011
*Note. *P value was < 0.05, ** P value was < 0.01*		

The results of this study found that pharmacists who work in an academia setting have statistically significant lower salaries ($128,848.42 ± 64.577.89) compared to those who do not work in academia ($157,227 ± 58,487.25), $t(456) = 3.701$, $p < 0.001$. It was also found that pharmacists who completed PGY2 have statistically significant lower salaries ($125,440.64 ± 29,854.32) compared to those who did not complete PGY2 ($139,184.95 ± 77,615.93), $t(456)$, $p = 0.027$. Pharmacists who reported receiving a promotion with an increase in salary possess statistically significant higher salaries ($141,340.13 ± 73,701.96) compared to those who had not received similar promotions ($116,437.43 ± 24,274.94), $t(444) = -3.848$, $p < 0.001$. Additionally, pharmacists who had history of a rank advancement irrespective of salary changes have statistically significant higher salaries ($144,325.57 ± 80,488.79) compared to those who

did not ($120,030.10 ± 28,781.79), $t(441) = -4.051$, $p < 0.001$. The study also found that pharmacists who had been recognized for accomplishments at their workplace have statistically significant higher salaries ($138,886.16 ± 72,901.31) in comparison to those who had not been recognized ($122,427 ± 39,503.27), $t(436) = -2.403$, $p = 0.017$. Lastly, pharmacists who had received awards or honors from a professional organization have statistically significant higher salaries ($142,459.01 ± 85,715.32) compared to those who had not received awards or honors ($126,758.15 ± 37,624.19), $t(446) = -2.567$, $p = 0.011$.

Multiple Regression Analysis

This research was designed to determine the influence of grit and work engagement on the subjective career success of practicing pharmacists in the United States. To answer these questions, pharmacists' SCSI total score was regressed on Grit-S and UWES-9 total scores. This regression analysis was conducted after first confirming that multicollinearity was not present between the two independent variables. The bivariate correlation between Grit-S and UWES-9 total scores is 0.358, which is less than the pre-set value of 0.7, indicating that multicollinearity between the two variables likely does not exist. The tolerance value is 0.882 and the VIF is 1.135, which are greater than the 0.2 and less than 5, respectively. Overall, these findings confirm that multicollinearity is not present.

The results of the multiple regression analysis are displayed in **Table 15** and **Table 16**. The overall multiple regression analysis is statistically significant ($R^2 = 0.367$, $F[2,583] = 168.971$, $p < 0.001$), and the two variables (grit and work engagement) account for 36.7% of the variance in subjective career success. Both variables have a statistically significant effect on subjective career success. Multiple regression analysis reveals that while both work engagement

($\beta = 0.52$, $p < 0.001$) and grit ($\beta = 0.18$, $p < 0.001$) uniquely account for variation in subjective career success, work engagement is a stronger predictor of subjective career success than grit.

A third purpose of this research was to evaluate the impact of an interaction effect of grit and work engagement on subjective career success. A cross-product term (GritxUWES) was added to the regression model to test the possible interaction between grit and work engagement in their effects on subjective career success. The results of this analysis are shown in **Table 8** and **Table 9**. The grit and work engagement variables were both centered. The interaction term is not statistically significant ($\Delta R^2 = 0.001$, $F[2,583] = 112.772$, $p = 0.437$), suggesting that grit is not a significant moderator of the relationship between work engagement and subjective career success among practicing pharmacists.

Table 15
Effects of Grit and Work Engagement on Pharmacists' Subjective Career Success

Variable	Unstandardized β Coefficients	Std. Error	Standardized β Coefficients	t-value	p-value
Grit-S	0.45	0.09	0.18	5.129	< **0.001**
UWES-9	0.71	0.05	0.52	14.82	< **0.001**
GritxUWES	0.01	0.01	0.03	0.78	0.437

Table 16
Multiple Regression Analysis Summaries for Effects of Grit and Work Engagement on Pharmacists' Subjective Career Success

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F-value	df1
1	0.606	0.367	0.365	8.043	0.367	168.971	2
2	0.606	0.368	0.364	8.046	0.001	112.772	1
Model 1 Predictors: Grit-S, UWES-9 *Model 2 Predictors: Grit-S, UWES-9, Grit-SxUWES-9* *Std. = standard, df = degrees of freedom*							

Qualitative Data Analysis

Three survey questions were used to gain insight into how study participants viewed career success. Participants' responses to these three questions were open-ended and the data were qualitatively analyzed. The contents of the three qualitative questions are specified below:

1. What does career success mean to you? Or how do you define career success for yourself?
2. Think about pharmacists you know who you believe are successful. Please list their top three qualities that you believe make them successful.
3. Briefly explain a time in your career when you felt you had achieved a measure of success.

For Qualitative Question 1, 550 responses underwent content analysis and thirteen themes emerged. The themes, response rates, and excerpts of direct quotes from survey participants can be found in **Table 17**. The most common themes practicing pharmacists utilize to define success include: "satisfaction" (29.09%), "impact on patient care" (22.73%), and "impact on students" (16.73%). The least common themes used to define career success include: "leadership" (1.09%), "being challenged" (2.00%), and "continuous learning and growth" (3.09%).

Table 17

Qualitative Content Analysis of Pharmacists' Definitions of Career Success

Question 1: What does career success mean to you? Or how do you define career success for yourself? (n = 550)		
Themes	**n (%)[a]**	**Direct Quotes**
Satisfaction	160 (29.09%)	*Enjoying my work, Obtaining fulfilment from your job, Being personally satisfied with my job, Being excited to go to work most days of the week, Being happy, Happiness and personal satisfaction with one's career choice, Having a job that I love*
Impact on patient care	125 (22.73%)	*Positively impact patient care, Positive impact on patient care and health care delivery, Impact on patients, Being able to help other patients and improve quality care, Improved patient outcomes, Providing the best possible patient care, Taking the time to really understand your patients and provide adequate advice to their health*
Impact on students	92 (16.73%)	*Making a difference in students' lives, Impact on student learning, Helping students succeed, Helping students become excited about pharmacy, Making a difference in my students' career paths, Helping the next generation of young pharmacists*
Impact on profession	76 (13.82%)	*Advancing the role of the community pharmacy/pharmacist within the healthcare marketplace, Contribution to the field of pharmacy, Implement innovative approaches to teaching, practice, and scholarship, Helping advance the organization through curriculum evolution, Change the profession for both pharmacists and the patients we serve*
Recognition	74 (13.45%)	*Recognition within the community, semi-locally, and even nationally, Being recognized for efforts and outputs, Recognized in small or large ways for the work that I have done, Recognition by peers and associates, Valued for the contribution I make toward the success of the organization, Being recognized for the passion and commitment to the profession, Peers acknowledge and appreciate your contributions*
Accomplishments	59 (10.73%)	*Meeting personal challenges, Setting and achieving goals annually, Yearly publication goals, Achievement of career goals, Publications, Board certification, Given and earned the goals that I set for myself, Achieving excellence across all areas of academic and clinical pharmacy*

(Table 17 Continued)

Work-life balance	49 (8.91%)	*Enjoying the life away from work, Balancing my priorities in life, like family and friends, Job that allows me work-life balance, Balancing the rest of your life, Balance between work and personal life, When I am able to turn off after my workday is done, Retiring early*
Promotion	48 (8.73%)	*Promotion to higher title, Advancement in title, Being promoted on the career ladder, Opportunities for upward mobility, Successful promotion, Working up the academic ranks, Promotion or advancement*
Financial Compensation	23 (4.18%)	*Proper financial compensation, Feeling well-compensated, Income to cover necessary expenses, High salary, Good paying*
Respect	23 (4.18%)	*A respected and valued member of the healthcare team, Being respected by non-pharmacists, Being respected and relied upon by my colleagues, Respected by junior colleagues and students who seek advice, Earned respect of interprofessional colleagues, Good reputation, Valued by practice and college*
Continuous learning and growth	17 (3.09%)	*Desire to continue growing, Continued growth and advancement in the profession, Learn new things on a daily basis, Continue to grow in my personal and professional development in pharmacy practice, Constantly learning and applying new knowledge to my work setting, Being able to learn and adapt to new and evolving practices*
Being challenged	11 (2.00%)	*Meeting challenges and continuing to find more challenging work, Being challenged every day, Find [my job] challenging, Challenging environment, Responsibilities with accompanying challenges*
Leadership	6 (1.09%)	*Being on the leadership of a pharmacy organization, Leader, Being a leader in the field, Authority to make high-level decisions, Participate in committees and organizations, Being a role model and leader*
Note. [a]A participant's response may have reflected one or more of these themes and as such may have been counted multiple times, depending on the number of themes referenced.		

For Qualitative Question 2, respondents were asked to list three qualities that make a successful pharmacist. From the 1702 responses that were submitted, four overarching themes of the responses emerged: "personality", "professional skills", "accomplishments and acknowledgements", and "personal life". These themes were further divided into 28 sub-themes.

The themes, sub-themes, and direct quotes from survey participants can be found in **Table 18**. The most common personality trait utilized to describe successful pharmacists was “grit” (n = 317). “Creativity, strategic thinking, and productivity” is the most common sub-theme among professional skills used to describe successful pharmacists (n = 153). Pharmacists who participate in “scholarship” are thought to be successful (n = 28). Within the theme of “personal life”, survey respondents report that successful pharmacists as those who possess “balance” (n = 16).

Table 18
Qualitative Content Analysis of Qualities of Successful Pharmacists

Question 2: Think about pharmacists you know who you believe are successful. Please list their top 3 qualities that you believe make them successful. (n = 1702)		
Theme (n)	**Sub-Theme (n)**	**Direct Quotes**
Personality (n = 916)	Adaptability (n = 38)	*Adaptable, flexible, willing to change and try new things when needed, accommodating*
	Confidence (n = 29)	*Confident, self-confidence/strong sense of self, confidence in their own abilities, assertive, firmness, dominant personality, decisive*
	Grit (n = 317)	*Willingness to put in the work to get the job done right, dedication to their specialty, engaged, focus on goals/mission, committed, strong conviction, ambitious, persistent, driven, resilient, goal-oriented*
	Dependability and helpfulness (n = 70)	*Reliable, dependable, consistent, responsible, share knowledge to help others grow, concern for others/willing to help, enjoy helping people*
	Diligence (n = 137)	*Hardworking, initiative, work ethic, diligence, conscientious, willing to put in the effort*
	Extrovert (n = 7)	*Outgoing, energetic, extroversion, entertaining*
	Courage (n = 18)	*Risk-takers, courageous, bold, having courage to take chances, willing to speak up, not afraid of failure, not afraid to try new things*
	Humility (n = 22)	*Humility, humble, lack of ego*
	Integrity (n = 62)	*Honesty, trustworthy, integrity, ethical decision making, vulnerable/transparent*
	Kindness, open-mindedness, and patience (n = 71)	*Kind and caring, generous, genuine, respectful, philanthropic, self-less, willing to listen to all in team, open-minded, able to see multiple perspectives, non-biased, even-tempered, poised, calm, level-headed, patience*
	Amiability and positivity (n = 88)	*People-oriented, accessible, get along well with others, approachable, good personality, people skills, authentic, friendly, positive attitude in any situation, optimism, enthusiastic, liking profession, appreciative*
	Passion (n = 52)	*Passionate, deep conviction, enthusiasm for the profession, believing in the work they do*
	Independence (n = 5)	*Independent, self-regulating, minimal personal responsibilities*

(Table 18 Continued)

Professional Skills (n = 708)	Effective team member (n = 78)	*Work well with others, team player, engage with colleagues, builds relationships, relationship-oriented, ability to network, collegial*
	Communication skills (n = 63)	*Communication skills, articulate, interpersonal communication skills, great listener, effective communicator, good writers, well-spoken*
	Social-emotional skills (n = 120)	*Compassionate, caring, empathy, social and emotional competence, understanding, self-awareness, reflective, intuitive*
	Creativity, strategic thinking, and productivity (n = 153)	*Creative, visionary, innovative, thinking outside the box, forward thinking, resourceful, efficient, multi-tasking, productive, critical thinking skills, logical, pragmatic, strategic*
	Knowledgeable (n = 83)	*Professional expert, intelligent, knowledgeable, wise, clinically competent, brilliant, strong clinical skills, smart*
	Leadership skills (n = 75)	*Fair, diplomacy, motivator, influential, empowering, encouraging, involved in profession, serve on national committees, leadership abilities*
	Organization skills (n = 55)	*Detail-oriented, thoroughness, attention to detail, time management, organization*
	Patient-centered mindset (n = 23)	*Patient-focused, clinical-focused role, provides excellent patient care, knowing that patient care comes first, makes a difference for their patients*
	Professionalism (n = 13)	*Professionalism, maturity*
	Growth and development (n = 45)	*Curious, life-long learner, self-directed learner, continuous improvement, intellectually curious, growth mindset, eager to learn, willing to grow and learn*
Accomplishments and Acknowledgements (n = 54)	Scholarship (n = 28)	*Well-published author, make contributions to the scientific community, national awards, achievements, researched and published their work, awards, research and scholarship*
	Recognition and respect (n = 26)	*Recognized by peers, well-respected, known for work, credibility among healthcare workers and students, strong professional identity*

(Table 18 Continued)

Personal Life (n = 24)	Socio-demographics (n = 2)	*Younger, male*
	Finances (n = 6)	*Financially independent, good salary, financial, being fiscally responsible*
	Balance (n = 16)	*Work-life balance, finding joy and balance in work/personal life, life outside of work, able to balance work and family*

For Qualitative Question 3, respondents were asked to describe a time in their own career where they felt successful. After content analysis of 516 responses, 12 themes emerged. These themes, response rates, and direct quotes from survey participants are displayed in **Table 19**. The three most common themes pharmacists use to describe their own moments of success include: "accomplishments" (25%), "promotions" (19.19%), and "acknowledgements" (16.09%). The three least common themes describing respondents' moments of success include: "work-llife balance" (0.58%), "flexibility" (0.78%), and "satisfaction" (1.16%).

Table 19
Qualitative Content Analysis of Pharmacists' Self-Described Moments of Success

Question 3: Briefly explain a time in your career when you felt you had achieved a measure of success. (n = 516)		
Themes	**n (%)[a]**	**Direct Quotes**
Accomplishments	129 (25.00%)	*Accepted for publication, Speaking at national conferences, Completed my PGY1 residency, Becoming board-certified, Obtaining a job I thought was out of reach, Graduated with my PhD, Becoming a pharmacy owner instead of a pharmacy employee*
Promotions	99 (19.19%)	*When I achieved tenure and promotion to my current rank, Promoted to Pharmacy Manager, Promoted to pharmacy director for our local county health plan, Promotion within department, Promotion to Director, Named Department Chair, Promoted from a clinical pharmacist to a supervisor position*

(Table 19 Continued)

Acknowledgements	83 (16.09%)	*Thanked by my boss and told that I was valuable to the department, Receiving recognition outside of workplace, Patients spend the time and resources to send thank you cards, Patients or students expressing their appreciation, Recognition from superiors when hard tasks [are] completed, Received good course evaluations from students*
Awards	60 (11.63%)	*State level pharmacy association award as Pharmacist of the Year, Received Instructor of the Year from students, Multiple awards at the state association meeting, Selected for four different departmental research grants, Preceptor of the Year award, Recognition of clinical service through a local award, Acquisition of first NIH grant as primary investigator*
Positive Impact on Students	60 (11.63%)	*Helped a student publish their idea, Helped a group of students through pharmacy calculations, Seeing pharmacy students graduate and find their path in pharmacy that makes them happy, When a resident or student has exhibited learning, Watching students progress through their school career into their professional, Seeing students obtain residencies, When my students grasp a difficult concept or perform well on an assessment*
Positive Impact on Workplace or Profession	37 (7.17%)	*Establish new services at the clinic and meet a clinical need, Developing an interdisciplinary HCV treatment clinic…to increase treatment access, Developed pharmacist-led medication management service imbedded in an internal medicine clinic, When I got a law passed that I had written, Wrote a guideline that was adapted by the system, Building the [university's] Medicare program, Expanding all operations within the pharmacy to operate smoothly, efficiently, and in compliance*
Leadership Roles	33 (6.40%)	*Selected as the first female President of an organization that I helped to start, Chairing our admissions committee, When peers vote you into a position of trust and responsibility, Transitioning from clinical practice to pharmacy administration, Became the laboratory manager at my pharmacy program, District manager for Target, I was PIC and training interns [and] pharmacists*

(Table 19 Continued)

Positive Impact on Patient Care	28 (5.43%)	*Making an impact on a chronically ill patient in the hospital, Had many patients improve their A1C after having received consistent diabetes counseling from me, Providing expert patient care in Peds Oncology, Treating patients with cardio-metabolic disease, Each time I made a meaningful intervention or interaction with a patient, Built a trust relationship with my patient that they reach[ed] out to me more than her PCP*
Interprofessional Interactions	13 (2.52%)	*When I was able to win over a cantankerous physician, When providers came directly to me for input into medication regimens, Having physicians rely on me to make decisions to improve patient outcomes, Starting an insulin dosing service at my clinic and having the [doctors] on board with it, When outside departments want our input, Compliments given to me by my physician colleagues*
Satisfaction	6 (1.16%)	*Work on what I love, Personal satisfaction with my job*
Flexibility	4 (0.78%)	*Freedom to choose what I work on, Considerable autonomy to pursue my interests, Job with flexibility*
Work-life Balance	3 (0.58%)	*Take vacations, Balance in work load, Being promoted [and] raising two great kids and having a wonderful marriage*
Note. [a]A participant's response may have reflected one or more of these themes and as such may have been counted multiple times, depending on the number of themes referenced.		

CHAPTER 5: DISCUSSION

This cross-sectional study examined career success among practicing pharmacists and explored the relationships between grit, work engagement, and career success. To the researcher's knowledge, this is the first study to investigate the aforementioned variables within a population of practicing pharmacists and is also the first large-scale study in the U.S. that adopted a mixed-methods approach to investigate career success among pharmacists.

Among the demographic characteristics of study participants, there are no significant differences in Grit-S, UWES-9, and SCSI scores. These findings support previous studies conducted among working adults in health professions, where there was found to be no significant gender differences between grit (Dam et al., 2019; Miller-Matero et al., 2018). However, despite not reaching statistical significance, the present study as well as past studies among health professionals in the U.S. have found that females tend to have slightly higher Grit-S scores when compared to males (Dam et al., 2019; Miller-Matero et al., 2018). Previous studies have also found no significant gender differences in work engagement among working health professionals in Saudi Arabia and China (Aboshaiqah et al., 2016; Wan et al., 2018).

The job-related characteristics of survey respondents in the present study are skewed towards pharmacists who work in an academia, hospital, or ambulatory care setting, specialize in a particular field of pharmacy, and completed some type of post-graduate training. This was likely influenced by the survey being sent to members of AACP, CSHP, and CPhA, where the majority of members practice in the aforementioned work settings. Furthermore, these majority groups influenced the results of the qualitative analysis. The influence of pharmacists who work in academia is most prevalent among the qualitative results. When investigating the survey respondents' definitions of career success, there was an emphasis placed on "impact on

students", "achievements", which includes publications and scholarly activity, and "promotion", which includes advancement within the academic ranks. These are all measures of success that are highly regarded within the academic workforce, and the results may be different if the work settings of study participants are more balanced.

The average salary of pharmacists in the present study is $134,053. According to the U.S. Bureau of Labor Statistics (2021), the average annual salary of pharmacists, as of May 2020, is $125,460. Therefore, the population of pharmacists in the present study possess a higher-than-average salary. A large number of pharmacists in the present study are highly specialized and educated/trained, as indicated by their specialization and post-graduate training experiences and this may contribute to their higher-than-average salary.

This was the first study that examined work engagement among pharmacists from varying practice sites. Within the various work settings the survey respondents came from, it was found that pharmacists who do not work in a hospital setting have significantly higher work engagement scores compared to those who do work in a hospital setting. Since work engagement is considered to be the opposite of burnout, these findings may suggest that hospital-based pharmacists experience more feelings of burnout compared to pharmacists in other work settings.

Regarding grit, it was found that pharmacists who did not complete a PGY1 residency have statistically significant higher grit levels compared to those who did complete a PGY1 residency. In contrast, a study conducted by Palisoc et al. (2017) found that Grit-S scores were positively correlated with the pursuit and attainment of post-graduate training. These varying results could be due to the study populations. The present study has a population of practicing pharmacists, while Palisoc and colleagues' (2017) study had a population of third- and fourth-

year pharmacy students. Grit is a trait that can evolve over time, based on an individual's life experiences. It could be that practicing pharmacists, particularly those who did not complete PGY1, must show more consistency of interest and perseverance of effort over longer periods of time to attain similar career positions as their counterparts with a history of PGY1 training.

This study found that pharmacists who indicated completing some type of post-graduate training have significantly lower work engagement scores compared to those who did not complete post-graduate training. These findings are consistent among pharmacists who had completed a PGY1 residency, PGY2 residency, and fellowship, as all subgroups have significantly lower work engagement scores compared to pharmacists who did not complete the same type of post-graduate training. While there is no clear reason why this may be the case, we may speculate the effect of burnout, the counterpart to work engagement. In previous literature, the concepts of work engagement and burnout have been linked with the Job Demands-Resource model, which can be utilized as a tool to address and improve employee well-being (Demerouti & Bakker, 2011; Schaufeli, 2017). The model states that each job includes demands and resources. Job demands are labeled as parts of work that require sustained physical or mental effort and are, therefore, associated with physiological and/or psychological costs (Demerouti & Bakker, 2011; Schaufeli, 2017). Job demands can include emotional labor, stressful work environments, heavy workloads, and time pressures and are thought to contribute to burnout (Demerouti & Bakker, 2011; Schaufeli, 2017). Conversely, job resources refer to physical, social, or organizational aspects that assist in achieving personal goals and encouraging personal growth and development, which in turn cultivate work engagement (Schaufeli, 2017; van den Berg et al., 2017). The model proposes that by increasing job resources and decreasing job demand, employers can decrease burnout and increase work engagement among employees.

Within the field of pharmacy, individuals who have completed post-graduate training are thought to be ideally positioned for jobs that are more competitive and clinically-driven. It could be that these jobs are also more demanding for pharmacists, and therefore contribute to higher levels of burnout and, thus, lower levels of work engagement. Another potential explanation for these findings could be due to the demographics of the population in the present study. As previously mentioned, the pharmacists in the present study are highly educated with post-graduate training and specialization experiences and seem to be in more competitive positions, as indicated by the higher-than-average salary of this group. It could be that in order to achieve and maintain these positions, pharmacists without post-graduate training experiences had to possess higher levels of grit and work engagement. These higher levels of grit and work engagement may have allowed this group to remain as competitive as pharmacists who do have a history of post-graduate training. However, the scarcity of current literature available regarding work engagement among practicing pharmacists limits our ability to fully understand and address work engagement in pharmacy.

The present study also found that pharmacists who had indicated completing some type of post-graduate training do not have statistically significant different subjective career success scores compared to pharmacists who did not complete post-graduate training. Similarly, when salary is used as an objective measure of success, there is no statistically significant difference between pharmacists who indicated completing post-graduate training versus those who did not. While these findings may be unexpected, Pachulicz et al. (2008) also found that the number of special certifications received by emergency physicians was not related to three areas of objective career success. Special certifications were defined by Pachulicz and colleagues (2008) as number of graduate degrees, residency specialties, fellowship training, and other

certifications, while objective career success was measured by the number of academic and emergency medicine leadership positions held and salary change over a 10-year period.

Among the other job-related characteristics investigated in the present study, pharmacists who reported receiving promotions or rank advancements have statistically significant higher subjective career success levels compared to their counterparts. Similarly, those who had reported being recognized for their contributions in the workplace as well as those who had received awards or honors from professional organizations have statistically significant higher levels of subjective career success compared to those who had not received similar praise. These findings are supported by the results from the qualitative analysis portion of the study. When asked to explain a time in their careers when study participants had achieved a measure of success, 99 participants (19.19%) stated that receiving promotions or rank advancements contributed to moments of success. Additionally, 83 respondents (16.09%) reported their moments of success being when they received acknowledgements, while 60 respondents (11.63%) described receiving awards as their moments of success. The themes of recognition, respect, and promotion were also used to describe how the study participants define success. With this insight into the study participants' thoughts, we can infer that pharmacists who value promotions, awards, recognitions, and honors and have received such types of praise, would also consider themselves to be, subjectively, successful.

This study demonstrates that both grit and work engagement are predictors of subjective career success for practicing pharmacists. These findings are consistent with a previous study conducted by Lechner et al. (2019), which also found that grit was significantly associated with career success, measured through income, job prestige, and job satisfaction. However, the study by Lechner and colleagues (2019) was conducted among a diverse sample of German adults. To

the researcher's knowledge, there are no studies that have evaluated grit or work engagement as a predictor of success among practicing pharmacists. Thus, until additional studies have been conducted, the results from the present study must be interpreted and applied with special consideration to the generalizability of the findings.

The findings from the qualitative analysis of the present study provide researchers with valuable insight to practicing pharmacists' views of success. When asked to define success, pharmacists' responses encompass themes of impact on patient care, students and the profession, accomplishments, recognition, respect, and satisfaction. Similar to the findings of Jepsen and O'Neill (2013), salary was not a major indication of career success. Jepsen and O'Neill (2013) also found that, among hospital pharmacists in Australia, acknowledgement, respect, and recognition was a theme commonly associated with success. Job satisfaction was also a common theme identified in previous studies (Banerjee et al., 2020; Zamanzadeh et al., 2019).

The present study also asked participants to list qualities or characteristics of successful pharmacists. Within the four themes of personality, professional skills, accomplishments and acknowledgements, and personal life, numerous sub-themes emerged with specific characteristics of successful pharmacists. Among these sub-themes are characteristics of grit, diligence, social-emotional skills, creativity and strategic thinking, and balance, which are similar to findings from a study conducted by Ward et al. (2019) that identified characteristics that support pharmacists' success. Similarly, Dikun et al. (2016) conducted a thematic analysis to discover what makes a successful pharmacist and found that innate characteristics, such as ambition, adaptability, and reliability, contribute to successful pharmacists' personality traits. Dikun and colleagues (2016) also found that pharmacists with a diverse set of professional skills, such as application of clinical knowledge and utilization of leadership skills, were more likely to

be deemed successful. Similar to the present study, previous literature has identified that leadership skills, interpersonal skills, and communication skills are all essential pieces of a successful pharmacist (Dikun et al., 2016; Jepsen & O'Neill, 2013; Ward et al., 2019).

When compared to findings of qualitative studies conducted among health professionals outside of pharmacy, the results of the present study remain consistent. Among nurses, career success has also been classified into sub-themes including work-life balance, professional development, being an effective team member, and patient-centered care (Zamanzadeh et al., 2019). Similar to the current study, medical students have previously defined success using themes of satisfaction and accomplishment (Banerjee et al., 2020). A past study sought to identify how academics describe success in academia and found that success was defined by promotions and tenure status, satisfaction, research productivity, and influence on students, among other themes (Sutherland, 2017). These findings remain consistent with the present study, especially considering the present study has such a large portion of respondents who work in an academic setting. Overall, the findings of the qualitative analysis of the present study are similar to results from past studies among pharmacists, other health professionals, and academics that defined success or identified characteristics of successful workers (Banerjee et al., 2020; Dikun et al., 2016; Jepsen & O'Neill, 2013; Sutherland, 2017; Ward et al., 2019; Zamanzadeh et al., 2019). This supports the belief that success is considered to be a multidimensional concept in today's society –a concept that goes beyond salary or satisfaction.

Study Limitations

There are several limitations of the present study, many of which are common to study designs that rely on survey-based data. First, although the study was open to all practicing pharmacists, the survey was directly sent to those who were members of three specific pharmacy

organizations. The large participation of pharmacists working in an academia setting was likely a result of the study survey being emailed to AACP's email listserv of members working in pharmacy practice. AACP is an organization whose mission is to further pharmacy education, research, scholarship, practice, and service and, as such, the organization's members are typically those who work in academia. Of the three pharmacy organizations (AACP, CPhA, CSHP) that the survey was sent to, AACP is the only national organization; CPhA and CSHP are both state organizations for California. Therefore, a large number of the survey recipients were members of AACP and thus, work in academia settings. Similarly, members of CSHP tend to practice in hospital settings, which may explain why a large number of survey participants indicated working in hospital and ambulatory care settings. However, this number may not be quite as large as the academia group as CSHP is a statewide pharmacy organization, while AACP is a national group. CPhA members tend to practice in community settings, which may explain why the community setting subgroup in the present study is also relatively sizeable. Overall, the findings from this study may over-represent pharmacists who work in academia, hospital, and ambulatory care settings. The survey was also distributed through social media, in an effort to reach pharmacists who were not affiliated with the three organizations. Nevertheless, because the survey was conducted online, it may have favored respondents who were more active online. This sampling bias may have resulted in a sample of pharmacists that was not representative of all pharmacists throughout the U.S.

Selection bias could have resulted from the survey being sent to members of pharmacy organizations. Pharmacists are not required to be members of organizations. Typically, those who do choose to be affiliated with organizations may be individuals who are more involved, invested, and interested in the profession. In the present study, this may be reflected by the large

number of pharmacists who indicated specializing in a field of pharmacy as well as those who had completed some type of post-graduate training.

The survey relied solely on self-reported measures. Therefore, the study was susceptible to social desirability bias, where respondents may have answered questions to reinforce positive characteristics and behaviors. However, study participants were informed that all responses would remain anonymous, in an effort to encourage truthful and accurate responses.

The survey included open-ended questions, which were left to the researcher to interpret during qualitative analysis. Compared to semi-structured interviews where researchers are able to have a conversation with study participants, open-ended survey responses had to be interpreted by the researcher. However, the presence of a debriefer helped verify that the researcher's interpretations seemed to be representative of the survey respondents' true beliefs.

Lastly, the timing of this study may have also impacted the results. Survey responses were collected during the height of the coronavirus disease 2019 (COVID-19), particularly during the surge in the number of cases seen throughout the nation during the fall and winter months. As healthcare providers, pharmacists were among the front-line workers directly impacted by COVID-19. This impact could have been seen on the emotional states of pharmacists as well as their work environments. Community pharmacies and hospitals were heavily impacted, and often overwhelmed, in terms of patient care services. Research and industry settings were also affected, as vaccine and treatment development efforts persisted. Education and academia settings were forced to transition to a virtual environment, taking a toll on educators and students alike. Therefore, the grit and work engagement levels of pharmacists participating in the study may have been affected by the events of the world. Whether the grit and work engagement levels were positively or negatively affected is hard to say. Ultimately, it

would depend on each individual pharmacist. While some individuals may have felt moments where obstacles were too difficult to overcome, others may have risen to the challenge and persisted despite the adversity. While some may have felt stress and burnout in their work settings, others may have become more engrossed in their work in an effort to make a positive impact on a world that was struggling.

Considerations for Future Research

The opportunities of exploring career success within practicing pharmacists are plentiful. Further research in this field would benefit pharmacy practice sites by helping improve work environments and promote the careers of employees. Other large-scale studies can be conducted that are more evenly spread across the various fields of pharmacy practice. Additionally, a concerted effort should be made to target pharmacists from all backgrounds, rather than primarily those who are members of professional organizations. By doing so, researchers would have information to draw upon that better represents the population of practicing pharmacists in the U.S. Conversely, future studies may choose to focus on a specific population of pharmacists, such as those only working in a community pharmacy setting.

Rather than utilizing open-ended survey question responses to perform qualitative analyses, researchers can conduct semi-structured interviews, either in-person or virtually. Previous qualitative studies that have investigated career success through semi-structured interviews did so by focusing on a specific group of individuals, such as those with a common practice site. Future research can expand this focus to a broader sample of subjects in order to attain varying perspectives from pharmacists who have completely different work experiences.

As burnout is considered to be the antipode to work engagement, studies exploring burnout and general well-being among practicing pharmacists may also be of interest. By

identifying work settings that have higher incidences of burnout, employers may be able to implement strategies to create a more positive work environment. By providing additional job resources, employers would help foster work engagement among pharmacists, thus leading to better outcomes in the workplace.

Future experimental research in career success may explore the effect of implementing innovative measures within pharmacy practice sites. These innovative measures can be geared towards promoting career development among pharmacists. Such measures can aim to cultivate grit or encourage a more positive work-related mindset among pharmacists and investigate the effect of these measures on subjective career success. Within the context of pharmacy education, research can be conducted that examines whether grit is a trait that can be developed through interventions. By developing grit in pharmacy schools, students may be equipped with more tools to allow them to achieve professional success once in the workforce.

Conclusion

The main purpose of this research was to explore the relationship between grit, work engagement, and career success among practicing pharmacists. For pharmacists, both grit and work engagement are predictors of subjective career success. However, work engagement was shown to be a stronger predictor than grit. A secondary outcome was to gain insight into how practicing pharmacists define career success. The current study showed that while some pharmacists value salary and satisfaction as measures of success, the majority of pharmacists value the impact they have on the profession and people they serve, the accomplishments they achieve, and the recognition and respect they receive for their work.

By identifying factors or concepts that can be predictors of career success among pharmacists, we may provide pharmacy practice sites and management leaders with information

to spark conversations with pharmacists about their long-term career development and goals. Additional work in this field has the potential to support initiatives that can foster success in pharmacy practice.

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APPENDIX A: GRIT-S

Table 20
Grit-S Scale

Items	Response Option and Scoring
Consistency of Interest	
New ideas and projects sometimes distract me from previous ones.	1 = very much like me; 2 = mostly like me; 3 = somewhat like me; 4 = not much like me; 5 = not like me at all
Setbacks don't discourage me.	5 = very much like me; 4 = mostly like me; 3 = somewhat like me; 2 = not much like me; 1 = not like me at all
I often set a goal but later choose to pursue a different one.	1 = very much like me; 2 = mostly like me; 3 = somewhat like me; 4 = not much like me; 5 = not like me at all
I have difficulty maintaining my focus on projects that take more than a few months to complete.	1 = very much like me; 2 = mostly like me; 3 = somewhat like me; 4 = not much like me; 5 = not like me at all
Perseverance of Effort	
I have been obsessed with a certain idea or project for a short time but later lost interest.	1 = very much like me; 2 = mostly like me; 3 = somewhat like me; 4 = not much like me; 5 = not like me at all
I finish whatever I begin.	5 = very much like me; 4 = mostly like me; 3 = somewhat like me; 2 = not much like me; 1 = not like me at all
I am diligent.	5 = very much like me; 4 = mostly like me; 3 = somewhat like me; 2 = not much like me; 1 = not like me at all
I am a hard worker.	5 = very much like me; 4 = mostly like me; 3 = somewhat like me; 2 = not much like me; 1 = not like me at all

APPENDIX B: SHORTENED UTRECHT WORK ENGAGEMENT SCALE

Table 21
Shortened Utrecht Work Engagement Scale

Work and Well-Being Survey (UWES-9)

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. Select the number (from 0 to 6) that best describes how frequently you feel that way.

Never 0 Never	Almost Never 1 A few times a year or less	Rarely 2 Once a month or less	Sometimes 3 A few times a month	Often 4 Once a week	Very Often 5 A few times a week	Always 6 Every day

1. At my work, I feel bursting with energy. (V11)
2. At my job, I feel strong and vigorous. (V12)
3. I am enthusiastic about my job. (DE2)
4. My job inspires me. (DE3)
5. When I get up in the morning, I feel like going to work. (V13)
6. I feel happy when I am working intensely. (AB3)
7. I am proud of the work that I do. (DE4)
8. I am immersed in my work. (AB4)
9. I get carried away when I am working. (AB5)

Note: VI = Vigor scale; DE = Dedication scale; AB = Absorption scale

APPENDIX C: SUBJECTIVE CAREER SUCCESS INVENTORY

Table 22
Subjective Career Success Inventory

Items ranked from 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree The stem for each item is "Considering my career as a whole…"
Recognition
…my supervisors have told me I do a good job.
…the organizations I worked for have recognized me as a good performer.
…I have been recognized for my contributions.
Quality Work
…I am proud of the quality of the work I have produced.
…I have met the highest standards of quality in my work.
…I have been known for the high quality of my work.
Meaningful Work
…I think my work has been meaningful.
…I believe my work has made a difference.
…the work I have done has contributed to society.
Influence
…decisions that I have made have impacted my organization.
…the organizations I have worked for have considered my opinion regarding important issues.
…others have taken my advice into account when making important decisions.
Authenticity
…I have been able to pursue work that meets my personal needs and preferences.
…I have felt as though I am in charge of my own career.
…I have chosen my own career path
Personal Life
…I have been able to spend the amount of time I want with my friends and family.
…I have been able to have a satisfying life outside of work.
…I have been able to be a good employee while maintaining quality non-work relationships.
Growth and Development
…I have expanded my skill sets to perform better.
…I have stayed current with changes in my field
…I have continuously improved by developing my skill set.
Satisfaction
…my career is personally satisfying.
…I am enthusiastic about my career.
…I have found my career quite interesting.

APPENDIX D: SURVEY QUESTIONS

Part 1: Informed Consent Form Attestation

1. I have read the consent form and agree to participate in this survey. In addition, I am currently a licensed pharmacist in the United States with at least 2 years of work experience in a field of pharmacy (e.g. community, hospital, academia, industry, government, etc).
    a. Yes, I agree to participate and I meet the selection criteria.
    b. No, I do not agree to participate in the study.
    c. No, I do not meet the selection criteria.

If either B or C is selected for Question 1, participants will be re-directed to the following message:

> I am sorry to inform you that you are not qualified to participate in this survey because you did not agree to participate or you did not meet the inclusion criteria.
> Thank you for your interest.

If A is selected for Question 1, participants will continue with the survey questions.

Part 2: Demographics

2. What is your age (in years)*?
    a. _____

*Questions notated with an asterisks (*) will be set to allow participants to "**Skip**" if they do not want to answer in order to avoid coercion of survey participants.*

3. What is your gender?
    a. Male
    b. Female
    c. Prefer not to answer
    d. Other (please specify)

4. What is your marital status?
    a. Single (never married)
    b. Married, or in a domestic partnership
    c. Divorced
    d. Widowed
    e. Prefer not to answer
    f. Other (please specify)

5. What is your ethnicity?
    a. Asian American or Asian
    b. African American or African
    c. American Indian or Native American
    d. Caucasian

e. Hispanic or Latino
f. Pacific Islander
g. Prefer not to answer
h. Other (please specify)

6. How many years have you been licensed and working in the pharmacy profession*?
    a. _____

Part 3: Job-Related Characteristics

7. What is your current professional title*?

8. What setting(s) do you currently work in? Select all that apply.
    a. Academia
    b. Ambulatory Care
    c. Community
    d. Compounding
    e. Government or regulatory agency
    f. Hospital
    g. Managed Care
    h. Pharmaceutical industry
    i. Other (please specify)

9. Do you specialize in a specific field of pharmacy*?
    a. No
    b. Yes (please specify)

10. How many years have you been working in your current position*?
    a. _____

11. Did you complete post-graduate training? If so, please select all that apply.
    a. No, I did not complete post-graduate training.
    b. Yes, PGY1
    c. Yes, PGY2
    d. Yes, Fellowship
    e. Yes, MBA or MS
    f. Yes, second doctoral level education (besides PharmD)
    g. Other (please specify)

12. Which best describes your current employment status?
    a. Working full time (at least 32 hours a week)
    b. Working part time (less than 32 hours a week)
    c. On leave but still employed
    d. Unemployed and looking for work
    e. Prefer not to answer
    f. Other (please specify)

Part 4: Objective Measures of Career Success

13. Please indicate your approximate annual salary (in United States dollars)*.
    a. _____

14. Which of these best describes your approximate annual salary*?
    a. Less than $50,000
    b. $50,000 to $59,999
    c. $60,000 to $69,999
    d. $70,000 to $79,999
    e. $80,000 to $89,999
    f. $90,000 to $99,999
    g. $100,000 to $109,999
    h. $110,000 to $119,999
    i. $120,000 or more

15. In your pharmacy career, have you received at least one promotion with an increase in salary?
    a. No
    b. Prefer not to answer
    c. Yes (please specify)

16. In your pharmacy career, have you received any rank advancement(s) (irrespective of any change in salary)?
    a. No
    b. Prefer not to answer
    c. Yes (please specify)

17. Have you been recognized for your accomplishment(s) at your workplace?
    a. No
    b. Prefer not to answer
    c. Yes (please specify)

18. Have you received any award or honor from a professional organization?
    a. No
    b. Prefer not to answer
    c. Yes (please specify)

19. What does career success mean to you? Or how do you define career success for yourself? *[Qualitative Analysis Free Response Question]*

20. Think about pharmacists you know who believe are successful. Please list their top 3 qualities that you believe make them successful. *[Qualitative Analysis Free Response Question]*

21. Briefly explain a time in your career when you felt you had achieved a measure of success. *[Qualitative Analysis Free Response Question]*

Part 5: Grit-S

Please rank the response that best describes you.

22. New ideas and projects sometimes distract me from previous ones.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all

23. Setbacks don't discourage me.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all

24. I often set a goal but later choose to pursue a different one.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all

25. I have difficulty maintaining my focus on projects that take more than a few months to complete.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all

26. I have been obsessed with a certain idea or project for a short time but later lost interest.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all

27. I finish whatever I begin.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all

28. Which disease state is Lantus indicated for**? (questions marked with ** are to serve as a validity scale)

a. Hypertension
b. Diabetes
c. Osteoporosis
d. Hyperlipidemia
e. Peptic ulcer disease

29. I am diligent.
a. Very much like me
b. Mostly like me
c. Somewhat like me
d. Not much like me
e. Not like me at all

30. I am a hard worker.
a. Very much like me
b. Mostly like me
c. Somewhat like me
d. Not much like me
e. Not like me at all

Part 6: Subjective Career Success Inventory (SCSI)

31. Considering my career as a whole, my supervisors have told me I do a good job.
a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

32. Considering my career as a whole, the organizations I worked for have recognized me as a good performer.
a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

33. Considering my career as a whole, I have been recognized for my contributions.
a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

34. Considering my career as a whole, I am proud of the quality of the work I have produced.
a. Strongly disagree
b. Disagree

c. Neutral
d. Agree
e. Strongly agree

35. Considering my career as a whole, I have met the highest standards of quality in my work.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

36. Considering my career as a whole, I have been known for the high quality of my work.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

37. Considering my career as a whole, I think my work has been meaningful.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

38. Considering my career as a whole, I believe my work has made a difference.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

39. Considering my career as a whole, the work I have done has contributed to society.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

40. Considering my career as a whole, decisions that I have made have impacted my organization.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

41. Considering my career as a whole, the organizations I have worked for have considered my opinion regarding important issues.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

42. Considering my career as a whole, others have taken my advice into account when making important decisions.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

43. Considering my career as a whole, I have been able to pursue work that meets my personal needs and preferences.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

44. Considering my career as a whole, I have felt as though I am in charge of my own career.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

45. Considering my career as a whole, I have chosen my own career path.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

46. Which class of medication does ibuprofen belong to?**
    a. ACEI
    b. ARB
    c. CCB
    d. NSAID
    e. PPI

47. Considering my career as a whole, I have been able to spend the amount of time I want with my friends and family.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

48. Considering my career as a whole, I have been able to have a satisfying life outside of work.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

49. Considering my career as a whole, I have been able to be a good employee while maintaining quality non-work relationships.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

50. Considering my career as a whole, I have expanded my skill sets to perform better.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

51. Considering my career as a whole, I have stayed current with changes in my field.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

52. Considering my career as a whole, I have continuously improved by developing my skill set.
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

53. Considering my career as a whole, my career is personally satisfying.
    a. Strongly disagree

b. Disagree
c. Neutral
d. Agree
e. Strongly agree

54. Considering my career as a whole, I am enthusiastic about my career.
a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

55. Considering my career as a whole, I have found my career quite interesting.
a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Part 7: Utrecht Work Engagement Scale (UWES-9)

56. At my work, I feel bursting with energy.
a. Never
b. Almost never (a few times a year or less)
c. Rarely (once a month or less)
d. Sometimes (a few times a month)
e. Often (once a week)
f. Very often (few times a week)
g. Always (every day)

57. At my job, I feel strong and vigorous.
a. Never
b. Almost never (a few times a year or less)
c. Rarely (once a month or less)
d. Sometimes (a few times a month)
e. Often (once a week)
f. Very often (few times a week)
g. Always (every day)

58. I am enthusiastic about my job.
a. Never
b. Almost never (a few times a year or less)
c. Rarely (once a month or less)
d. Sometimes (a few times a month)
e. Often (once a week)
f. Very often (few times a week)
g. Always (every day)

59. Which disease state is Fosamax indicated for?**
    a. Hypertension
    b. Diabetes
    c. Osteoporosis
    d. Hyperlipidemia
    e. Peptic ulcer disease

60. My job inspires me.
    a. Never
    b. Almost never (a few times a year or less)
    c. Rarely (once a month or less)
    d. Sometimes (a few times a month)
    e. Often (once a week)
    f. Very often (few times a week)
    g. Always (every day)

61. When I get up in the morning, I feel like going to work.
    a. Never
    b. Almost never (a few times a year or less)
    c. Rarely (once a month or less)
    d. Sometimes (a few times a month)
    e. Often (once a week)
    f. Very often (few times a week)
    g. Always (every day)

62. I feel happy when I am working intensely.
    a. Never
    b. Almost never (a few times a year or less)
    c. Rarely (once a month or less)
    d. Sometimes (a few times a month)
    e. Often (once a week)
    f. Very often (few times a week)
    g. Always (every day)

63. I am proud of the work that I do.
    a. Never
    b. Almost never (a few times a year or less)
    c. Rarely (once a month or less)
    d. Sometimes (a few times a month)
    e. Often (once a week)
    f. Very often (few times a week)
    g. Always (every day)

64. I am immersed in my work.
    a. Never

b. Almost never (a few times a year or less)
c. Rarely (once a month or less)
d. Sometimes (a few times a month)
e. Often (once a week)
f. Very often (few times a week)
g. Always (every day)

65. I get carried away when I am working.
a. Never
b. Almost never (a few times a year or less)
c. Rarely (once a month or less)
d. Sometimes (a few times a month)
e. Often (once a week)
f. Very often (few times a week)
g. Always (every day)

End of Survey
Thank you so much for participating in this survey.

If you wish to enter the raffles for the prizes, please click on the link below. Please click the DONE button after accessing the raffle link or after completing the survey. As a reminder, your responses to this survey will remain completely anonymous. If you have any questions or concerns, please email nsharma@pacific.edu.

APPENDIX E: RECRUITMENT EMAIL TO CSHP AND AACP MEMBERS

Dear valued member,

My name is Nareeta Sharma, PharmD. I am a Pharmacy Practice fellow and faculty member at the University of the Pacific, Thomas J. Long School of Pharmacy.

I am emailing you to ask for your participation in my study. This research project examines career success among pharmacists in the United States. The aim of this project is to identify predictors of career success among pharmacists and to use the data to further our knowledge in this field.

If you decide to participate, you will be asked to complete an anonymous survey. Your participation in this study will take approximately 10-15 minutes.

One of every 10 randomly selected participants will receive a $10 Amazon gift card. Additionally, three types of grand prizes will be offered to 27 randomly selected participants: Amazon Echo Dot (3), Hydro Flask (12), and Yeti Rambler (12). Winners of one raffle will not be excluded from the other. Therefore, you may be selected to receive both a grand prize and an Amazon gift card. At the end of the survey, you will see a link that allows you to submit your name and email address on a form from another website, which will be used to contact you if you win a raffle prize. By adopting two separate websites, survey answers will NOT be linked with any identifiable information. Please see details in the consent form regarding risks, your rights, and any other additional information regarding the survey.

Please click the link below to access the informed consent form and survey questions.

https://www.surveymonkey.com/r/9CV9DMN

If you have any questions or concerns, please contact me at nsharma@pacific.edu.

APPENDIX F: RECRUITMENT EMAIL TO CPhA MEMBERS

Dear valued member,

You are invited to participate in a survey by University of the Pacific, Thomas J. Long School of Pharmacy.

Background: This study will focus on both subjective and objective career success within the pharmacy profession and will examine whether two factors, grit and work engagement, impact career success.

Survey:

- If you choose to participate, you will be asked to complete an anonymous survey. Your participation in this study will take approximately 10-15 minutes.
- Your individual responses and any personal information will be kept strictly confidential and no identifiable information will be linked to survey responses.
- One of every 10 randomly selected participants will receive a $10 Amazon gift card. Additionally, three types of grand prizes will be offered to 27 randomly selected participants: Amazon Echo Dot (3), Hydro Flask (12), and Yeti Rambler (12). Winners of one raffle will not be excluded from the other. Therefore, you may be selected to receive both a grand prize and an Amazon gift card. At the end of the survey, you will see a link that allows you to submit your name and email address on a form from another website, which will be used to contact you if you win a raffle prize. By adopting two separate websites, survey answers will NOT be linked with any identifiable information.
- Please see details in the consent form regarding risks, your rights, and any other additional information regarding the survey.

Please click the link below to access the informed consent form and survey questions.

https://www.surveymonkey.com/r/9CV9DMN

If you have any questions or concerns, please contact Nareeta Sharma, information below.

Nareeta Sharma, PharmD
Pharmacy Practice Fellow
University of the Pacific
Thomas J. Long School of Pharmacy
nsharma@pacific.edu

APPENDIX G: RECRUITMENT ANNOUNCEMENT FOR SOCIAL MEDIA

My name is Nareeta Sharma, PharmD. I am a Pharmacy Practice fellow and faculty member at the University of the Pacific, Thomas J. Long School of Pharmacy. I am working on a research project that examines career success among pharmacists in the United States. If you decide to participate, you will be asked to complete an anonymous survey. Your participation in this study will take approximately 10-15 minutes.

One of every 10 randomly selected participants will receive a $10 Amazon gift card. Additionally, three types of grand prizes will be offered to 27 randomly selected participants: Amazon Echo (3), Hydro Flask (12), and Yeti Rambler (12). Winners of one raffle will not be excluded from the other. Therefore, you may be selected to receive both a grand prize and an Amazon gift card. At the end of the survey, you will see a link that allows you to submit your name and email address on a form from another website, which will be used to contact you if you win a raffle prize. By adopting two separate websites, survey answers will NOT be linked with any identifiable information. Please see details in the consent form regarding risks, your rights, and any other additional information regarding the survey.

Please click the link below to access the consent form and survey questions.

https://www.surveymonkey.com/r/9CV9DMN

If you know any U.S. pharmacists who are licensed, working in any field of pharmacy for at least 2 years, and willing to participate in the survey, please feel free to forward the survey link to them.

APPENDIX H: INFORMED CONSENT

You are invited to participate in a research study that examines career success among pharmacists. If you decide to participate, you will be asked to complete a completely anonymous survey. Your participation in this study will take approximately 10-15 minutes.

My name is Nareeta Sharma, Pharm.D., and I am a Pharmacy Practice fellow and faculty member at the University of the Pacific, Thomas J. Long School of Pharmacy. I am also completing a Master of Science degree (M.S.) under the supervision of my faculty research advisor, Dr. Myo-Kyoung Kim, at the University of the Pacific.

The purpose of my research is to investigate the relationships between grit, work engagement, and career success among pharmacists. Your participation in this survey with honest and thoughtful information will help researchers provide valuable information to pharmacy educators, which may potentially lead to the cultivation of pharmacists who demonstrate high levels of work engagement and achieve long-term career success.

At the end of the survey, you may choose to enter into a raffle for one of three grand prizes: Amazon Echo Dot (3), Hydro Flask (12), or a Yeti Rambler (12). A total of 27 participants will be randomly selected for the grand prizes. Additionally, one out of every 10 participants will be randomly selected to receive a $10 Amazon gift card. Winners of one raffle will not be excluded from the other. Therefore, a single participant may be eligible to receive both a grand prize and an Amazon gift card. Upon completing the survey, you will see a link to a form on a separate website that will ask for your email address and also allow you to select which grand prize you want to enter into a raffle for. By adopting two separate websites, survey answers will NOT be linked with the identifiable information. This process will disclose that you (the person associated with the email address you provide) have participated in this survey, but your responses to the survey will remain anonymous. If you are selected, I will send you an email to gather your name, address, and phone number in order to deliver the prize. After confirmation of receiving the prize, all identifiable information and email addresses will be permanently deleted.

There are no risks beyond what is expected in everyday life. First, there may be psychological risk; you may feel discomfort while answering questions about your attitudes and experiences regarding your career. However, the survey is set to allow respondents to skip any questions (for open-ended questions) or select “prefer not to answer” (for multiple choice questions) if you are not comfortable answering. Next, there may be sociological risk; you may feel embarrassed about your experiences with career goals, work engagement, or career success. However, all answers to the survey questions will remain anonymous, and you may feel a sense of security because your identity will remain anonymous. The data collected without identifiable information will be saved in a password-protected computer and saved within password-protected files. While there are no direct benefits to participants, we hope to identify predictors of career success among pharmacists and to use the data to further our knowledge in this field.

If you have any questions regarding the research at any time, please contact me by email at nsharma@pacific.edu or my faculty advisor, Dr. Myo-Kyoung Kim, at mkim@pacific.edu. If you have any questions about your rights as a participant in the research project, please contact the IRB Administrator, Office of Research and Sponsored Programs, University of the Pacific (209) 946-3903.

Your participation is entirely voluntary and your decision about whether to participate will involve no penalty or loss of benefits to which you are otherwise entitled. If you decide to participate, you are free to discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

By clicking “yes” to the first question on the next page, you indicate that you have read and understand the information provided above, that your participation is completely voluntary, that you may withdraw your consent and discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled, that you may print a copy of this form to keep for your records, and that you are not waiving any legal claims, rights, or remedies. If you do not want to participate in this survey, you can simply click out from the link or enter “no” on the first question on the next page.