Using a Situational Judgement Test to Develop Professionalism and Interpersonal Skills Among Medical Residents

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE
UNIVERSITY OF MINNESOTA
BY

Brittany Marcus-Blank

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

Dr. Paul Sackett, Advisor
Dr. Nathan R. Kuncel, Advisor

September 2018

Acknowledgements

I would not be here today without the help of a great many individuals. I want to thank my dissertation committee: Drs. Paul Sackett, Nathan Kuncel, Aaron Schmidt, Michael Cullen, and Connie Wanberg. Your feedback has been invaluable in ensuring my research idea became a reality. I would especially like to thank my advisors Paul and Nathan. Especially early on in grad school you were always available to give research advice and encouraged me to try new things, whether it be using a planned missingness research design or switching my research focus to medical education. Paul, I am forever grateful for your open door office policy and your openness to answering my many questions, even when I stop by multiple times a day. I also want to thank the rest of the I-O faculty, Drs. Deniz Ones and John Campbell, for instilling in me a great passion for and expertise in I-O psychology. I am so proud to call myself a Minnesota I-O student and feel honored to join the ranks of our alumni.

This dissertation would not have been possible without the advising and mentorship of Dr. Michael Cullen. Michael, I cannot begin to thank you for all that I have learned from you and with you the past three and a half years. I know I am a better researcher, practitioner, I-O psychologist, colleague, and educator having worked with you. You made me feel like a true partner in our research endeavors while also being incredible supportive and flexible as I encountered the many obstacles of graduate school and deciding my future career path. I also want to thank the rest of my wonderful team in GME over the past three years: Dr. John Andrews, Christy Illig, Tanya Madson, Andrea Medina, Matthew Plummer, Carol Sundberg, Rachel Whitcomb, and Heather Woeste. Working with all of you in GME is the reason I feel confident entering the workforce as

an I-O practitioner. Thank you for always making me feel like I was a part of the team and the seemingly never ending supply of treats in the usual spot. I also want to thank all of the Program Directors and especially the Program Coordinators of the University of Minnesota residency and fellowship programs who read through my many emails and worked with me to make this research study a reality.

Most importantly, I want to thank my many psychology colleagues who helped me survive graduate school. To my fellow I-O students- I could not have completed this program without you. Thank you for checking in to make sure I was surviving Deniz's personnel class, making sure I had people to room with at SIOP, helping me with my R code, answering my millions of questions about seminar and orals, and making Elliott hall feel like a home more than an office. I want to especially thank Sarah Semmel for being the reason I came to Minnesota and continuing to be a source of professional and personal support since the day we met. Win Matsuda and Melissa Sharpe- thank you for answering my many calls/text/emails whether dissertation related or otherwise. I am lucky to call you both my friends and colleagues. Amy Shu- my favorite (and only) cohort mate- thank you for being my partner in crime the past four and a half years. I know you were "tricked" into coming here but I could not be happier to have you as a constant classmate, study partner, and friend. Bridget Carey, Chelsea Dunkel, Brenda Ellis, Casey Giordano, Rachael Grazioplene, Heidi Keiser, Jack Kostal, Lauren Mitchell, Victoria Oleynick, Michael Wilmot, Tetsuhiro Yamada, Heejun Yoon, and Martin Yu thank you for each making over 3,000 construct validation ratings with only pizza and a thank you as your compensation.

Last but certainly not least I want to thank my incredible friends and family for supporting and encouraging me throughout graduate school. To mom, dad, Josh, and Amber- thank you for always making me feel loved and keeping me on my toes. Whether it be helping me edit my CV over winter break or forcing me to understand my research thoroughly enough to explain to a 10-year old, you push me to be the best version of myself. I especially want to thank my mom for being my role model, launching my research career at 14, and teaching me that hard work does pay off.

Abstract

Prior research indicates that Situational Judgment Tests (SJTs) are valid selection assessments for many types of roles, especially in the medical domain. However, little research exists on the effectiveness of SJTs in a developmental context. This study investigates whether an SJT-based training intervention can improve the professionalism and interpersonal skills of medical residents. A true experimental design was used to test this theory; residency programs were randomly assigned to the experimental and control conditions. Residents in programs assigned to the experimental condition received the training over a three-month period while residents in the control group received no training. The training intervention included completing a 45-minute online SJT, receiving a detailed developmental report, participating in a one-hour group debriefing session, and completing a goal-setting handout. Overall results suggest that the training intervention did not significantly improve residents' performance from time 1 to time 2 compared to participants in the control condition. Nevertheless, stakeholders' and participants' reactions to the training were largely positive. More research is needed to determine if SJTs are viable developmental tools.

Dedication

To all of the courageous, independent, and inspiring women in my family: my great-grandmothers Etta Milchen and Ilse Blank, my grandmothers Betty Marcus and Margot Blank, and my mother Bess Marcus.

Table of Contents

List of Tables

List of Figures

Introduction

Situational judgment tests (SJT) are a contextualized selection measure where applicants are presented with brief behavioral scenarios and asked to select the optimal behavior to resolve the current scenario. Although this style of assessment was originally developed in the 1940's (i.e., File, 1945), modern research began with Motowidlo, Dunnette, and Carter's (1990) seminal paper conceptualizing SJTs as a low fidelity simulation. Their empirical study found this "low fidelity simulation" was a valid predictor of entry-level management positions, and the authors concluded that low-fidelity simulations could be an effective tool when high-fidelity simulations (e.g., work samples, assessment centers) are not feasible to implement.

After this article, research on low-fidelity simulations [SJTs] took off into two main research streams: (1) What are the boundaries of its predictiveness? (i.e. reliability, criterion-related validity, and incremental validity), and (2) How do differences in response instruction influence criterion related and construct validity? More recently, a third research stream has emerged, which attempts to understand *what* SJTs measure and *why* they might be related to job performance. However, likely because the low-fidelity simulation was conceptualized in a selection context, there has been virtually no research on the utility of using SJTs in training and development (Corstjens, Lievens, & Krumm, 2017). This dissertation attempts to recast SJTs as a developmental tool by assessing the effectiveness of an SJT in improving professionalism and interpersonal skills among medical residents. The review below will discuss the literature on SJTs, training interventions, and the current utility of simulation style assessments in a developmental context.

Situational Judgment Tests

This section details previous research on SJTs. First and foremost, there is a discussion of the underlying theory of SJTs and how different theoretical conceptualizations lead to different expected relationships with criterion. Next, the validity evidence that both support and refute the previously proposed theories is described. Third, the design considerations of SJTs are explored, such as the evidence for certain instruction types and scoring methods. Finally, there is a review of SJTs applied use, such as the effects of practice and coaching on validity.

Underlying rationale and theory. Currently there are two different perspectives for conceptualizing what an SJT is and why they work; contextualized SJTs and general domain knowledge SJTs.

Contextualized SJTs. The traditional approach, or contextualized SJTs, view SJTs as measures of job specific knowledge. Applicants are asked to respond to a set of situations, similar to those they might encounter on the job, which elicits their procedural knowledge about how to handle said situations. This approach assumes the test takers' behavioral response selection is contingent upon how they perceive and construe the stimuli. Fundamentally, this perspective is based on the principle that past performance predicts future performance because of behavioral consistency (Bruk-Lee, Drew, & Hawkes, 2014; Lievens & Soete, 2012). Therefore, SJTs predict future performance because they capture the test-taskers' current contextualized knowledge and behavioral intentions, which reflect behavioral decisions the test-takers is likely to make on the job. This aligns with interactionist theories that consider a person's behavior to be a function of their traits and the way they perceive their environment (Campion & Ployhart, 2013;

Mischel & Shoda, 1995). The test-taker's perception of the job-specific situation is a crucial contributor to the way the test-taker responds.

General Domain Knowledge SJTs. The other perspective, called General Domain Knowledge SJTs, believe SJTs measure general domain knowledge and therefore do not need to be contextualized to a specific job (Corstjens et al., 2017; Lievens & Motowidlo, 2015). The core of this idea is that an SJT predicts job performance because it measures procedural knowledge that is important on the job. Procedural knowledge is broken down into two components: (a) general knowledge of the utility of expressing personality traits at work and (b) specific job knowledge about how to behave effectively in specific work situations. Plausibly, applicants have this general knowledge when they apply for a job, and this knowledge, coupled with specific job experiences, leads them to develop more nuanced knowledge of how to act in specific work situations. Motowidlo, Hooper and Jackson (2006) characterized this general knowledge as implicit trait policies (ITPs), which are implicit beliefs about the effectiveness of different levels of trait expression.

According to Cybernetics Big Five Theory (CB5T) personality traits, "probabilistic descriptions of relatively stable patterns of emotion, motivation, cognition, and behavior, in response to classes of stimuli that have been present in human cultures over evolutionary time" (DeYoung, 2015, p. 35) are distinct from characteristic adaptations, "relatively stable goals, interpretations, and strategies, specified in relation to an individual's particular life circumstances" (DeYoung, 2015, p. 38). ITPs are characteristic adaptations, not personality traits. For example, the belief that expressing agreeableness is beneficial at work. If these beliefs are accurate (i.e., expressing agreeableness does contribute to effective job performance) then people who believe this

will have more general domain knowledge that can apply to multiple jobs. Motowidlo et al. (2006) found that after controlling for ITPs, personality traits have no distinct effect on procedural knowledge, supporting their theory that the effect of personality traits on procedural knowledge (captured by SJTs) is mediated by ITPs.

Motowidlo and Beier (2010) updated this model to incorporate personality and ability as individual difference variables that impact the development of ITPs. Personality affects the formation of ITPs via the theory of dispositional fit, which states that when people make judgments about behavioral effectiveness, their judgments reflect their own personality traits; people believe that actions that express their own traits are more effective (Motowidlo, 2003). Cognitive ability is an important part of this model because it is expected that people with higher cognitive ability will learn more quickly what trait expressions are generally more effective in work situations and therefore develop more accurate ITPs. It is also expected that people with higher cognitive ability will learn more quickly the exceptions to the general rule (ITP) and therefore develop higher levels of job specific knowledge. ITPs and specific job knowledge have independent effects on performance; therefore, accurate ITPs can compensate for a lack of specific job knowledge and vice versa.

Lievens and Motowidlo (2015) further updated this model by breaking it down into a three phase process: antecedents (general experiences, specific experiences, and individual difference variables) impact the formation of procedural knowledge (ITPs and specific job knowledge), which impacts job performance. Lievens and Motowidlo suggest that in addition to personality and cognitive ability, other individual difference variables (e.g., emotional intelligence, interests, values) may play a role in general

experiences, specific job experiences, and the formation of ITPs.

Reliability, Validity, and Group Differences. It is crucial to understand what SJTs measure before one can conceptualize them as a developmental tool. This section describes the current evidence on the reliability and validity of SJTs. It is worth noting that this information comes entirely from studies using SJTs in a selection context.

Reliability. There are four types of reliability one can consider when evaluating the consistency of an assessment: internal consistency, alternate forms, test-retest, and interrater. SJTs are typically created from job-related critical incidents resulting in multi-dimensional measures. Therefore, internal consistency reliability is not a meaningful type of reliability when assessing SJTs because when a test is multi-dimensional one would not expect (and may not even want) items to correlate with one another. That said, many authors continue to report internal consistency reliability for SJTs. Estimates range from .26 to .85 and the average internal consistency reported is $r = .67$ (Kasten & Freund, 2015; Ployhart, 2008). Ployhart also found the number of items in an SJT correlated .42 with its internal consistency reliability.

Alternate forms reliability would be theoretically meaningful for an SJT, but practically it is nearly impossible to create alternate forms. Even small changes in the context of the situation result in significantly lower alternate-form reliability (Lievens & Sackett, 2007). Test-retest reliability would be meaningful if the test-taker is not expected to improve on the behavioral domain sampled in the SJT. However, in applicant settings one would expect the opposite; time on the job should increase one's procedural knowledge and therefore one would hope their SJT score increases at time two. Research indicates test-retest reliabilities for SJTs cluster around .60 but can range from the .20s to

the .90s (N. Schmidt & Chan, 2006). One study looked at Canadian university studies and HR practitioners and found the test-retest reliability of their SJT to be .82 and .66 respectively (Catano, Brochu, & Lamerson, 2012).

Construct Validity. McDaniel, Hartman, Whetzel and Grubb's (2007) meta-analysis found SJTs are small to moderately correlated with the big five and cognitive ability. Specifically, rho ranged from .13 (openness) to .27 (conscientiousness) and rho= .32 with cognitive ability. Given the multidimensional nature of most SJTs these relationships are to be expected. Similarly, the moderate correlation with cognitive ability is consistent with the theoretical perspective that SJTs measure general domain knowledge because one would expect knowledge and cognitive ability to be related. Additionally, Christian et al. (2010) meta-analysis used a construct-based approach, evaluating SJTs in terms of constructs measured (i.e., test content) rather than in terms of the method of measurement. They found SJTs have been designed to measure a variety of specific constructs such as knowledge and skills (i.e., job knowledge), applied social skills (e.g., interpersonal skills, teamwork, and leadership), and basic personality tendencies. This adds further evidence to the contextualized SJT perspective because SJTs can be designed to measure cognitive ability and/or personality.

Criterion-Related Validity. To date there are two large scale meta-analyses that look at SJT's relationship with job performance. McDaniel, Morgeson, Finnegan, Campion, and Braverman (2001) found rho = .34 and McDaniel et al. (2007) found rho = .26. The drop in effect size is largely attributed to differences in corrections for unreliability. The 2001 meta-analysis corrected for unreliability using alpha, but the 2007 meta-analysis did not because alpha is an inappropriate estimate of reliability for SJTs.

Additionally, the 2007 meta-analysis included over double the sample size (n=24,000) and is therefore the more accurate estimate. Another large scale meta-analysis looked at criterion-related validity of SJTs at a more nuanced level and found SJTs designed to measure specific constructs could be more predictive of specific performance criteria than heterogeneous composites (Christian et al., 2010). Specifically, SJTs designed to measure interpersonal skills (r = .21), teamwork skills *(*r = .35), and leadership (r = .24) were more strongly related to contextual performance than a heterogeneous SJT (r = .19). Also, SJTs designed to measure leadership (r = .29) and interpersonal skills (r =. 36) are more predictive of managerial performance than a heterogeneous SJT (r = .12). It is worth noting that these effect size estimates are based on much smaller samples (300-3,000) than the previous meta-analyses. Taken together, these meta-analyses demonstrate SJTs are valid predictors of job performance and job performance facets (contextual performance, task performance, and managerial performance).

Although there is not enough data to meta-analyze, research suggests SJTs can have incremental validity over cognitive ability and personality in predicting task performance and contextual performance (O'Connell, Hartman, McDaniel, Grubb, & Lawrence, 2007). Furthermore, research on Belgian medical students supports the longevity of SJTs' predictive validity. Specifically, scores on an SJT used to select Belgian medical students was found to predict medical school GPA, internship performance, and job performance; the SJT scores were valid in predicting criteria over a seven year period (Lievens & Sackett, 2012).

Subgroup Differences. Another large scale meta-analysis looked at subgroup differences that may arise when using SJTs. Whetzel, McDaniel, and Nguyen (2008)

found there are both mean race differences and mean sex differences in SJT performance. On average, White's score higher than Blacks (d = .38), Hispanics (d = .24), and Asians (d = .29), and on average females scores higher than males (d = .11). As one might expect, the cognitive ability and personality loadings of the SJT are moderators of these group differences. For Blacks and Asians, the mean difference is greatest with high cognitive ability and low emotional stability. For Hispanics, mean difference is greatest with high cognitive ability and low conscientiousness and agreeableness. Regarding sex, the more the SJT is positively correlated with conscientiousness and agreeableness, the greater the sex difference favoring women (Whetzel et al., 2008). Importantly, research shows similar levels of standardized mean difference scores favoring Whites and females when comparing applicant and incumbent samples (Weekley, Ployhart, & Harold, 2004). Also, research finds that SJTs can minimally increase standardized mean difference scores over cognitive ability and personality measures when predicting task performance (Δd = .03) and contextual performance (Δd = .03) (O'Connell et al., 2007). Furthermore, SJTs with higher cognitive ability saturation result in larger group differences in SJT performance (Roth, Bobko, & Buster, 2013). Therefore, one means to reduce subgroup differences is to reduce the level of cognitive saturation, such as by using a multimedia test rather than a verbally laden paper-and-pencil test (De Soete, Lievens, Oostrom, & Westerveld, 2013).

Design Considerations. Given that the research on SJTs has been conducted almost exclusively in selection settings, it is important to consider this context when reviewing design considerations. Lievens and Sackett (2017) argue that breaking down selection procedures into seven core method factors may shed light on discrepancies found in the

literature related to validity, subgroup differences, and applicant reactions. These seven factors are defined as : (1) *Stimulus Format*, modality by which test stimuli are presented to test takers (e.g., textual vs. pictorial), (2) *Contextualization*, the extent to which a detailed context is provided to test-takers, (3) *Stimulus Presentation Consistency*, the level of standardization adopted in presenting test stimuli to test-takers, (4) *Response Format*, modality by which test-takers respond to test stimuli (e.g., closed-ended vs. textual construction), (5) *Response Evaluation Consistency*, level of standardization in evaluating test-takers responses (e.g., calibrated judgment vs. automatic scoring), (6) *Information Source*, individual responding to the test stimuli (e.g., behavior exhibited by the candidate vs. self-reports), and (7) *Instructions*, the extent to which directions are made explicit to test-takers about which perspective they should take to respond to the test stimuli. For example, rather than looking at the criterion-related validity of SJTs, SJTs can be broken down by stimulus format (e.g., paper-and-pencil vs. video/animated) and then investigate the validity of each format. Essentially, these seven dimensions are likely moderators of the relationships between selection methods and outcomes. The effect of various design considerations related to SJTs are described below.

Stimulus Format. "Typical" SJTs were administered as paper and pencil tests, which is why they are termed a "low fidelity simulation" in Motowidlo et al.'s (1990) original article. With advancing technology, video and multimedia SJTs soon became a viable alternative. Rather than reading a written scenario, test-takers of video SJTs watch actors "act out" job-related scenarios; however, both types of SJTs elicit written responses from the test-taker. Early research found smaller Black-White differences using a video-based method compared to a paper-and-pencil method (Chan & Schmitt, 1997). This is likely

because video-based assessments have a lower cognitive load than paper-and-pencil assessments, and research finds there are large race-based differences on cognitive tests (*d*= 1.0) (Roth, Bevier, Bobko, Switzer, & Tyler, 2001).

General research on equivalence, the degree to which the meaning of scores on an assessment are maintained when the mode of the assessment is changed, suggests the reliability, validity, and rank ordering of scores on both cognitive and non-cognitive assessments is maintained when the test is administered using a computer rather than with paper (Dodou & de Winter, 2014; Mueller, Liebig, & Hattrup, 2007). A meta-analysis on specifically SJTs found that video based SJTs have a stronger relationship with multiple facets of job performance than paper and pencil SJTs. Lievens and Sackett (2006) looked specifically at the equivalence of a video and written SJT in predicting interpersonally oriented medical student performance, and they found the video-based SJT had a higher validity than the written SJT. Furthermore, they found the video-based SJT, compared to the written SJT, had more incremental validity over cognitively oriented predictors in predicting interpersonal performance. This is likely because the correlation between the SJT and cognitively oriented predictors is significantly higher when the SJT is administered in a written form.

Interestingly, there is little to no research comparing the equivalence of video-based SJTs, which use real actors, and computer-animated SJTs, where animated characters act out the scenarios. One study compared candidates' preferences among three types of multimedia SJT formats (video, 2D, and 3D animation) and they found the video format was rated more job relevant, engaging, and realistic compared to the 3D and 2D animation formats; the video format was also rated as the overall preferred format (Bruk-

Lee et al., 2016). One advantage of animated scenarios is that physical features of the characters and the settings are completely controllable by the test-maker. This enables test designers to write scenarios in locations that might be hard to film, such as surgical operating rooms for doctors or extreme weather for first responders. Similarly, scenarios can be written to feature a diverse cast and physical characteristics can be changed in editing rather than having to be reshot with new actors. Second, animated SJTs are likely cheaper and less time consuming than video-based SJTs. However, test-takers may find these scenarios "cheesy" and fake; they may be perceived as having lower fidelity than the video based SJTs.

Contextualization. Lievens and Sackett (2017) define contextualization as, "the extent which test stimuli are embedded in a detailed and realistic context" (p. 9). Traditionally SJTs have a medium level of contextualization because they entail a general contextual description, and it is assumed that test-takers use this context when completing the assessment. However, the general domain knowledge perspective would argue against this interactionist view because SJT scores are thought to be dependent on general procedural knowledge, which does not require the prompting of a specific job situation. Krumm et al. (2015) tested these two perspectives by designing a study where one condition included the SJT scenario and response options and the second condition included just the response options. Interestingly, they found up to 70% of SJT items could be solved without the reading the situation (i.e., by selecting among response options with no situational context). This suggests that people are not using context-dependent knowledge when answering SJT questions, which violates a key assumption of the contextualized approach. Context-independent questions may bring many advantages

such as a shorter and cheaper design process, so more research is need on when these type of questions are appropriate.

Response Format. There are three common response formats for SJTs: (1) Rate, where test takers rate the effectiveness of each response option, (2) Rank, where test-takers rank order the response options from most to least effective, and (3) Most/Least, a modified version of rank ordering where the test-taker only selects the response option he or she believes is the most/least effective. To date there has been one large scale study examining the differences that can arise from these different response formats. Arthur et al. (2014) examined data from job applicants for roles across the Hospitality industry. Applicants all received the same items but the response format differed between applicants. Arthur et al. also used an undergrad sample, where participants completed two SJTs a week apart, where the response format was randomly assigned. Results indicate rating is usually the superior format and ranking is consistently inferior. Specifically, rating has the smallest subgroup differences for both race and sex, provides more incremental validity over cognitive ability, has the highest test-retest reliability and internal constancy reliability, and has the shortest completion time compared to the other formats. That said, the most/least format has the most incremental validity over personality, is the least susceptible to response distortion, and is the participant-rated preferred format for test-takers (Arthur et al., 2014).

Recently, a new response format has emerged; the single-response SJTs. Rather than presenting a scenario and listing possible response options, the single-response SJT asks test-takers to rate the effectiveness of the critical incident itself. For example, “The tour guide led a group of children to a face painting exhibit. The tour guide allowed the

children to paint the tour guide's face at the face painting table". Crook et al. (2011) found that single-response SJTs can be valid measures of job knowledge, predict performance, and most importantly do not pay a "predictive power reductive price" for their streamlined development.

Response Evaluation Consistency. Response evaluation consistency describes the procedural variations in how test-takers responses are evaluated (Lievens & Sackett, 2017). For SJTs there are both differences in the methods to determine the scoring key and also methods by which to determine the actual score.

Keying methods. The four main keying methods are: (1) Rational Keying (expert based), when subject matter experts (SMEs) evaluate each of the responses for their effectiveness prior to data collection, (2) Theoretical Approach, when a theory is used to identify correct answers, (3) Empirical Approach, when items are scored according to their relationship with a criterion measure and the "best" response option is the option associated with the highest mean level of performance, and (4) Consensus-based Approach, which occurs after data collection and the mean answer of the respondents is considered the best response (Bergman, Drasgow, Donovan, Henning, & Juraska, 2006). One study found that rational and consensus-based scores are highly correlated and they created more score variance (and thus have higher reliabilities) than the empirical and theoretical keys (Muros, 2008).

Scoring methods. The scoring method does not depend on the keying method, but it is dependent on the response format. Scoring methods for Best/Worst and Ranking response formats are largely similar. Option 1 involves simply scoring item as correct (1 point) or incorrect (0 points), and option 2 rank orders responses from best to worst and compares

the rank order to SME's rank order using Spearman's rank order correlation. For the Best/Worst response format there is a third scoring option that allows a range of -1 to +1 points per SJT item; correctly selecting the 'best' and 'worst' response earns the test-taker 1 point (+1), selecting a response in the direct opposite of the scoring key (e.g., marking the 'best' answer as 'worst) loses the test taker 1 point (-1), and responses not aligned (i.e., picking a response that is neither keyed 'best' nor 'worst') earns the test taker 0 points. For the Rank response format there is also a third scoring option where points are awarded for correct answers and points subtracted from incorrect answers (Miller, 2011).

If the response format is Rate, there are two unique scoring formats that can be used. Option 1 uses the distance-measure approach. Scores are determined based on the sum of squared deviations of respondents' scores from keyed mean values such that lower scores are better. This technique is appealing because it uses more information so it is more reliable, but it is also more susceptible to response distortion. Option 2 scores items by using the rating the test-taker gave to the best response as their score. To clarify, if there are five response options, the test-taker's effectiveness rating for the response option keyed as the most effective response is their score for them item; their effectiveness ratings for the four non-optimal responses are not considered. Finally, there are two different scoring technique when a single-response SJT is used. Option 1 involves (a) finding the difference between an applicant's effectiveness rating and the mean SME rating, (b) squaring that difference, (c) computing the mean squared difference across all SJT items, and (d) multiplying individuals mean squared difference score by -1 so that higher scores represent more similarity to SMEs' judgments. Option 2

involves averaging the participants' effectiveness ratings for effective and ineffective items (reverse scored). The rationale is that the higher the effectiveness rating is for an item, the more likely that person is to actually engage in that behavior (Miller, 2011).

McDaniel, Psotka, Legree, Yost, and Weekley (2011) investigated possible adjustments to common scoring approaches that could improve item validity, reduce mean racial differences, and increase resistance to coaching. They highlight two components of SJT scores: (1) Elevation, the mean of the items for a respondent and (2) Scatter, the magnitude of a respondent's score deviations from the respondent's own mean. Raw Consensus Scoring, when the mean ratings across respondents on each item serve as the answer key, does not control for elevation or scatter, where Standardized consensus scoring, where a respondent's score is an aggregation of the items' squared deviation from the group mean, involves a Z transformation to control for elevation and scatter. Findings indicate that SJT scoring methods that control for elevation and scatter yield higher scale validities, lower White-Black mean differences, and reduce score elevation associated with a coaching strategy of avoiding extreme responses (McDaniel et al., 2011). However, other studies found that different scoring techniques do not affect sex-based subgroup differences (Muros, 2008; St-Sauveur, Girouard, & Goyette, 2014).

ITPs. Although ITPs are posited as a new conceptual framework for understanding why SJTs work, practically they are a new take on how to evaluate responses to an SJT. To test the effectiveness of an ITP style scoring key Motowidlo and Beier (2010) reanalyzed the data from Motowidlo et al.'s (1990) original experiment where an SJT was used to predict interpersonal and problem-solving performance in managerial jobs. Six scoring keys were created based on the original items: expert knowledge key

(effectiveness ratings from the original study), novice knowledge key (effectiveness ratings from undergrads), agreeableness ITP key (doctoral student ratings of the extent to which each response item represents agreeableness), conscientiousness ITP key (doctoral student ratings of the extent to which each response item represents conscientiousness), expert residual key (partialed out agreeableness, conscientiousness, and novice effectiveness scores), and a novice residual key (partialed out agreeableness and conscientiousness scores). Results indicate that all scoring keys except for the novice residual key had moderate correlations with the previously collected performance ratings (r = .2's). This implies that ITPs are predictive of job performance, and novices can acquire ITPs learned though general socialization processes (no specific experience required). That said, experts still provided superior ratings due to their incorporation of work-specific experiences (r = .37). Oostrom, Born, Serlie and van der Molen (2012) also found support for ITP scoring keys explaining small incremental variance in performance over the variance explained by leadership experience and the personality scale scores.

Information Source. According to Lievens and Sackett (2017) information source, the individual responding to the stimuli, is broken into three categories: (1) behavior exhibited by the candidate or choices made by the candidate in the assessment context, (2) self-reports by the candidate about events beyond the assessment context, and (3) reports by others about events outside the assessment context. Within the first category, different types of evaluators have been examined in assessment center settings, which found psychologists and peer assessors' reports are of higher validity than managers (Gaugler, Rosenthal, Thornton, & Bentson, 1987). One recent study assessed the evaluator effect in an SJT context. MacCann, Wang, Matthews, and Roberts (2010)

administered an emotion management SJT to eighth grade students using typical instructions (i.e., "What would you do in this situation?") and also to the parents of these students using observer-oriented instructions (i.e., "What would your child do in this situation?"). Controlling for social economic status (SES), both the self-ratings and the parent's ratings were significantly predictive of performance, operationalized as GPA. Given that the correlation between the self and parent ratings was only $r = .19$, this suggests that these different evaluator sources may measure different constructs. More research needs to be done assessing the potential impact of evaluator source on SJT scores.

Instructions. Instruction type has been a key area of focus in SJT research. Most of this has been on the difference between behavioral and knowledge instruction. However, more recent research has examined the difference between instructions that ask for situational judgment versus response judgment.

Behavioral versus knowledge instructions. Instructional phrasing of SJTs is another fairly well researched area. Typically, SJTs scenarios end with asking the test-taker what they "would do" or what they "should do". "Would do" instructions elicit behavioral tendencies and are meant to represent typical performance. "Should do" instructions elicit knowledge responses and represent maximal performance. The research on typical versus maximal performance tells us that typical performance will have smaller cognitive correlates, but it is more susceptible to response distortion than maximal performance measures (Lievens, Sackett, & Buyse, 2009; Nguyen, Biderman, & McDaniel, 2005). Meta-analytic research finds SJTs with knowledge instructions have higher correlations with cognitive ability than do SJTs with behavior instructions, and SJTs with behavioral

instructions have higher correlations with certain personality traits (agreeableness, conscientiousness, and emotional stability) than do SJTs with knowledge instructions (McDaniel et al., 2007). Interestingly, McDaniel et al. 2007 found no difference in criterion-related validity and incremental validity based on instruction format.

However, McDaniel et al. 2007 did not break down these effects by context, whether the test was taken in a high-stakes or low-stakes situation. Context is a likely moderator of this effect because test-takers are more likely to fake good in high stakes situations, and SJTs with behavioral instructions ("would do") are more susceptible to faking than SJTs with knowledge instructions ("should do") (Nguyen et al., 2005). To study this, Lievens et al., (2009) used a predictive design to assess criterion-related validity of both instructional formats in a high stakes setting, medical school admissions. The authors posited that when motivation to fake good is high, as in a high-stakes situation, the responses under behavioral and knowledge instructions will be the same, but if the motivation to fake is low and familiarity with the domain being assessed is high, then scores under knowledge instructions will be higher than scores under behavioral instructions. Their results mirrored these hypotheses; test takers did not respond differently to knowledge versus behavioral instructions when taking an SJT for medical school admissions (high-stakes setting). Given this, the authors recommend that in high-stakes settings the knowledge instruction format is used so test-takers do not have a moral dilemma of whether or not to "fake good" (Lievens et al., 2009).

Situational judgment versus response judgment. Despite the name 'situational' judgment tests, currently SJTs measure response judgment. To produce an effective answer one first needs to infer what is considered an appropriate behavior in the situation

and then consider which of the possible response options match ones' situational judgment. Rockstuhl, Ang, Ng, Lievens and Van Dyne (2015) investigated the difference between situational and response judgment by asking participants two questions after viewing an SJT scenario: "What are the thoughts, feelings, and intensions of the people in the video?" [situational judgment], and, "What would you do next in the situation you have just seen?" [response judgment]. This protocol was used with university students and adults in MBA programs and the researchers found that both situational judgment and response judgment predict task performance and interpersonal organizational citizenship behaviors (OCBs), but situational judgment predicts these criteria over and above response judgments. More research is needed in this area to continue to tease apart these effects.

Faking, Coaching, and Practice Effects. The effects of faking, coaching and practice are important largely because of their potentially effect on construct and criterion-related validity.

Faking. Faking research is typically conducted in a lab setting where some participants are asked to respond honestly and some are asked to fake good. This design is beneficial because it is a low-stakes environment, and those in the honest condition are likely to truly respond honestly. For example, one lab style study looked at the relationship of SJT scores and GPA for Belgian medical students and found students in the fake good condition had significantly higher scores than those in the honest condition (Peeters & Lievens, 2005). Meaningfully, 76% of students in the highest quartile (representing a .25 selection ratio) were fakers, which means faking may have substantial practical effects in a selection context. Also, the correlations between SJT scores and

GPA were larger in the honest group than in the faking group, and SJT scores only provided incremental validity over cognitive ability and personality in the honest condition, which indicates faking has a negative impact on criterion-related validity (Peeters & Lievens, 2005).

However, many critique this lab-based study design and say the effect sizes are inflated and not transferable to the 'real world' (Viswesvaran & Ones, 1999; Zickar, 2000). To counter these critiques Lievens and Peeters (2008) conducted a second study employing a mixed design where students were assigned to either an honest or fake condition and to a non-elaboration or elaboration condition. Students in non-elaboration condition picked the response option they would do (same as in the previous study), but students in the elaboration condition were asked to write down their rationale. Social psychology research indicates asking people to elaborate on their decisions can help mitigate response distortion, especially when they are asked to write it down, which holds them accountable (Lerner & Tetlock, 1999; Sedikides, Herbst, Hardin, & Dardis, 2002). Results found elaboration decreased the effect of faking on mean SJT scores, but only among items that were familiar (i.e., they knew how to respond to the situation). Therefore, there is evidence supporting the effect of faking in lab settings, but it is unclear if faking is a practical problem.

Practice Effects. Two studies have examined practice effects on the validity of SJT scores. Dunlop, Morrison, and Cordery (2011) looked at scores from repeat applicants and double repeat applicants for fire-fighter positions. They found small practice effects from time 1 to time 2 for both the single retest group and the double retest group, but there were no practice effects from time 2 to time 3 for the double retest group. Lievens,

Buyse, and Sackett (2005) looked at a large sample of Belgian medical school applicants across eight examinations and found retaking lead to higher scores, but the criterion-related validity was not affected by retesting. Therefore, even if SJTs do have small practice effects they are not a concern because they do not impact the validity of the scores.

Coaching. Coaching could affect SJT scores because SJTs used in admissions exams do not rely on job-specific knowledge and procedural knowledge may be susceptible to coaching interventions. However, coaching could have beneficial, neutral, or harmful effects on the validity of SJT scores. If coaching helps eliminate error variance (e.g., an applicant that would have been anxious and made erroneous errors is now calm and practiced) this would improve construct validity, but if coaching increases the observed score and not the true score (e.g., an individual learns guessing strategies to improve test score but this strategy is not related to improved construct knowledge) it will hurt construct validity. Similarly, if coaching gives everyone an equal bump or if coaching genuinely increases individuals' level on a trait there will be no effect on criterion-related validity, but if coaching increases some scores more than others the criterion-related validity will decrease. Furthermore, it is important to consider how coaching affects perceptions of unfairness in the hiring process (Hooper, Cullen, & Sackett, 2006).

Research on coaching and SJTs in a student sample suggests coaching programs can increase SJT scores and do not affect the criterion-related validity (Cullen, Sackett, & Lievens, 2006). Another study found a substantial incremental effect of coaching over and above self-preparation in a high-stakes situation (d=.5) (Lievens, Buyse, Sackett, & Connelly, 2012). A recent study leveraged this prior research and investigated whether

coaching produces genuine effects, where higher SJT scores lead to higher performance, or artificial effects, where higher SJT scores have no impact on subsequent performance. Stemig, Sackett, and Lievens (2015) surveyed Belgian medical school applicants about their test preparation activities and found free coaching was effective at increasing performance, and the only significant coaching effect in predicting performance was completing the sample test. They also found the validity of the SJT was not diminished in the presence of coaching (no impact on criterion-related validity), but there may be construct validity issues because coaching increases SJT performance but does not transfer into job performance. Further investigating the scope of coaching for SJTs, Patterson, Ashworth, Kerrin, and O'Neill (2013) found using complex, cognitively loaded formats and more heterogeneous SJTs are less prone to coaching.

Training

Training is, "a planned intervention, even if it is informal and self-managed, that is designed to enhance the *determinants* of individual work performance, whether the individual functions independently or as a member of a team" (Campbell, Kuncel, & Kostal, in press, p. 2). Below is a brief review of relevant topics from the training literature to put the current study design in context within this body of literature.

Training design. The first step in training design is to determine training needs, determinants of performance that are deficient and trainable. Training needs are established by (1) describing the factors of effective performance, (2) specifying the determinants of performance for these factors, and (3) identifying performance determinants that would benefit from training. The most common technique for identifying training needs is job analysis, identifying the knowledge, skills and abilities

that are deficient and trainable. Although there are different methods of acquiring this information, the two most effective for identifying training needs are gathering critical incidents and cognitive task analysis (CTA). Critical incident methodology involves asking SMEs to submit examples of very effective and very ineffective performance; training needs are identified as trends that preempt negative critical incidents (Anderson & Wilson, 1997). In comparison to conventional job analysis, which asks what tasks people complete, CTA takes an information processing view and assess the determinants of experts, compared to novices, performance. This framework leverages the idea that experts approach work differently than novices; the goal is to identify how the experts translate their assigned tasks into their actual performed (more effective) tasks (Schraagen, Chipman, & Shalin, 2000). A commonly cited example of CTA is with air traffic controllers, where experts have developed certain tasks to the extent they become automatic; therefore, expert air traffic controllers are able to complete two tasks (one automatic and one controlled) at once (Means et al., 1988).

After training needs are identified, training objectives, statements of what one knows, can do, or believes after the training program that one did not know, could not do, or did not believe before the program, must be specified (Campbell et al., in press). Training needs can be broken into three parts, identifying: (1) the capability that will be taught, (2) the conditions under which one should be able to exhibit the capability, and (3) the level of proficiency/intensity of belief one should be able to exhibit. Some examples of trainable capabilities that could be specified in training objectives include increases in knowledge (e.g., plans and goals), increases in observable skills (e.g., interpersonal skills), increased in problem solving capability, and changes in attitudes and

beliefs (e.g., self-efficacy). Similarly, training content is the knowledge, skills, and attitudes trainees must acquire such that they can demonstrate the training objectives at the end of the course. The content can be determined from expert judgment, formal theory (i.e., psychological literature on goal setting for a leadership development program), or by borrowing content from trainings on similar topics (Campbell et al., in press).

Finally, the instructional method must be specified (Campbell et al., in press). The method can be defined by its broad generic components or its specific brand name. Generic instructional methods include information presentation, modeling, information presentation plus provision for learner responses, systematic response generation, simulation, gaming, and on the job training. Overall, instructional methods should try and incorporate the training capability with a high degree of fidelity and the learner should be encouraged to engage in the training via practice in 'producing' the capability of interest. E-learning, despite its popularity is neither a generic training method nor a specific method because e-learning can be utilized with multiple types of generic training methods (Campbell et al., in press).

Effective instructional conditions. To maximize the acquisition of skills and the transfer of training participants should be provided appropriate goals, regular feedback, and be given adequate time to practice (Campbell et al., in press). Research on goal setting consistently finds that setting specific, difficult goals is more effective than general "do your best" goals (Locke & Latham, 2002). According to goal setting theory, goals are effective at influencing behavior because they direct attention to a goal, energize activity to accomplish the goal, and positively affect persistence towards the

goal. Furthermore, goals have a stronger, positive impact on performance when they are coupled with feedback that permits the individual to monitor their progress (Locke & Latham, 2002).

Feedback. Characteristics of feedback, such as the source of feedback, affect its impact on performance. For example, intrinsic sources (i.e., the self) are often seen as providing more feedback than external sources, but feedback from external sources, especially task oriented feedback, has been shown to be beneficial for learning (Goodman, 1998; Greller & Herold, 1975). However, the quality and accessibility of the external source coupled with one's need for information differentially affect the likelihood of seeking feedback (Lu & Yuan, 2011). Additionally, self-ratings and other ratings provide different information about perceived and actual change over time (Hazucha, Hezlett, & Schneider, 1993). Although effect sizes of multi-source feedback on performance over time are positive, they tend to be small and vary greatly; much of the variance in multisource ratings is related to the *rater* rather than *ratee* characteristics (Kaiser & Craig, 2005; Ostroff, Atwater, & Feinberg, 2004; Smither, London, & Reilly, 2005).

Beyond the source of feedback, attributes such as timing and specificity of feedback can also affect performance. Immediate, specific feedback results in the strongest performance gains (Northcraft, Schmidt, & Ashford, 2011). Feedback must be perceived as accurate to be accepted and consistent feedback is perceived as having greater accuracy; if feedback is inconsistent then people tend to ignore the less favorable feedback (Ilgen, Fisher, & Taylor, 1979; Stone & Stone, 1985). In general, feedback is

most effective when it directs attention to the focal task rather than the self (Kluger & DeNisi, 1996).

Practice. Previously, conventional wisdom was that more practice is always better. Practice was thought to be most effective when performed solely in high fidelity situations, and high achievement was thought to translate to high retention. However, current research finds high achievement does not always translate to high retention (R. A. Schmidt & Bjork, 1992). Similarly, practicing for varying amounts of time, varying the difficulty of practice, and decreasing the fidelity of practice will all increase the transferability of skills. Much of the literature in this area focuses on deliberate practice as the sole determinant of expert performance. Ericsson et al. (1993) states, "individual differences in ultimate performance can largely be accounted for by differential amounts of past and current levels of practice" (p.392), and more recently Ericsson, Prietula, and Cokely (2007) said, "the only innate differences that turn out to be significant [in predicting expert performance]-and they matter primarily in sports- are height and body size" (p.116). Hambrick et al. (2014) tested Ericsson's claims directly by reanalyzing research on chess and music expertise to determine if individual differences in performance are in fact largely accounted for by individual differences in deliberate practice. Findings indicate deliberate practice explains 34% of the variance in chess performance and 30% of the variance in music performance after correcting for measurement error variances. These results are consistent with a previous meta-analysis that found deliberate practice explains 26% of the variance in performance for games, 21% for music, 18% for sports, and 4% for education (Macnamara, Hambrick, & Oswald, 2014). While important, deliberate practice does not explain the majority of the reliable

variance of expert performance in any of these expertise domains. To summarize, goals, feedback, and practice all play an important role in enhancing the acquisition of training content and subsequent training transfer.

Evaluation of training effects. Kirkpatrick (1979) identifies four levels of training evaluation: (1) Reactions, trainees' self-reports of training effectiveness, (2) Learning, whether or not the trainees' mastered the training objectives, (3) Behavior, trainees' behavior change at work in the targeted construct, and (4) Results, an assessment of organizational outcomes. Despite their popularity, these four criteria are not very well specified and hard to use in practice. A new perspective to evaluate training effects is to consider four key questions, "(1) To what extent did the trainees acquire the capabilities specified by the objectives? (2) To what extent were the capabilities retained over time? (3) To what extent did the learned capabilities transfer to the work setting, and (4) If the specified capabilities were not mastered, or retained, or transferred, why not?" (Campbell, Kuncel, & Kostal, in press, p. 42). A meta-analysis of training effects finds a corrected grand mean of d = 1.03 as the difference in training performance effect size between the experimental group and control group (Carlson, 1997). Carlson broke down this effect by the type of criteria used to evaluate training and found the mean effect size was largest for knowledge based measures (d=1.78), then skills-based measures (d=1.14), then 'outcome' measures, or measures job performance that are not directly parallel to the training (e.g., supervisors' ratings of job performance) (d=.52), and lowest for attitudinal criteria (d=.43).

The Aptitude-Treatment Interaction (ATI). The founding principle behind the ATI is that trainees differ on individual characteristics, which may affect the degree of their

training achievement (Cronbach, 1957; Cronbach & Snow, 1977). Therefore, even though all trainees receive the same treatment ('training'), some students learn more as a function of their aptitude (e.g., cognitive ability, self-efficacy, motivation to learn), which is why researchers find variability among participants when evaluating the effectiveness of a training intervention. If ATIs exist, then training programs should be tailored to individuals' aptitudes as to maximize their learning. However, very few ATIs consistently show effects: (1) cognitive ability and training structure, and (2) trainee anxiety/self-efficacy and training structure. Higher ability trainees perform better with less structured training and lower ability trainees perform better with more structured training, defined as more instructor guidance, detailed objectives, explicit specifications of training content, and more frequent feedback (Snow, 1989). Also, trainees with high anxiety and low self-efficacy tend to perform better in a structured training program. Although there is not much research, it is plausible that pre-training differences in training content/skill would interact with instructional content or method. Additionally, a meta-analysis of ATI studies in educational settings found that there are greater differences in training outcomes when students differ on their level of prior knowledge at the start of the course and the course content is standardized compared the when instruction is self-paced (Whitener, 1989).

Transfer of training. Given the extensive literature on designing and evaluating training interventions it is surprising how little is known about training transfer, "the use of capabilities acquired in training as a means to achieve higher performance on specified performance factors in the actual job setting" (Campbell, Kuncel, & Kostal, in press, p. 45). This is likely because (a) people confuse measures of learning and retention as

measures of transfer, and (b) measuring training transfer is hard work. Therefore, a lack of training transfer may be due to a trainee's inability to transfer knowledge or skills from the training environment to the work environment, misapplying the trained behavior, or not knowing when to use the trained behavior. Knowing what to do and when to do it but choosing not to demonstrate training is not a lack of transfer; however, it would be nearly impossible to distinguish this choice behavior from a lack of knowledge. Furthermore, transfer effectiveness must be under the control of the individual.

Despite the terminology that authors often use, an end of training assessment or even an end of training assessment repeated at a later date are NOT measures of training transfer; they are measures of learning and retention, which are necessary but not sufficient conditions for training transfer. This misperception (using a retention measure to measure transfer) is referred to as the training criterion problem, which makes it increasingly difficult to evaluate the true state of affairs regarding training transfer. As the Baldwin and Ford (1988) review article highlights, "the usefulness of the empirical research on transfer is severely limited by the use of criterion measures that are deficient and contaminated" (p. 94). In their more recent review Baldwin, Ford, and Blume (2009) note that measures of training transfer have been expanded to include self and other/supervisor ratings, but it is still rare to find a study that measures training transfer directly. Campbell et al. (in press) state, "estimates of the actual extent of transfer for particular knowledges, skills, problem solving capabilities, or attitudes/dispositions when trained via particular methods do not exist, and perhaps cannot, given all the possible moderator variables" (p.47).

Baldwin and Ford's (1988) model of training transfer provides a framework to consider how training inputs (i.e., trainee characteristics, training design, and the work environment) affect training outputs, where both inputs and outputs affect the conditions of transfer. More recent reviews (L. A. Burke & Hutchins, 2007; Grossman & Salas, 2011) provide continued evidence of these relationships. As one might expect, many of the reasons why transfer might not occur, if reversed, are the same conditions that promote transfer. For example, one reason training might not transfer is if the original training goals were flawed because the espoused and enacted organizational values do not agree. Therefore, even though management says they desire a certain skill set (e.g., using R to conduct data analysis), this skill is negatively reinforced when trainees attempt to use it on the job (e.g., trainee's team members all continue to use SPSS). Alternatively, one condition to help maximize training transfer is when a trainee has peer, supervisor, and organization support (Clarke, 2002; Cromwell & Kolb, 2004; Hawley & Barnard, 2005). Another example of how the work environment affects training transfer is by creating a culture of accountability. If trainees and/or supervisors are held accountable for enabling the transfer of training then they are more likely to put forth to effort to do so (L. A. Burke & Saks, 2009).

Individual differences. Individual differences are one means to account for differences in training achievement among trainees who receive the same training. Cognitive ability is positively correlated with job performance and training performance (F. L. Schmidt & Hunter, 1998); therefore, those with higher cognitive ability may benefit more from training content. The relationship of the Big Five personality traits and training performance is consistent with the traits that predict job performance; there are

positive correlations with extraversion, openness, and conscientiousness (Colquitt, LePine, & Noe, 2000).

There are also a variety of individual difference variables that affect training transfer. All else equal, individuals with high cognitive ability, high motivation to learn, and high self-efficacy will have better training transfer (L. A. Burke & Hutchins, 2007; Grossman & Salas, 2011). Those with high cognitive ability will learn information faster and will recognize more situations to apply their training on-the-job compared to those with low cognitive ability. Pre-training motivation can influence training transfer because trainees who are more motivated, which is partially determined by their perceived utility of training, will invest more effort into learning the training material (Chiaburu & Lindsay, 2008; Gegenfurtner, 2011; Grohmann, Beller, & Kauffeld, 2014). Motivation to learn is related to contextual factors (i.e., if learning is rewarded), values (i.e., a desire for continuous learning), job satisfaction, and general organizational commitment (Kontoghiorghes, 2002). For example, the way the training content is framed can influence how applicable the training is, which influences trainees' motivation to learn and apply this knowledge in the workplace (Gegenfurtner, Veermans, Festner, & Gruber, 2009). Similarly, individuals with higher self-efficacy will be more confident in their ability to learn from training and subsequently apply their knowledge on the job (Grossman & Salas, 2011). Research has found training self-efficacy predicts motivation to learn and motivation to transfer (L. A. Burke & Hutchins, 2007; Chiaburu & Lindsay, 2008; Chiaburu & Marinova, 2005).

Use of assessments in training and development

Cook and Lineberry (2016) define consequences validity evidence as, “the impact, beneficial or harmful and intended or unintended, of assessment” (p. 786). To elaborate, the act of completing a test, interpreting its scores, and any actions stemming from this assessment process all have a direct impact on the people being assessed; in this sense an assessment itself can be viewed as in intervention. Consequences validity considers whether the posited benefits of an assessment align with the actual benefits. For example, a medical board certification exam is used as an assessment of physician competence with the goal of protecting patients from incompetent physicians. However, this assessment may force capable physicians into unnecessary remediation if they have poor test-taking skills. Therefore, this assessment has “intervened” in the lives of patients and physicians leading to both beneficial and harmful consequences. Cook and Lineberry argue that just as the value of a medical diagnostic test is based on its impact on patient outcomes, the value of educational assessments should be judged by its impact on developing trainees.

Therapeutic assessment. Within counseling psychology therapeutic assessment, compared to traditional psychological assessment, is used to, “help people understand themselves better and find solutions to their persistent problems” (Finn, 2010, p. 1). In therapeutic assessment clients are involved in all parts of the assessment process, from determining the goals of assessment to interpreting possible meanings of test results. In the initial session the assessor helps the client generate questions that they wish to answer through assessments. The assessor then selects assessments that match the client’s need and administers them, after which the client is given the opportunity to reflect on the testing process. Subsequently, the client and assessor will meet to discuss the results of

the assessment and how these findings have implications for the presenting problem the client voiced. Finally, the assessor will send the client a written summary of the results, including the insights gleaned in post-testing discussions, and subsequent follow up sessions can be scheduled if desired (Finn, 2010). For example, an early study investigated the benefits of sharing Minnesota Multiphasic Personality Inveotry-2 (MMPI-2) results verbally with clients and they found participants who debriefed their test results verbally with a counselor reported a significant decrease in symptoms, a significant increase in self-esteem, and felt more hopeful in the face of their problems both immediately after the feedback session and two weeks later compared to controls (Finn & Tonsager, 1992).

A recent meta-analysis looked at the effect of psychological assessment as a therapeutic intervention and found a mean effect size of d = .42 using criteria such as self-understanding, feedback acceptance, and decreasing suicidality (Poston & Hanson, 2010). This is comparable to the mean effect size found from substance abuse/dependence treatment (d = 0.45, Dutra et al., 2008) and psychotherapy (d = 0.46; Norcross, Krebs, & Prochaska, 2011). This is especially impressive because therapeutic assessment typically involves only three sessions, which is classified as a brief intervention. As a comparison, Arthur, Bennett, Edens, and Bell's (2003) meta-analysis on the effectiveness of training in organizations found effect sizes around d =.60 on behavioral criteria.

Formative Assessment. In educational psychology, formative assessments are defined as diagnostic assessments used to provide feedback to teachers in order to modify the learning process and improve student attainment (Boston, 2002). Assessment, in this

context, is defined broadly to include activities such as teacher observation, classroom discussion, and analysis of student work, such as through homework and tests (Black & Wiliam, 1998). Assessments are classified as formative when the information garnered from them is used to improve instruction and better meet student's needs. Although assessments can be designed to be formative (assessment for learning) or summative (assessment of learning), the data from either type of assessment can be used for either purpose (Dunn & Mulvenon, 2009). Therefore, it is difficult to determine which assessments belong in which category. Formative assessments are often cited as having effect sizes from d =.40 to d =.70 on student learning gains (Black & Wiliam, 1998), but Kingston and Nash (2011) reviewed many of the studies supporting this sentiment and found most of them had flawed designs and uninterpretable results. In a re-analysis of quality studies Kingston and Nash found a weighted mean effect size of only d = .20.

Although the effect size of formative assessment varies, there is consensus that it is impactful at raising students' achievement. However, there is little research on specific recommendations for formative assessment, such as which practices are effective and why certain practices work better for certain students. A recent book chapter describes seven "good moves" of formative assessment, which include recommendations such as 'pose good questions' and 'probe student responses' (Duckor, 2016), but these recommendations do not appear to be empirically based. Despite the quantity of research on formative assessment, it appears its findings are not as clear as those on therapeutic assessment, likely because formative assessment applies to a much broader domain with many opportunities for specialization.

Developmental Assessment Centers. Developmental assessment centers (DAC) are designed to develop behavioral constructs of an individual (Rupp et al., 2015). Important components of a DAC include multiple points of feedback, repeated practice, and completion of self-reflection activities. The behavioral constructs targeted must be trainable and the targeted dimensions should be made completely transparent to participants (Rupp et al., 2015). Despite the appeal of this concept, very few studies have actually tested the effectiveness of DAC at improving behavior. One of the first studies to evaluate a DAC looked at performance data 10 years after participants either completed a DAC (experimental group) or were nominated but did not complete a DAC (control group) (Jones & Whitmore, 1995). Results indicated the effectiveness of the DAC is limited. Developmental activities associated with career motivation and working with others had small, positive correlations with subsequent promotions. However, people who completed the DAC neither had a greater likelihood of attaining division-level management nor were their performance ratings better than those who had not completed the DAC. More recently, Rupp et al., (2006) found modest improvement of self and assessor ratings of learning criteria (i.e., information seeking, problem solving) over a one day DAC. Altogether the research on DACs is sparse and largely leverages the validity evidence from selection oriented assessment centers. Nonetheless, this represents another context where the act of completing assessments is thought to improve one's performance on said skill sets.

Medical simulations. Simulations play a key role in medically related training (Cook et al., 2011). Much of the medical simulation research examines the effect of simulation-based training for a specific medical procedure. For example, a meta-analysis found that

compared with no intervention, a simulation-based training improved endoscopic process skills in a test setting (d = .8) (Singh, Sedlack, & Cook, 2014). However, there are some recent attempts to determine the overall effect size of simulation-based trainings in the medical education context. One meta-analysis estimated technology-enhanced simulation training for health professionals has an average effect size of d = 1.0 on medical skills compared to those who did not receive and intervention (Cook et al., 2011). However, there was much heterogeneity and among the small proportion of studies that used randomized group assignment the effect size was d = .60. Cook et al. (2011) define simulation technologies as, "diverse products including computer-based virtual reality simulators, high fidelity and static mannequins, plastic models, live animals, inert animal products, and human cadavers" (p. 978); therefore, using a much broader definition than is typical in the psychological literature. A slightly updated systematic review appraised the validity evidence, research methods, and reporting quality of these previously meta-analyzed studies (Cook, Brydges, Zendejas, Hamstra, & Hatala, 2013). Cook et al.(2013) reported that 31 of the 417 studies analyzed evaluated nontechnical constructs, such as communication and team leadership. However, upon reviewing these studies only 13 actually assessed nontechnical constructs; the other 18 assessed topics such as laparoscopic suturing (Botden, Hingh, & Jakimowicz, 2009) or developing a criterion standard to assess high fidelity medical simulations of patients in septic shock (Williams et al., 2009). Furthermore, of the 13 studies that included true nontechnical constructs, most assessed these constructs only insomuch as rating the communication skills in an otherwise medically oriented simulation (i.e., (Malec et al., 2007). Therefore, the utility

of simulations to assess nontechnical constructs such as professionalism and interpersonal skills is in area in need of further research.

SJTs. To date there are only two published studies that evaluate the use of SJTs as a training intervention. Cox, Barron, Davis, and de la Garza (2017) assessed the effectiveness of an SJT based training (2 hour and 45 minute lecture plus a 15 minute SJT) compared to a traditional training (3 hour lecture) on hurricane disaster relief skills. All participants (undergrads) completed an online pre-test, which included an SJT-based procedural knowledge measure and a declarative knowledge measure, and three weeks later training participants again completed an SJT-based procedural knowledge measure and a declarative knowledge measure. Cox et al. found participants in the SJT-based training had higher procedural knowledge scores post training (d = .38), and that the increase in their declarative knowledge scores was larger (d = .22) than the increase in declarative knowledge scores for the traditional training group (d = .10).

Goss et al., (2017) developed an SJT based on professionalism Australian in medical residency and distributed it to final-year medical students to assess aspects of their professionalism. After medical students completed the SJT they were sent a feedback report with their scores and some generic domain-specific feedback. However, Goss et al. failed to collect data on any other variables that could be used to validate their SJT. They did collect some data on participants' reactions and found about half thought completing the SJT was a useful experience and a majority agreed that it raised their awareness of professionalism issues that they would likely encounter in residency. Only about 30% of participants thought the feedback they received was useful, and a number of students expressed a desire for more specific item feedback. Although the results of

these studies are promising, more research is needed to determine the utility of SJTs in a developmental context.

Medical Context

There is widespread agreement regarding the importance of assessing professionalism in medical students, residents and practicing physicians (Veloski, Fields, Boex, & Blank, 2005; Wilkinson, Wade, & Knock, 2009). Studies have shown that professional behaviors such as teamwork and respect are correlated with improved patient outcomes, higher patient satisfaction (Grumbach & Bodenheimer, 2004) and greater adherence to treatment plans (Beach et al., 2005). Conversely, unprofessional behaviors are associated with negative faculty assessments of professionalism (Stern, Frohna, & Gruppen, 2005) and later disciplinary action by state medical boards (Papadakis et al., 2005). In addition to their effects on individuals, breaches of professionalism can have significant group-level costs by negatively affecting the reputation of the medical profession itself.

Public trust in doctors is waning (Cohen, 2006). This erosion of trust has been attributed to many societal changes, such as increased specialization within healthcare, but fundamentally it is based in fear; patients are burdened by the complexities of the modern healthcare system and they do not believe physicians have their best interests at heart (Barondess, 2003). In order to change this perception and project trustworthiness to their patients, physicians must work to develop strong professionalism skills, such as integrity and accountability, among themselves and their colleagues (Wynia, 2008). Developing these skills within their profession will help change physicians' behavior and their reputation.

The Accreditation Council for Graduate Medical Education (ACGME) heard this call to action and has restructured the educational standards for medical training programs such that medical trainees' competence in professionalism and interpersonal communication are equally as important as their competence in medical knowledge and practice-based learning (Nasca, Philibert, Brigham, & Flynn, 2012). Today, medical residents and fellows[1]-- trainees pursuing specialty-specific training after medical school (i.e., pediatrics, neurology)-- are evaluated semi-annually by their faculty/clinical supervisors on six core competencies: professionalism, interpersonal communication skills, medical knowledge, practice-based learning, patient care, and system-based practice. Importantly, the strength of the medical residency program is partially determined by these evaluations of residents' performance. However, implementing new evaluation standards will not in itself increase the professionalism competence of medical residents. It is crucial for medical residency programs to find some way to incorporate more training, development, and feedback on professionalism in their medical training curricula.

Current Study and Research Questions

There is currently a huge appetite for professionalism and interpersonal communication skills training in graduate medical education. For example, at the 2017 ACGME Annual Education Conference there was a session focused on professionalism

[1] After medical residents complete their residency program they may elect to apply for a fellowship, additional medical training in a more specified area. For example, a resident in internal medicine might become a fellow studying Cardiovascular Diseases.

and interpersonal skill development scheduled during almost every time block. Given the recent increase in focus on professionalism and the apparent lack of tools (commercial or otherwise) to develop professionalism among medical residents, the graduate medical education department at the University of Minnesota Medical School decided to invest resources to internally develop a professionalism training program. This effort, co-led by myself and the Director of Evaluation in Graduate Medical Education (GME) at the University of Minnesota Medical School (henceforth referred to as the Director of Evaluation) resulted in a four-year effort to define the professionalism space, develop a professionalism training intervention, and validate this intervention on current medical residents. Specifically, a cross-specialty professionalism competency model was developed with seven dimensions and various sub dimensions. This model was used to gather critical incidents of professionalism performance, which were used to develop an SJT tailored for medical residents on professionalism and interpersonal communication skills. In total, the University of Minnesota's professionalism training intervention involves medical residents completing this custom-built SJT, reviewing their personalized developmental feedback report, and participating in a one-hour group debriefing session led by their program director, which includes a short goal setting exercise. This dissertation will assess whether this SJT can be used to improve professionalism and interpersonal skills among medical residents.

My first research question is regarding the dimensionality of the SJT. During the design of this SJT, psychology doctoral student ratings were used to classify the item options into seven different scales; one for each of the seven sub-competencies of the

professionalism model. I will investigate whether the empirical data supports this factor structure as well as an overall SJT construct.

My second research question is investigating the relationship between SJT scores and job performance. Because the SJT is designed to measure professionalism and interpersonal skills, I think SJT scores will be positively correlated with professionalism milestone scores and interpersonal communication skills milestone scores, professionalism 360 feedback, and negatively correlated with counterproductive behaviors.

Primarily, this dissertation aims to investigate the utility of an SJT as a training intervention. Therefore, the primary research question is about the relationship between the professionalism training intervention and subsequent performance. Given that this training was designed in accordance to key training principles I believe participants who receive the training intervention will have a significantly higher increase in performance compared to those in the control group. Specifically, I hypothesis that participants in the experimental condition will have higher performance, as measured by specialty specific milestone scores, higher 360 performance evaluations, and lower instances of self-reported counterproductive behaviors. I also hypothesize that participants who receive training will significantly increase their professionalism attitudes [professionalism self-identity] and their procedural knowledge of professionalism [time 2 SJT knowledge test scores].

Method

Training Intervention Development

The professionalism training intervention is comprised of two parts: completing a developmental SJT and participating in a group debriefing session.

SJT development.

Competency model development and validation. The Director of Evaluation developed and validated a professionalism competency model, which is applicable across medical specialties. This model breaks down professionalism into seven core dimensions: Conscientiousness, Integrity, Accountability, Aspiring to Excellence, Teamwork, Stress Tolerance, and Patient-Centered Care (see Appendix A for full model). For a full description of this competency model please see Cullen et al., (2016).

Item development. SMEs were contacted by the Director of Evaluation and asked to send in critical incidents of effective and ineffective performance in each of the seven dimensions. SMEs were asked to indicate whether the critical incidents generated reflected low (ineffective), medium (moderately effective) or high (very effective) display of the target behaviors for that dimension. In addition, for each critical incident generated, SMEs were asked to describe one behavior a resident might take in the situation that reflected both a very low and very high level of the behaviors represented in the dimension (see Appendix B). Over 150 critical incidents were generated, which were used by the Director of Evaluation and myself to write 34 SJT style items. Response options were generated for these critical incidents using a remote rating exercise. For 10 different scenarios, SMEs were asked to generate three different possible responses (one highly effective, one moderately effective, one ineffective) that were realistic for a mid-level resident to perform. The Director of Evaluation, myself, a medical student, and medical school faculty generated possible response options for each item. Two in-person

workshops were held in Summer 2015 to refine the content and wording of the items and response options. Item and response option content was revised accordingly.

Item scoring. A list of revised items and response options were sent to program directors at the University of Minnesota in order to gather effectiveness ratings and appropriateness criteria for each scenario (see Appendix C for full rating exercise). Specifically, SMEs were asked to rate the scenario appropriateness on a 1 (to a very small extent) to 5 (to a very great extent) scale for seven criteria: (1) Sensitivity to groups, (2) Fair, (3) Realistic, (4) Suitable for GME, (5) Suitable for UME, (6) Understandable and (7) Generalizable. They were also asked to rate the overall quality of the scenario on a 1 (low) to 5 (high) scale. Within each scenario, SMEs were asked to rate the effectiveness of each response option on a 1 (Highly Ineffective) to 7 (Highly Effective) scale.

Additionally, these scenarios were sent out to participants from a workshop led by the Director of Evaluation and myself at the ACGME Annual Education Conference in February 2016. Session participants were encouraged to send effectiveness ratings and in return were promised some type of discount on the final SJT after it had been licensed. In total, we gathered ratings from 69 program directors (average of 15 raters per item). We decided to use the median effectiveness ratings of response options rather than the mean effectiveness ratings to create the scoring key as the median is a robust estimator.

Content validation. Given the purpose of the SJT is to measure all seven of the professionalism dimensions it was crucial to determine which response options measured these dimensions best in order to develop scale scores. Fourteen Psychology doctoral students and two Psychology doctorates completed content validation ratings for all response options (see Appendix D). Raters were asked to rate each response option

within each scenario on a scale of 1 (Does not measure this competency) to 7 (Completely measures this competency) for each of the seven professionalism dimensions (Conscientiousness, Accountability, Aspiring to Excellence, Patient-Centered Care, Integrity, Stress Tolerance, and Teamwork). We decided having item options correlate with multiple competencies would be unnecessarily complicated. Therefore, ratings were averaged across raters and each item option was designated as a measure of the Professionalism competency for which it had the highest mean rating (see Appendix E).

Pilot study.

Item selection. Twenty-five of the 34 SJT items were selected for a pilot study These items were selected based on the overall item quality rating from SMEs, rater agreement (RWG) and ensuring there were enough scenarios to adequately measure each of the seven professionalism dimensions.

Recruitment. The Director of Evaluation and myself spoke at the University of Minnesota annual GME workshop in May 2016, where we described our research study and encouraged programs to participate. The Associate Dean of Graduate Medical Education also sent an email to all program directors asking them to encouraging their graduating residents to participate. Finally, all graduating residents and fellows were emailed by the Associate Dean of Graduate Medical Education asking them to participate in this research study.

Participants. Thirty-eight graduating residents and fellows at the University of Minnesota completed the pilot SJT. There were representatives from 23 different specialties. Data from 10 residents were excluded from the analyses due to missing data.

Procedure. All graduating residents and fellows received an email from the Associate Dean of Graduate Medical Education with a link to a partially animated web-based SJT. Upon clicking on the link they answered a few demographic questions and read the instructions for the assessment. Each item was depicted by an animated character speaking a scenario that ended with "what should I do?" Residents were asked to rate the effectiveness of each response option from a 1 (not effective) to a 7 (very effective). They were also asked to indicate what option they *would* choose.

Analyses and Results. Data from four participants was eliminated because they did not complete the entire SJT. An additional four participates were eliminated from criterion-related analyses because their Milestone scores were not included in the institutional data download. First, the top 15 items were selected by reviewing the SME item quality ratings, item- SJT total correlations, and item-criterion correlations (correlation between each SJT item and the residents' professionalism milestone score and their interpersonal communication skills milestone score). When selecting these items, we also checked to ensure there was an adequate numbers of response options (at least 10) to create scale scores for each of the seven professionalism dimensions. Once the top 15 items were selected, response options were evaluated such that each scenario had seven response options. The options were selected based on high SME rater agreement of the effectiveness rating, high option- item correlations, and high option-criterion correlations. Once the options were selected for each item, the item level analyses were re-run to ensure the items and final scale were functioning as expected. In all three stages of analyses we made sure there were at least 10 options for each

professionalism competency. See Appendix F for a complete list of the final items and response options.

SJT developmental report. After a participant completes the animated SJT they are immediately sent a detailed feedback report (see Appendix G for an example). This report gives feedback at the competency, item and response option level.

Debriefing session. Residents in the experimental condition participated in a group debriefing session led by a faculty member in their specialty area. The faculty facilitator was given a guide (see Appendix H) for how to structure the session. The goal of the session was to create shared mental models of effective performance in key situations by discussing discrepancies between the residents' effectiveness ratings and the faculty's effectiveness ratings. In the session residents may have shared examples from their development report, but the faculty facilitator neither received a copy of the residents' SJT scores nor their personalized developmental reports. Residents were also asked to complete a goal setting exercise (see Appendix I) at the end of this session.

Sample

Thirty Program Directors at the University of Minnesota and eight external programs were asked to participate in this research study. Randomizing participants at the individual level was unfeasible because training content could not be restricted to only certain residents within a residency program. Therefore, study conditions were randomly assigned at the program level, so all residents within a program are in the same condition. However, program size ranges from 5 to 90 residents, so it was necessary to take program size into account while randomizing to avoid a scenario where the number of residents in each condition drastically differed. Given these constraints, programs were randomly

assigned to their condition in a two-pronged process. First, all residency programs at the University of Minnesota were randomly assigned a condition. This process was repeated five times such that there were five unique randomization options. Blind to the specific programs in each condition, I selected the randomization option with the most equal number of programs in each condition (15 in experimental, 14 in control) and the most equal approximate N[2] in each condition (391 in experimental and 341 in control). One external program participated and it was randomly assigned into the control condition. Two fellowship programs were interested in participating, so the first program was randomly assigned to a condition (control) and the second was assigned to the opposite condition (experimental). If other external programs or fellowship programs had expressed interest in participating they would have been assigned study conditions in a similar fashion. Ultimately 20 programs (317 residents) participated.

Measures

Demographics and Individual Differences. Participants completed a brief demographic questionnaire as well as some individual difference measures.

Personality. The BFI was used to assess the five factors of personality. (John, Donahue, & Kentle, 1991; John, Naumann, & Soto, 2008). This is a 44 item measure with five sub-scales: Openness (e.g., "Is curious about many different things"), Conscientiousness (e.g., "Does a thorough job"), Extraversion (e.g., "Is talkative"), Agreeableness (e.g., "Is helpful and unselfish with others"), and Emotional Stability ("Is

[2] Approximate N was determined by using the number of current residents in each program listed in the 2015 Annual Institutional Report.

relaxed, handles stress well) that asks participants to rate the extent they agree or disagree with each item on a 1 (Disagree Strongly) to 5 (Agree Strongly) scale. The local alpha is 0.80 for Openness, 0.79 for Conscientiousness, 0.87 for Extraversion, 0.80 for Agreeableness, and 0.84 for Emotional Stability. The full measure can be found in Appendix J.

Cognitive ability. Cognitive ability was assessed using self-report MCAT (Medical College Admissions Test) scores. Scores on the MCAT pre 2014 (when all participants in the current sample took this test) range from 3 to 45, the latter being the highest possible score. Especially among high ability participants, as is the case among all medical residents, self-reported scores on academic assessments have been shown to have comparable validity to actual test scores (Cole & Gonyea, 2010; Kuncel, Credé, & Thomas, 2005).

Self-efficacy. Pre- and post- training self-efficacy were measured using the same items, which are adopted from Cullen, Muros, Rasch, and Sackett (2013). This is a six-item measure that asks participants to rate the extent to which they agree or disagree with each statement (e.g., "I can meet the challenge of maintaining professional behavior in everyday situations") from a 1 (Strongly Disagree) to 7 (Strongly Agree) scale. The local average alpha is 0.94 and can be found in Appendix K.

Pre-training motivation to learn. Pre-training motivation to learn professionalism skills was measured using items adopted from Cullen et al. (2013). This is a five-item measure that asks participants to rate the extent to which they agree or disagree with each statement (e.g., "I motivated to improve my professionalism and interpersonal skills") from a 1 (Strongly Disagree) to 7 (Strongly Agree) scale. Post-training desire to apply

professionalism skills was measured using items adopted from Cullen et al. (2013). This is a three-item measure that asks participants to rate the extent to which they agree or disagree with each statement (e.g., "I want to try and use my professionalism skills") from a 1 (Strongly Disagree) to 7 (Strongly Agree) scale. The local alpha is 0.90 for the baseline measure and 0.84 for the June measure and the items can be found in Appendix K.

Milestone performance. Each residency program is required to rate each resident on six core competencies (professionalism, interpersonal communication skills, medical knowledge, practice-based learning, patient care, and system-based practice) semi-annually (mid-year in December and year-end in June). Each of these core competencies are broken down into sub competencies that are scored on a 1-9 scale, with higher scores indicating stronger performance. The amount and content of the sub competencies differ based on medical specialty. Therefore, although each resident has a score for each of these six competencies it could be based on different criteria. For this study we use a milestone performance composite, a composite of the six competencies scores, as well as the specific scores for the professionalism and interpersonal communication skills competencies.

SJT knowledge test. The 10 items used in the pilot study but not used in the final animated SJT were used to create two 5-item paper & pencil SJT tests. Residents completed one form within the baseline (time 1) questionnaire and the second form in the time 2 questionnaire. The 10 items were split into two forms such that each resident saw different items at these two data collection points. Residents were randomly assigned which form they received at time 1 and then received the opposite form at time 2. Some

response options were cut such that each item had seven response options using similar criteria as described above. This test can be found in Appendix L.

Professionalism 360. This measure was developed by the Director of Evaluation based on the professionalism competency model and then shortened for use in this study. It asks each rater to rate how frequently the trainee exhibits behaviors demonstrating high Conscientiousness, Accountability, Aspiring to Excellence, Patient-Centered Care, Integrity, Stress Tolerance, and Teamwork on an Almost Never to Almost Always 5-point scale. In order to truly gather multi-source feedback, the resident themselves and two faculty members/members of the residents' interprofesional health team (e.g., nurses) were asked to give feedback on each resident's performance. Given the research on the low correlation between self and other ratings of performance and the unreliability of self-ratings, (i.e., Heidemeier & Moser, 2009; Mabe & West, 1982) the self-ratings of performance were not included in the 360-degree performance composite used in the analyses. The local alpha for this measure is 0.92. This can be found in Appendix M.

Professionalism CWB. This measure was developed by the Director of Evaluation based on the professionalism competency model. It asks residents to indicate if they have ever engaged in one of the 19 counterproductive behaviors listed below (e.g., "Displayed obvious signs of substance abuse") (Cullen et al., 2016). The local alpha for this measure is 0.77. This can be found in Appendix N.

Professionalism self-identity. Professionalism self-identify was measured by a questionnaire developed and validated for use with the health and social care professions (Crossley & Vivekananda-Schmidt, 2009). This is a nine-item measure that asks participants to rate how they would presently feel if they were undertaking certain

activities (e.g., “When I am working with other health and social care professionals I feel like a”) on a 1 (1st day student) to 6 (Qualified resident/fellow) scale. The average local alpha is 0.87 and can be found in Appendix O.

Post training feedback questionnaire. In order to gather feedback from trainees who had completed the training, I created a short questionnaire to gauge their reactions to the overall training as well as the SJT itself. The items in this measure can be found in Appendix P.

Procedure

Recruitment. The Associate Dean of Graduate Medical Education at the University of Minnesota medical school communicated to all program directors that participation in this research study was expected as a part of an institutional curricular initiative to improve the professionalism skills of current residents and fellows. Following this communication, the Director of Evaluation and myself scheduled in person meetings with program directors to encourage their program’s participation. The goal of these meetings was not only to get the program directors to agree to participate, but also to schedule the one-hour debriefing session that is a required component of the training intervention.

External programs were recruited via three key events. First, early research on the SJT development was presented at the ACGME Annual Education Conference in February 2016. After this session a google form was sent out to all participants so they could include their contact information if they were interested in receiving more information about this study. In October 2016 I reached out to these programs to determine sustained interest in participation and schedule the one-hour debriefing session. Second, 14 external programs were currently collaborating with the University of

Minnesota on a separate medical education study; therefore, I reached out to these programs to gauge interest in participating in this research study. Finally, I gave a talk at enhancing professionalism of medical residents UC San Diego in October 2016. Talk attendees were given the option to participate in this study as well. All program directors informed about this research study were encouraged to share it with colleagues at their institution or other institutions in order to expand recruitment efforts. Ultimately, 18 residency programs and two fellowship programs from the University of Minnesota and one residency program from the University of Kansas participated in this study.

Data Collection time 1. Baseline information was collected on all residents and fellows in January 2017. Residents in participating programs received an email with a Qualtrics link where they completed a short battery of measures (demographics, personality measure, professionalism self-identity, training self-efficacy, training motivation, SJT knowledge test #1, self-report performance). The two other 360 raters were contacted via email and asked to complete performance ratings. These were assigned by the program director in advance. Reminder emails were sent to residents who did not complete the baseline measures at the direction of the individual program coordinator; some program coordinators sent multiple follow ups where others sent just one. Reminders were sent out to 360 raters who had not completed their ratings within two weeks of them being sent out. The program director of the external program was also asked to send 2016-2017 mid-year milestone ratings for all of her residents (I was able to pull this information independently for all internal programs).

Training intervention. Programs in the experimental condition were told to complete the training intervention between January 1, 2017 and March 31, 2017. The

date and time of the one-hour debriefing session was scheduled when the program director initially agreed to participate in the study. Some programs scheduled a one-hour block for their trainees to complete the SJT. Otherwise, two weeks before the scheduled session all residents in said program were emailed a link to complete the animated SJT. Also two weeks before the debriefing session the Director of Evaluation and/or myself met with the program director to review how the debriefing session would run, the facilitators guide, and the goal setting handout. All facilitators were asked to complete the SJT themselves before facilitating the debriefing session. One week before the debriefing session all residents who had not yet completed the SJT were sent a reminder email. During the debriefing session the facilitator guided discussion around the content of the development report and addressed any questions the trainees asked. The facilitator also took attendance at the session and sent me this information. Residents in programs in the control condition did not participate in any addition professionalism training in this time period.

Data Collection time 2. In June 2017 all residents received an email asking them to complete a second battery of measures (SJT knowledge test [the opposite form], self-reported performance, and if in the experimental group the training feedback questionnaire). The same process described above was used for identifying and collecting multi-source performance feedback for each resident. The program director of the external program was asked to send 2016-2017 year-end milestone ratings for all of her residents

Data Collection time 3. In September 2017 multi-source performance feedback was gathered on all residents using the process described above.

Training intervention- control group.

Between October 1, 2017 and December 31, 2017 all programs in the control condition received the training intervention in the same procedure as described above.

Results

Before investigating my specific research questions, I will discuss the results of the short feedback questionnaire on the training intervention that I distributed to those in the experimental condition. Of the 124 participants in the experimental condition who consented to this study, completed at least one section of the time 2 data collection question battery, and completed the SJT, 120 reported having completed the SJT and 3 responded "I'm not sure". Of these 120 participants, 70% felt the scenarios in the SJT were realistic and 88% reviewed their developmental feedback report before the group debriefing session. Of those who reviewed this report in advance, the majority felt the feedback was an accurate reflection of their performance (66%) and a large minority felt the feedback influenced their effort on subsequent tasks (41%). However, many participants thought it was hard to take the feedback seriously (40%) and some did not agree with the feedback provided (22%).

A key part of the training intervention was the completion of the goal setting handout, but only 59 participants (48%) reported that they completed this handout (30% reported not completing the handout and 22% were not sure). Of those who completed the goal setting exercise and who remembered the professionalism dimension they targeted in this exercise (N=30), most focused on the dimensions of Aspiring to Excellence (33%) and Stress Tolerance (33%). Interestingly, no one reported focusing on Accountability and only one participant focused on Integrity. Additionally, 77% (N=46)

of the participants who completed the goal setting exercise reported having attempted to improve their targeted dimension by at least some extent.

All participants who were in the experimental group and completed the SJT were also asked to consider the impact of the training intervention as a whole on three key criteria: their knowledge of professionalism, professionalism skills, and professionalism attitudes. The large majority of participants reported the training intervention improved their knowledge of professionalism (78%, N=95), professionalism skills (76%, N=92), and professionalism attitude (76%, N= 91) by at least a little extent. Very few people left qualitative feedback about the training intervention (N=26) so it is difficult to conduct and in depth qualitative analysis. About a third of the comments related to logistical/specialty circumstances, such as being unable to attend the debriefing session or feeling that the scenarios were not very applicable to certain specialties with minimal patient interaction (e.g., radiology and pathology). There were a number of commenters who felt the assessment was too long or the material was redundant. Interestingly, there were two participants who felt professionalism cannot be trained in a format such as this; it must be acquired "on-the-job". The full list of comments can be found in Table 1. Of the 26 commenters, two gave positive feedback and four commented about not being able to attend the debriefing session. Using two-tailed t-tests I did not find any significant differences between the 20 participants whose comments contained critical feedback and the 178 other participants in the experimental condition on any of the performance criteria variables or the individual difference variables.

My first research question is focused on the dimensionality of the SJT. As stated previously, the SJT options were rationally sorted into seven scales by psychology

doctoral students. I empirically tested this model (Figure 1) using confirmatory factor analysis (CFA). I also tested an item level a priori model (Figure 2). This second model sorts item options into the seven pre-specified competencies based on the item level competency designation. For example, item 101 is designated as Accountability; therefore, all of the item 101 options were designated as Accountability. For comparison, I tested both models against a null model, where all of the item options load on a single factor. To determine model fit I reviewed multiple types of fit indices and came to the conclusion that none of the models demonstrated strong fit (see Table 2).

In general, there are three types of fit indices that can be used to evaluate model fit in CFA. The first is absolute model fit, which compares the observed and model-implied covariance matrices and indices improve with more parameters. The most common fit index in this category is SRMR (standardized root mean squared residual), where a value less than or equal to .08 is typically considered a good fit (Hu & Bentler, 1999). The SRMR for all three models is 0.09. Parsimonious fit indices compare the observed and model-implied covariance matrices while also adjusting for model complexity and indices improve as more parameters with useful contributions are added. A typical parsimonious fit index is RMSEA (root mean squared error of approximation) where a value less than or equal to .06 is considered a good fit (Hu & Bentler, 1999). All three models have RMSEA equal to 0.06 just hitting this threshold. When comparing models, the model with the lowest AIC (akaike information criterion) is considered the best model. In this case it is a priori model 2. Finally, fit indices can be incremental when comparing a model's absolute or parsimonious fit relative to a baseline model. Ranging from 0 to 1, larger values are better for both the CFI (comparative fit index) and the

Tucker Lewis Index (TFI), and if the CFI is greater or equal to .95 it is considered good model fit (Hu & Bentler, 1999). All three models had poor incremental fit indices with the CFI and TLI respectively 0.35 and 0.33 for a priori model 1, 0.35 and 0.33 for a priori model 2, and 0.30 and 0.29 for the null model.

All together the CFA results suggest maybe none of these models is the right fit. Therefore, I ran an exploratory factor analysis to see if there is a better factor structure for the SJT than the ones previously specified. After running parallel analysis and Velicer's minimum average partial (MAP) test I determined there were up to 8 unique factors to extract (O'Connor, 2000). Using a direct oblimin rotation I first examined the 7 factor solution to determine if the item option loadings were at all related to the rationale item option sort, but I did not find this to be the case (see Table 3). Subsequently, I compared the other factor solutions trying to find a substantive interpretation. Although I could not find any psychologically meaningful interpretations, the 3-factor solution demonstrated clear method factors (see Table 4). Specifically, I found that item options with low effectiveness ratings loaded on factor 1 (mean effectiveness rating = 2.30), medium effectiveness ratings loaded on factor 2 (mean effectiveness rating = 4.40), and high effectiveness ratings clustered on factor 3 (mean effectiveness rating = 6.25). In order to assess how these factors are related to criteria of interest I created factor scores for each participant by creating a composite of all of item option scores that loaded on each factor weighted by the item option factor loading (see loadings in Table 4). Henceforth, these factor analysis based composite scales will be referred to as the low effectiveness scale (factor 1), medium effectiveness scale (factor 2), and high effectiveness scale (factor 3). Alphas for the overall SJT, the rationale sort competencies, and the three empirically

derived factor scales can be found in Table 5. A correlation matrix between the various SJT scales can be found in Table 6.

My second research question is centered on the relationship between SJT scores and test takers' subsequent performance (see Table 7). As hypothesized, I found that SJT scores are statistically significantly positively correlated with professionalism performance (r = 0.14), interpersonal communication skills performance (r = 0.14), and professionalism 360 feedback at time 2 (r = 0.16) and time 3 (r = 0.19). SJT scores are not significantly correlated with avoiding CWBs (r = 0.04) and professionalism self-identify (r = .08). Interestingly, SJT scores also correlate positively with the overall milestone performance composite (r = 0.13) suggesting that it may target more than just the non-cognitive performance dimensions hypothesized. I also examined the relationship between the three factor scales and the seven rationale sort scales with these criteria. Given the low reliability and lack of empirical evidence for the rationale sort scales I will not interpret these correlations. When examining the three factor scales it appears the low and medium effectiveness scale scores have a similar relationship with the core performance criteria (i.e., 360 ratings, avoiding CWB, and milestone performance) as the overall SJT score has with said criteria. This suggests that the predictive power of the SJT may come from the ability to identify ineffective and moderately effective actions, rather than highly effective actions.

My third research question asks whether participants who received the training intervention will improve their professionalism and interpersonal skills. Typically, one would test this research question using a one-tailed t-test comparing the experimental and control groups on the key criteria variables (see Table 8). However, because I have

baseline (time 1) performance data for all of my criteria, the more powerful approach is to use hierarchal linear regression and control for baseline performance when assessing the impact of group on post-training performance. Therefore, I ran hierarchical linear regressions predicting each of the eight criteria (360-degree performance at time 2 and time 3, avoiding CWBs, milestone composite, professionalism performance, interpersonal communication skills performance, professionalism knowledge, and professionalism self-identity). In the first step I included the baseline measurement of each variable, in the second step I added the group variable, whether or not the participant received training, and in the third step I added the interaction of baseline performance and group.

Given that not all of the participants in the experimental condition completed all (or sometimes any) parts of the training intervention I must address treatment noncompliance. There are two key philosophies of statistically dealing with treatment noncompliance (West, Biesanz, & Pitts, 2000). The first, intention to treat analysis, compares the mean responses of all participants assigned to the treatment condition (regardless of whether they received treatment) (N=198) to the mean responses of all participants assigned to the control condition (Lee, Ellenberg, Hirtz, & Nelson, 1991). Results of the hierarchical regression analysis described above using this approach can be found in Table 9. The second approach to treatment noncompliance is to throw out all of the people assigned to a treatment who did not receive treatment. In the context of my study this can be defined in two different ways. The first, more practical definition is that only those participants who completed the SJT and attended the debriefing session (N=127) are included in the treatment condition (see Table 10). The more conservative

approach is that only those participants who completed the SJT, attended the debriefing session, and reported completing the goal setting handout (N=53) are included in the analysis (see Table 11). The results are very similar across Tables 10 and 11, but show small differences with the intention to treat analysis (Table 9). Given the intent to treat provides a conservative estimate and the results are meaningfully different I decided to use the second approach. Expressly, for my subsequent analysis I only included those participants who completed the SJT and attended the debriefing session when analyzing the treatment group. I chose this definition rather than the stricter one because the results are comparable and a larger sample size is preferable.

Findings indicate there is a neither a main effect of training nor an interaction between receiving training and baseline performance on the 360-degree performance at time 2, 360-degree performance at time 3, avoiding CWBs and professionalism knowledge (see Table 10). There was a significant small negative interaction between receiving training and the milestone performance composite as well as the professionalism performance and interpersonal communication skill performance. There was also a significant interaction between receiving training and baseline performance for professionalism self-identity. Interaction graphs demonstrate that the effects of training had a positive effect on these variables (see Figures 3-6).

I also compared the baseline values of the multiple individual difference variables to confirm the study conditions were equal on these variables pre-treatment. Specifically, I assessed whether the experimental and control group significantly differed by gender, type of program (residency or fellowship), age, cognitive ability (average MCAT score), personality traits (Extraversion, Agreeableness, Conscientiousness, Emotional Stability,

Openness), self-efficacy, and/or motivation to learn at the baseline (see Table 13). I found that none of these variables except for type of program were statistically significantly different at the baseline, affirming that my randomization was successful on these metrics. Type of program (0=Residency, 1= Fellowship) is not equal between the experimental and control group at the baseline largely due to what proportion of the residents in each program consented to the study rather than an actual randomization issue. To clarify, if all of the residents and fellows in all of the participating programs had consented to this study then this metric would have been equivalent for the experimental and control groups. I also conducted a one-way between subjects ANOVA and found there was no effect of race on group [$F(1, 295) = 1.00$, $p = 0.31$].

Although I did not hypothesize any, it is important to investigate the presence of aptitude-treatment interactions (ATIs). To test this, I ran a 4-step hierarchical linear regression for each of the eight criteria: 360 performance ratings (time 2 and 3), avoiding CWB, milestone performance composite, professionalism performance, interpersonal communication skill performance, professionalism knowledge, and professionalism self-identity (see Table 14). Step 1 included the baseline measurement of the dependent variable, step 2 added group (experimental or control), step 3 added individual difference variables (race, gender, type of program [residency or fellowship], program, age, cognitive ability, personality, and self-efficacy), and step 4 added the interaction between the previous individual difference variables and group. Across these eight regressions I found a few unexpected effects. Specifically, in predicting professionalism self-identity I found a significant Δr^2 between model 2 and model 3. In model 4 I found a significant positive main effect of self-efficacy, a significant negative interaction between self-

efficacy and group, and a significant positive interaction between cognitive ability and group. A follow up regression, where only the self-efficacy x group, and cognitive ability x group interaction terms were included in the fourth step, also finds these three significant effects (see Table 15). Interpreted, this implies that participants with higher self-efficacy have higher professionalism self-identity, but for those in the experimental group there is a negative relationship between self-efficacy and professionalism self-identity, which it not very intuitive. The interaction with cognitive ability implies that for those in the experimental group cognitive ability is positively related to professionalism self-identity, but not for those in the control group. Also, when looking at professionalism knowledge as the criteria, there is not a significant Δr^2 between model 2 and model 3, but given its magnitude (0.14) it is worth noting. Here there is a negative significant main effect of gender (males score lower than females) and a positive significant main effect of cognitive ability. Given the large number of variables and the moderate sample size I would expect a few significant effects to show up by chance. Future research should examine if there is any merit to these findings.

Discussion

This research study was designed to assess whether SJTs can be an effective tool in employee development in addition to its almost exclusive use in employee selection. To assess this, I first designed a developmentally oriented SJT for medical residents targeting their professionalism and interpersonal skills. Then I developed a training intervention based on this SJT, where participants completed an online SJT, received a detailed developmental report, participated in a group debriefing session, and completed a goal setting exercise. In this research study I attempted to answer three main research

questions: (1) What is the dimensionally of this internally developed SJT? (2) What is the relationship between SJT scores and performance? (3) What is the relationship between receiving this professionalism training intervention and resident performance?

The first research question was answered by reviewing the empirical evidence for the competency scales created via rationale sort as well as using factor analysis to investigate the possibility of new empirically derived scales. I did not find empirical evidence supporting the a priori competency scales. The internal consistency reliability of these competency based scales was low and the factor structure of the SJT did not align with the rationale sort solution. However, I did find meaningful method based scale scores. Specifically, there was empirical evidence for scales based on SME effectiveness ratings; a low effectiveness scale (mostly items with an effectiveness rating less than 3), a medium effectiveness scale (mostly items with an effectiveness rating between 3 and 5), and a high effectiveness scale (mostly items with an effectiveness rating greater than 5). Knowing the dimensionality of the SJT I was able to address my second research question; exploring the relationship between SJT scores and performance criteria. I found overall SJT scores to have small, positive correlations with criteria as expected, although not all reached the level of statistical significance. Specifically, overall SJT scores are significantly positively related to 360-degree performance ratings, milestone performance composite, professionalism performance, interpersonal communication skill performance, and professionalism knowledge. Interestingly, the medium effectiveness SJT scale similarly showed statically significant positive correlations with the milestone composite and interpersonal communication skill performance where the low and high effectiveness SJT scales did not. Also, the low effectiveness SJT scale showed statistically significant

positive correlations with 360-degree performance at time 3 and professionalism knowledge. Furthermore, it appears the magnitude of the relationship between SJT effectiveness scales and professionalism knowledge, which is measured via a paper-and-pencil SJT, decreases as the SJT effectiveness scale level increases: low effectiveness (r = .27), medium effectiveness (r = .16), and high effectiveness (r = .12). Together, this suggests that identifying highly effective response options is not the origin of the predictive power of this SJT. Interestingly, Crook et al. (2011) employed a similar approach where, using single response SJT items, they calculated an effective SJT score and an ineffective SJT score. In their first study (N=44) there was no difference in the correlation between effective/ineffective SJT scores and job performance, but in their second study (N=152) they found the ineffective SJT was statistically significantly positively correlated with job performance and the effective SJT score was not. Future research should continue to investigate whether SME effectiveness ratings are related to which items give an SJT its predictive power.

The third research question, whether an SJT-based training intervention can improve resident's performance, was answered through a series of t-tests and hierarchical regressions comparing post-training performance of the participants who received the training intervention and those who did not. Contrary to my hypothesis, I found that after controlling for baseline performance, receiving the training intervention did not significantly improve performance. Surprisingly, there was a negative relationship between receiving training and the milestone performance composite as well as the specifically targeted milestones of professionalism and interpersonal communication skills. There are a few possible explanations for the appearance of this negative

relationship. Firstly, this was the one criterion measure that I did not control and was not developed in-house; this is a performance metric defined by the ACGME. Therefore, it is possible that there is criterion contamination and the measure is not sensitive enough to measure the changes in performance that I was targeting. Second, this measure is not standardized across programs. Although each program has, for example, a professionalism milestone score, each medical specialty defines professionalism differently. Therefore, it is hard to truly define what professionalism or what interpersonal communication skills means across specialties. This lack of definitional uniformity would also contribute to possible criterion contamination and make it harder to detect a training effect. It is particularly noteworthy that the milestone related scores have significant positive correlations with the overall SJT score yet receiving the training intervention, which is based on this SJT, results in a significant negative effect. It will be interesting to see if this pattern holds after SJT scores have been collected from participants in the control condition.

Limitations

This research study had many limitations that may have impacted my results. Firstly, my final sample size was smaller than I would have liked. Out of a possible 38 programs (979 possible participants), only 20 programs (481 possible participants) agreed to participant and of those possible participants I only received consent from 317. Furthermore, of the 198 participants in the experimental condition for whom I obtained consent, only 127 completed both the SJT and attended the debriefing and only 53 completed the SJT, debriefing, and goal setting handout. Therefore, if I only consider those that completed part of the training in my analyses I do not have enough power to

detect a small effect. I believe with a larger sample size it is possible this training could show a positive effect given the positive correlations between SJT scores and criteria. Furthermore, I only have SJT scores on those in the experimental condition, as the SJT is part of the treatment. Gaining this data on participants in both conditions may paint a broader picture of the relationship between the SJT scores and performance. Future research should incorporate this subsequent data collection into its design.

Second, the training intervention was not delivered in a uniform manner. Despite a short meeting with the Director of Evaluation and myself and access to a facilitator's guide, the doctors leading the training session had no formal training. I expect the content of these training sessions differed by program and this lack of consistency would make it hard to detect a strong effect. I know that of the 137 participants who attended the debriefing session, only 53 reported completing a goal setting handout. At the bare minimum the goal setting handout, a key component of the training, was not uniformly distributed or completed.

Similarly, I would expect to see greater positive improvement in performance with a more time intensive training protocol. Prior research indicates training interventions are more effective when trainees are engaged, the work environment is supportive and allows trainees the opportunity to practice said trained skill, and continued feedback is provided (M. J. Burke et al., 2006; Campbell et al., in press; Clarke, 2002; Cromwell & Kolb, 2004; DeRue, Nahrgang, Hollenbeck, & Workman, 2012; Hawley & Barnard, 2005). A key theme amongst these variables is level of investment or time. This study is one of the first attempts to use SJTs in a developmental context. I am still working out the most effective protocol to result in maximal increased professionalism

knowledge and performance. I am currently working on turning this training intervention into a more comprehensive professionalism curriculum that can be administered in both one workshop (as in this study) or in a more longitudinal fashion. I expect a more substantial curriculum would increase the level of investment of both trainees and stakeholders therefore increasing the likelihood of training transfer. The intervention as it stands is quite brief. For comparison, Finn (2010) considered a three session intervention to be brief and this training has only one session. Future research should examine whether an SJT-based training is more effective if in the context of a training curriculum rather than a single training session.

Thirdly, as in many training interventions, there is the question of investment in training. The medical residents and fellows who participated in this study have incredibly busy schedules and many demanding tasks. It is likely many of them did not take this training serious and rather completed the assessments as quickly as possible in an attempt to "check the box". One means to assess this, assuming participants answered these questions honestly and accurately, is to review the motivation to learn items at both pre-training (time 1) and post-training (time 2). However, the average score across study condition on this measure is above 5 (out of 7) at both time points and the standard deviation is 1, which indicates participants were motivated to learn and invested in this training. Another means to assess investment is to review the qualitative feedback I received. Although minimal, a few participants indicated they did not like completing the SJT and/or they felt professionalism is not a skill that can be trained in the format, which may indicate at least some participants were not very invested. Additionally, I received informal feedback from program directors who led their program's debriefing session

that the residents who attended were active participants and seemed engaged in discussing the content of the assessment. Given these metrics I feel comfortable interpreting the data received as accurate but it would be interesting to compare the results of this study to another where participation is completely voluntary. To clarify, in this study participants had complete control over whether they consented for me to use their data but they did not have a choice in whether or not they completed the training intervention; each residency program director decided if the training would be optional or mandatory for their residents. Therefore, it is likely there are many residents who only completed the SJT and subsequent training because they were instructed to do so rather than being internally motivated to improve their professionalism skills.

Finally, it is possible that this form of training is not an effective developmental technique. The results of this study not only show no significant improvement in performance after receiving this training, but also they show a significant negative effect of receiving training on certain performance criteria (all using milestone scores). That said, I believe this is unlikely given the extensive research on the utility of SJTs in predicting performance (i.e., Christian et al., 2010; McDaniel et al., 2007) as well as the literature on effective training and goal setting (i.e., (Campbell et al., in press; Locke & Latham, 2002). However, it is possible that the mere act of completing an SJT is not enough of a treatment to instill meaningful developmental change in participants. SJTs may be better positioned as a developmental tool that can be used in the context of a broader training intervention rather than a stand-alone training tool. Future research in this area should experiment with different types of training interventions using this

development SJT, such as more follow up meetings to ensure the residents are actively working on the goals they set in the training session.

Conclusion

This is only the third study I am aware of to test SJT's utility in a developmental context and the first to test the effectiveness of an SJT-based training intervention using a therapeutic assessment paradigm. Although the results did not support my hypothesis that those who received the training intervention would improve their professionalism performance, this study is an important contribution to the literature on SJTs and pushes the importance of more research on this topic. I was successful at building a user-friendly SJT targeted at improving medical residents' professionalism and interpersonal skills. Most program directors who participated in this study were pleased with the SJT and even asked for permission to use it for development of their faculty.

Although the effect sizes are small and largely not significant, I see this as a strong step forward in this research domain. The numerous limitations stated above are common in organizational research, but this should not dissuade others from continuing this research paradigm. Large organizational samples are crucial to test the real-world effects of training interventions and with the right buy in from organizational leaders it is possible to conduct true experimental designs, as in this study. This study can be used as a guide for future researchers and practitioners interested in empirically assessing the effectiveness of their training interventions, a practice that is sorely lacking.

References

Anderson, L., & Wilson, S. (1997). Critical incident technique. In D. L. Whetzel & G. R. Wheaton (Eds.), *Applied meaurement methods in industrial psychology* (pp. 89–112). Palo Alto, CA: Davies-Black Publishing.

Arthur, W., Bennett, W., Edens, P. S., & Bell, S. T. (2003). Effectiveness of training in organizations: a meta-analysis of design and evaluation features. *Journal of Applied psychology*, *88*, 234.

Arthur, W., Glaze, R. M., Jarrett, S. M., White, C. D., Schurig, I., & Taylor, J. E. (2014). Comparative evaluation of three situational judgment test response formats in terms of construct-related validity, subgroup differences, and susceptibility to response distortion. *Journal of Applied Psychology*, *99*, 535–545.

Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and directions for future research. *Personnel psychology*, *41*, 63–105.

Baldwin, T. T., Ford, J. K., & Blume, B. D. (2009). Transfer of Training 1988-2008: An Updated Review and Agenda for Future Research. In G. P. Hodgkinson & J. K. Ford (Eds.), *International Review of Industrial and Organizational Psychology, 2009*. John Wiley & Sons.

Barondess, J. A. (2003). Medicine and Professionalism. *Archives of Internal Medicine*, *163*, 145–149.

Beach, M. C., Sugarman, J., Johnson, R. L., Arbelaez, J. J., Duggan, P. S., & Cooper, L. A. (2005). Do patients treated with dignity report higher satisfaction, adherence, and receipt of preventive care? *The Annals of Family Medicine*, *3*, 331–338.

Bergman, M. E., Drasgow, F., Donovan, M. A., Henning, J. B., & Juraska, S. E. (2006). Scoring Situational Judgment Tests: Once You Get the Data, Your Troubles Begin. *International Journal of Selection and Assessment*, *14*, 223–235.

Black, P., & Wiliam, D. (1998). Inside the black box: Raising standards through classroom assessment. *Phi Delta Kappan*, *80*, 139–148.

Boston, C. (2002). The Concept of Formative Assessment. ERIC Digest. Retrieved from http://eric.ed.gov/?id=ED470206

Botden, S. M. B. I., Hingh, I. H. J. T. de, & Jakimowicz, J. J. (2009). Meaningful assessment method for laparoscopic suturing training in augmented reality. *Surgical Endoscopy*, *23*, 2221.

Bruk-Lee, V., Drew, E. N., & Hawkes, B. (2014). Candidate Reactions to Simulations and Media-Rich Assessments in Personnel Selection. In M. S. Fetzer & K. A. Tuzinski (Eds.), *Simulations for Personnel Selection* (pp. 43–60). New York, NY: Springer.

Bruk-Lee, V., Lanz, J., Drew, E. N., Coughlin, C., Levine, P., Tuzinski, K., & Wrenn, K. (2016). Examining Applicant Reactions to Different Media Types in Character-based Simulations for Employee Selection. *International Journal of Selection and Assessment*, *24*, 77–91.

Burke, L. A., & Hutchins, H. M. (2007). Training transfer: An integrative literature review. *Human resource development review*, *6*, 263–296.

Burke, L. A., & Saks, A. M. (2009). Accountability in training transfer: Adapting Schlenker's model of responsibility to a persistent but solvable problem. *Human Resource Development Review*, *8*, 382–402.

Burke, M. J., Sarpy, S. A., Smith-Crowe, K., Chan-Serafin, S., Salvador, R. O., & Islam, G. (2006). Relative effectiveness of worker safety and health training methods. *American journal of public health*, *96*, 315–324.

Campbell, J. P., Kuncel, N. R., & Kostal, J. W. (in press). Training and Learning in work roles. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of Industrial, Work, and Organizational Psychology* (2nd ed.). Thousand Oaks, CA: Sage.

Campion, M. C., & Ployhart, R. E. (2013). Assessing Personality With Situational Judgment Measures. *Handbook of personality at work*, 439.

Carlson, K. D. (1997). *Impact of instructional strategy on training effectiveness* (Ph.D.). The University of Iowa, United States -- Iowa. Retrieved from http://search.proquest.com.ezp2.lib.umn.edu/docview/304345571/abstract/5002AA559E9E4633PQ/1

Catano, V. M., Brochu, A., & Lamerson, C. D. (2012). Assessing the Reliability of Situational Judgment Tests Used in High-Stakes Situations. *International Journal of Selection and Assessment*, *20*, 333–346.

Chan, D., & Schmitt, N. (1997). Video-based versus paper-and-pencil method of assessment in situational judgment tests: subgroup differences in test performance and face validity perceptions. *Journal of Applied Psychology*, *82*, 143.

Chiaburu, D. S., & Lindsay, D. R. (2008). Can do or will do? The importance of self-efficacy and instrumentality for training transfer. *Human Resource Development International*, *11*, 199–206.

Chiaburu, D. S., & Marinova, S. V. (2005). What predicts skill transfer? An exploratory study of goal orientation, training self-efficacy and organizational supports. *International journal of training and development*, *9*, 110–123.

Christian, M. S., Edwards, B. D., & Bradley, J. C. (2010). Situational Judgment Tests: Constructs Assessed and a Meta-Analysis of their Criterion-Related Validities. *Personnel Psychology*, *63*, 83–117.

Clarke, N. (2002). Job/work environment factors influencing training transfer within a human service agency: some indicative support for Baldwin and Ford's transfer climate construct. *International Journal of Training and Development*, *6*, 146–162.

Cohen, J. J. (2006). Professionalism in medical education, an American perspective: from evidence to accountability. *Medical Education*, *40*, 607–617.

Cole, J. S., & Gonyea, R. M. (2010). Accuracy of Self-reported SAT and ACT Test Scores: Implications for Research. *Research in Higher Education*, *51*, 305–319.

Colquitt, J. A., LePine, J. A., & Noe, R. A. (2000). *Toward an integrative theory of training motivation: a meta-analytic path analysis of 20 years of research.* American Psychological Association. Retrieved from http://psycnet.apa.org/journals/apl/85/5/678/

Cook, D. A., Brydges, R., Zendejas, B., Hamstra, S. J., & Hatala, R. (2013). Technology-enhanced simulation to assess health professionals: a systematic review of validity evidence, research methods, and reporting quality. *Academic Medicine*, *88*, 872–883.

Cook, D. A., Hatala, R., Brydges, R., Zendejas, B., Szostek, J. H., Wang, A. T., … Hamstra, S. J. (2011). Technology-enhanced simulation for health professions education: a systematic review and meta-analysis. *Jama*, *306*, 978–988.

Cook, D. A., & Lineberry, M. (2016). Consequences Validity Evidence: Evaluating the Impact of Educational Assessments. *Academic Medicine*, *91*, 785–795.

Corstjens, J., Lievens, F., & Krumm, S. (2017). Situational Judgement Tests for Selection. In H. Goldstein, E. D. Pulakos, J. Passmore, & C. Semedo (Eds.), *The Wiley Blackwell Handbook of the Psychology of Recruitment, Selection and Employe Retention* (pp. 228–248). John Wiley & Sons, Ltd.

Cox, C. B., Barron, L. G., Davis, W., & de la Garza, B. (2017). Using situational judgment tests (SJTs) in training: Development and evaluation of a structured, low-fidelity scenario-based training method. *Personnel Review*, *46*, 36–45.

Cromwell, S. E., & Kolb, J. A. (2004). An examination of work-environment support factors affecting transfer of supervisory skills training to the workplace. *Human Resource Development Quarterly*, *15*, 449–471.

Cronbach, L. J. (1957). The two disciplines of scientific psychology. *American psychologist*, *12*, 671.

Cronbach, L. J., & Snow, R. E. (1977). *Aptitudes and instructional methods: A handbook for research on interactions*. Irvington. Retrieved from http://psycnet.apa.org/psycinfo/1978-11462-000

Crook, A. E., Beier, M. E., Cox, C. B., Kell, H. J., Hanks, A. R., & Motowidlo, S. J. (2011). Measuring Relationships between Personality, Knowledge, and

Performance using Single-response Situational Judgment Tests. *International Journal of Selection and Assessment*, *19*, 363–373.

Crossley, J., & Vivekananda-Schmidt, P. (2009). The development and evaluation of a Professional Self Identity Questionnaire to measure evolving professional self-identity in health and social care students. *Medical teacher*, *31*, e603–e607.

Cullen, M. J., Konia, M. R., Borman-Shoap, E. C., Braman, J. P., Tiryaki, E., Marcus-Blank, B., & Andrews, J. S. (2016). Not all unprofessional behaviors are equal: The creation of a checklist of bad behaviors. *Medical Teacher*, 1–7.

Cullen, M. J., Muros, J. P., Rasch, R., & Sackett, P. R. (2013). Individual differences in the effectiveness of error management training for developing negotiation skills. *International Journal of Selection and Assessment*, *21*, 1–21.

Cullen, M. J., Sackett, P. R., & Lievens, F. (2006). Threats to the Operational Use of Situational Judgment Tests in the College Admission Process. *International Journal of Selection and Assessment*, *14*, 142–155.

De Soete, B., Lievens, F., Oostrom, J., & Westerveld, L. (2013). Alternative Predictors for Dealing with the Diversity–Validity Dilemma in Personnel Selection: The constructed response multimedia test. *International Journal of Selection and Assessment*, *21*, 239–250.

DeRue, D. S., Nahrgang, J. D., Hollenbeck, J. R., & Workman, K. (2012). A quasi-experimental study of after-event reviews and leadership development. *Journal of Applied Psychology*, *97*, 997–1015.

DeYoung, C. G. (2015). Cybernetic Big Five Theory. *Journal of Research in Personality*, *56*, 33–58.

Dodou, D., & de Winter, J. C. (2014). Social desirability is the same in offline, online, and paper surveys: A meta-analysis. *Computers in Human Behavior*, *36*, 487–495.

Duckor, B. (2016). Formative assessment in seven good moves. In M. Scherer (Ed.), *On Formative Assessment: Readings from Educational Leadership* (pp. 76–85).

Dunlop, P. D., Morrison, D. L., & Cordery, J. L. (2011). Investigating Retesting Effects in a Personnel Selection Context. *International Journal of Selection and Assessment*, *19*, 217–221.

Dunn, K. E., & Mulvenon, S. W. (2009). A critical review of research on formative assessment: The limited scientific evidence of the impact of formative assessment in education. *Practical Assessment, Research & Evaluation*, *14*, 1–11.

Dutra, L., Stathopoulou, G., Basden, S. L., Leyro, T. M., Powers, M. B., & Otto, M. W. (2008). A meta-analytic review of psychosocial interventions for substance use disorders. *American Journal of Psychiatry*, *165*, 179–187.

Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review*, *100*, 363–406.

Ericsson, K. A., Prietula, M. J., & Cokely, E. T. (2007). The making of an expert. *Harvard business review*, *85*, 114–121.

File, Q. W. (1945). The measurement of supervisory quality in industry. *Journal of Applied Psychology*, *29*, 323.

Finn, S. E. (2010). Therapeutic Assessment. In *The Corsini Encyclopedia of Psychology*. John Wiley & Sons, Inc. Retrieved from http://onlinelibrary.wiley.com/doi/10.1002/9780470479216.corpsy0993/abstract

Finn, S. E., & Tonsager, M. E. (1992). Therapeutic effects of providing MMPI-2 test feedback to college students awaiting therapy. *Psychological Assessment*, *4*, 278.

Gaugler, B. B., Rosenthal, D. B., Thornton, G. C., & Bentson, C. (1987). Meta-analysis of assessment center validity. *Journal of applied psychology*, *72*, 493.

Gegenfurtner, A. (2011). Motivation and transfer in professional training: A meta-analysis of the moderating effects of knowledge type, instruction, and assessment conditions. *Educational Research Review*, *6*, 153–168.

Gegenfurtner, A., Veermans, K., Festner, D., & Gruber, H. (2009). Integrative Literature Review: Motivation to Transfer Training: An Integrative Literature Review. *Human Resource Development Review*, *8*, 403–423.

Goodman, J. S. (1998). The Interactive Effects of Task and External Feedback on Practice Performance and Learning. *Organizational Behavior and Human Decision Processes*, *76*, 223–252.

Goss, B. D., Ryan, A. T., Waring, J., Judd, T., Chiavaroli, N. G., O'Brien, R. C., … McColl, G. J. (2017). Beyond Selection: The Use of Situational Judgement Tests in the Teaching and Assessment of Professionalism. *Academic Medicine*, *92*, 780–784.

Greller, M. M., & Herold, D. M. (1975). Sources of feedback: A preliminary investigation. *Organizational Behavior and Human Performance*, *13*, 244–256.

Grohmann, A., Beller, J., & Kauffeld, S. (2014). Exploring the critical role of motivation to transfer in the training transfer process. *International Journal of Training and Development*, *18*, 84–103.

Grossman, R., & Salas, E. (2011). The transfer of training: what really matters. *International Journal of Training and Development*, *15*, 103–120.

Grumbach, K., & Bodenheimer, T. (2004). Can health care teams improve primary care practice? *Jama*, *291*, 1246–1251.

Hambrick, D. Z., Oswald, F. L., Altmann, E. M., Meinz, E. J., Gobet, F., & Campitelli, G. (2014). Deliberate practice: Is that all it takes to become an expert? *Intelligence*, *45*, 34–45.

Hawley, J. D., & Barnard, J. K. (2005). Work Environment Characteristics and Implications for Training Transfer: A Case Study of the Nuclear Power Industry. *Human Resource Development International*, *8*, 65–80.

Hazucha, J. F., Hezlett, S. A., & Schneider, R. J. (1993). The impact of 360-degree feedback on management skills development. *Human Resource Management*, *32*, 325–351.

Heidemeier, H., & Moser, K. (2009). *Self–other agreement in job performance ratings: A meta-analytic test of a process model.* American Psychological Association. Retrieved from http://psycnet.apa.org/journals/apl/94/2/353/

Hooper, A. C., Cullen, M. J., & Sackett, P. R. (2006). Operational Threats to the Use of SJTs: Faking, Coaching, and Retesting Issues. In J. A. Weekley & R. E. Ployhart (Eds.), *Situational Judgment Tests: Theory, Measurement, and Application* (pp. 205–232). Mahwah, NJ: Lawrence Erlbaum Associates.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*, 1–55.

Ilgen, D. R., Fisher, C. D., & Taylor, S. M. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology*, *64*, 349–371.

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The big five inventory—versions 4a and 54*. Berkeley, CA: University of California, Berkeley, Institute of Personality and Social Research.

John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative big five trait taxonomy. *Handbook of personality: Theory and research*, *3*, 114–158.

Jones, R. G., & Whitmore, M. D. (1995). Evaluating developmental assessment centers as interventions. *Personnel Psychology*, *48*, 377–388.

Kaiser, R. B., & Craig, S. B. (2005). Building a Better Mouse Trap: Item Characteristics Associated With Rating Discrepancies in 360-Degree Feedback. *Consulting Psychology Journal: Practice & Research*, *57*, 235–245.

Kasten, N., & Freund, P. A. (2015). A Meta-Analytical Multilevel Reliability Generalization of Situational Judgment Tests (SJTs). *European Journal of Psychological Assessment*, 1–11.

Kingston, N., & Nash, B. (2011). Formative Assessment: A Meta-Analysis and a Call for Research. *Educational Measurement: Issues and Practice*, *30*, 28–37.

Kirkpatrick, D. L. (1979). Techniques for evaluating training programs. *Training and development journal*. Retrieved from http://agris.fao.org/agris-search/search.do?recordID=US201302107125

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, *119*, 254–284.

Kontoghiorghes, C. (2002). Predicting Motivation to Learn and Motivation to Transfer Learning Back to the Job in a Service Organization: A New Systemic Model for Training Effectiveness. *Performance Improvement Quarterly, 15*, 114–129.

Krumm, S., Lievens, F., Hüffmeier, J., Lipnevich, A. A., Bendels, H., & Hertel, G. (2015). How "situational" is judgment in situational judgment tests? *Journal of Applied Psychology, 100*, 399–416.

Kuncel, N. R., Credé, M., & Thomas, L. L. (2005). The validity of self-reported grade point averages, class ranks, and test scores: A meta-analysis and review of the literature. *Review of educational research*, *75*, 63–82.

Lee, Y. J., Ellenberg, J. H., Hirtz, D. G., & Nelson, K. B. (1991). Analysis of clinical trials by treatment actually received: is it really an option? *Statistics in medicine*, *10*, 1595–1605.

Lerner, J. S., & Tetlock, P. E. (1999). Accounting for the effects of accountability. *Psychological bulletin*, *125*, 255.

Lievens, F., Buyse, T., & Sackett, P. R. (2005). Retest Effects in Operational Selection Settings: Development and Test of a Framework. *Personnel Psychology*, *58*, 981–1007.

Lievens, F., Buyse, T., Sackett, P. R., & Connelly, B. S. (2012). The Effects of Coaching on Situational Judgment Tests in High-stakes Selection. *International Journal of Selection and Assessment*, *20*, 272–282.

Lievens, F., & Motowidlo, S. J. (2015). Situational Judgment Tests: From Measures of Situational Judgment to Measures of General Domain Knowledge. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, *9*.

Lievens, F., & Peeters, H. (2008). Impact of Elaboration on Responding to Situational Judgment Test Items. *International Journal of Selection and Assessment, 16,* 345–355.

Lievens, F., & Sackett, P. R. (2006). Video-based versus written situational judgment tests: A comparison in terms of predictive validity. *Journal of Applied Psychology, 91,* 1181–1188.

Lievens, F., & Sackett, P. R. (2007). Situational judgment tests in high-stakes settings: Issues and strategies with generating alternate forms. *Journal of Applied Psychology, 92,* 1043–1055.

Lievens, F., & Sackett, P. R. (2012). The validity of interpersonal skills assessment via situational judgment tests for predicting academic success and job performance. *Journal of Applied Psychology, 97,* 460–468.

Lievens, F., & Sackett, P. R. (2017). The effects of predictor method factors on selection outcomes: A modular approach to personnel selection procedures. *Journal of Applied Psychology, 102,* 43–66.

Lievens, F., Sackett, P. R., & Buyse, T. (2009). The effects of response instructions on situational judgment test performance and validity in a high-stakes context. *Journal of Applied Psychology, 94,* 1095–1101.

Lievens, F., & Soete, B. D. (2012). Simulations. Retrieved from http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199732579.001.0001/oxfordhb-9780199732579-e-17

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist, 57,* 705–717.

Lu, L., & Yuan, Y. C. (2011). Shall I Google it or ask the competent villain down the hall? The moderating role of information need in information source selection. *Journal of the American Society for Information Science and Technology*, *62*, 133–145.

Mabe, P. A., & West, S. G. (1982). Validity of self-evaluation of ability: A review and meta-analysis. *Journal of applied Psychology*, *67*, 280.

MacCann, C., Wang, L., Matthews, G., & Roberts, R. D. (2010). Emotional intelligence and the eye of the beholder: Comparing self- and parent-rated situational judgments in adolescents. *Journal of Research in Personality*, *44*, 673–676.

Macnamara, B. N., Hambrick, D. Z., & Oswald, F. L. (2014). Deliberate Practice and Performance in Music, Games, Sports, Education, and Professions A Meta-Analysis. *Psychological science*, *25*, 1608–1618.

Malec, J. F., Torsher, L. C., Dunn, W. F., Wiegmann, D. A., Arnold, J. J., Brown, D. A., & Phatak, V. (2007). The mayo high performance teamwork scale: reliability and validity for evaluating key crew resource management skills. *Simulation in Healthcare*, *2*, 4–10.

McDaniel, M. A., Hartman, N. S., Whetzel, D. L., & Grubb, W. (2007). Situational judgment tests, response instructions, and validity: a meta-analysis. *Personnel psychology*, *60*, 63–91.

McDaniel, M. A., Morgeson, F. P., Finnegan, E. B., Campion, M. A., & Braverman, E. P. (2001). Use of situational judgment tests to predict job performance: A clarification of the literature. *Journal of Applied Psychology*, *86*, 730–740.

McDaniel, M. A., Psotka, J., Legree, P. J., Yost, A. P., & Weekley, J. A. (2011). Toward an understanding of situational judgment item validity and group differences. *Journal of Applied Psychology, 96,* 327–336.

Means, B., Mumaw, R. J., Roth, C., Schlager, M. S., McWilliams, E., Gagne, E., … Heon, S. (1988). ATC training analysis study: Design of the next-generation ATC training system. *Washington, DC: Federal Aviation Administration*. Retrieved from http://www.tc.faa.gov/its/worldpac/techrpt/tl725-3-t7-t88.pdf

Miller, D. S. (2011). *The Effects of Scoring Technique on Situational Judgment Test Validity* (Unpublished doctoral dissertation). University of Central Florida, Orlando, FL.

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological review, 102*, 246.

Motowidlo, S. J. (2003). Job Performance. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of Psychology: Industrial and Organizational Psychology* (Vol. 12, pp. 39–53). New York, NY: Wiley.

Motowidlo, S. J., & Beier, M. E. (2010). Differentiating specific job knowledge from implicit trait policies in procedural knowledge measured by a situational judgment test. *Journal of Applied Psychology*, *95*, 321–333.

Motowidlo, S. J., Dunnette, M. D., & Carter, G. W. (1990). An alternative selection procedure: The low-fidelity simulation. *Journal of Applied Psychology, 75,* 640–647.

Motowidlo, S. J., Hooper, A. C., & Jackson, H. L. (2006). A Theoretical Basis for Situational Judgment Tests. In J. A. Weekley & R. E. Ployhart (Eds.), *Situational judgment tests: Theory, measurement, and application* (pp. 57–81). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Mueller, K., Liebig, C., & Hattrup, K. (2007). Computerizing organizational attitude surveys: An investigation of the measurement equivalence of a multifaceted job satisfaction measure. *Educational and Psychological Measurement*. Retrieved from http://epm.sagepub.com/content/early/2007/05/25/0013164406292084.abstract

Muros, J. P. (2008). *Know the score: An exploration of keying and scoring approaches for situational judgment tests* (Doctoral dissertation). University of Minnesota. Retrieved from http://books.google.com/books?hl=en&lr=&id=C_v9-c81yooC&oi=fnd&pg=PA1&dq=%22difference+variables+were+measured+for+this+sample+(cognitive+ability,%22+%22of+this%22+%221+-+Keying+Approaches%22+%22of+the+Current%22+%222+-+Scoring+Approaches%22+%22WORKING+DEFINITION+OF%22+&ots=kLrwgzxKeD&sig=H4VhKhKdK-XJMLtz7XAQD_goy40

Nasca, T. J., Philibert, I., Brigham, T., & Flynn, T. C. (2012). The next GME accreditation system—rationale and benefits. *New England Journal of Medicine*, *366*, 1051–1056.

Nguyen, N. T., Biderman, M. D., & McDaniel, M. A. (2005). Effects of Response Instructions on Faking a Situational Judgment Test. *International Journal of Selection and Assessment*, *13*, 250–260.

Norcross, J. C., Krebs, P. M., & Prochaska, J. O. (2011). Stages of change. *Journal of clinical psychology, 67*, 143–154.

Northcraft, G. B., Schmidt, A. M., & Ashford, S. J. (2011). Feedback and the rationing of time and effort among competing tasks. *Journal of Applied Psychology, 96*, 1076–1086.

O'Connell, M. S., Hartman, N. S., McDaniel, M. A., Grubb, W. L., & Lawrence, A. (2007). Incremental Validity of Situational Judgment Tests for Task and Contextual Job Performance. *International Journal of Selection and Assessment, 15*, 19–29.

O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior research methods, instruments, & computers*, *32*, 396–402.

Oostrom, J. K., Born, M. P., Serlie, A. W., & van der Molen, H. T. (2012). Implicit Trait Policies in Multimedia Situational Judgment Tests for Leadership Skills: Can They Predict Leadership Behavior? *Human Performance, 25*, 335–353.

Ostroff, C., Atwater, L. E., & Feinberg, B. J. (2004). Understanding Self-Other Agreement: A Look at Rater and Ratee Characteristics, Context, and Outcomes. *Personnel Psychology, 57*, 333–375.

Papadakis, M. A., Teherani, A., Banach, M. A., Knettler, T. R., Rattner, S. L., Stern, D. T., … Hodgson, C. S. (2005). Disciplinary action by medical boards and prior behavior in medical school. *New England Journal of Medicine, 353*, 2673–2682.

Patterson, F., Ashworth, V., Kerrin, M., & O'Neill, P. (2013). Situational judgement tests represent a measurement method and can be designed to minimise coaching effects. *Medical Education, 47,* 220–221.

Peeters, H., & Lievens, F. (2005). Situational Judgment Tests and their Predictiveness of College Students' Success: The Influence of Faking. *Educational and Psychological Measurement, 65,* 70–89.

Ployhart, R. E. (2008). *Review of the National Professional Practice Assessment*. Ottawa, Ontario, Canada: Canadian Council of Human Resource Associations.

Poston, J. M., & Hanson, W. E. (2010). Meta-analysis of psychological assessment as a therapeutic intervention. *Psychological Assessment, 22,* 203.

Rockstuhl, T., Ang, S., Ng, K.-Y., Lievens, F., & Van Dyne, L. (2015). Putting judging situations into situational judgment tests: Evidence from intercultural multimedia SJTs. *Journal of Applied Psychology, 100,* 464–480.

Roth, P. L., Bevier, C. A., Bobko, P., Switzer, F. S., & Tyler, P. (2001). Ethnic group differences in cognitive ability in employment and educational settings: A meta-analysis. *Personnel Psychology, 54,* 297–330.

Roth, P. L., Bobko, P., & Buster, M. A. (2013). Situational judgment tests: The influence and importance of applicant status and targeted constructs on estimates of Black–White subgroup differences. *Journal of Occupational and Organizational Psychology, 86,* 394–409.

Rupp, D. E., Gibbons, A. M., Baldwin, A. M., Snyder, L. A., Spain, S. M., Woo, S. E., … Kim, M. (2006). An Initial Validation of Developmental Assessment Centers

as Accurate Assessments and Effective Training Interventions. *The Psychologist-Manager Journal, 9*, 171.

Rupp, D. E., Hoffman, B. J., Bischof, D., Byham, W., Collins, L., Gibbons, A., … Thornton, G. (2015). Guidelines and Ethical Considerations for Assessment Center Operations. *Journal of Management, 41*, 1244–1273.

Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological bulletin*, *124*, 262.

Schmidt, N., & Chan, D. (2006). Situational Judgment Tests: Method or Construct? In J. A. Weekley & R. E. Ployhart (Eds.), *Situational Judgment Tests: Theory, Measurement, and Application* (pp. 135–155). Mahwah, NJ: Erlbaum.

Schmidt, R. A., & Bjork, R. A. (1992). New conceptualizations of practice: Common principles in three paradigms suggest new concepts for training. *Psychological Science, 3*, 207–217.

Schraagen, J. M., Chipman, S. F., & Shalin, V. L. (2000). *Cognitive task analysis*. Psychology Press. Retrieved from https://books.google.com/books?hl=en&lr=&id=gyt5AgAAQBAJ&oi=fnd&pg=PP1&dq=cognitive+task+analysis&ots=cfJ0xzR9yb&sig=4cTj2aq8kypnd3QgWe6sCG8heg4

Sedikides, C., Herbst, K. C., Hardin, D. P., & Dardis, G. J. (2002). Accountability as a deterrent to self-enhancement: The search for mechanisms. *Journal of personality and social psychology, 83*, 592.

Singh, S., Sedlack, R. E., & Cook, D. A. (2014). Effects of simulation-based training in gastrointestinal endoscopy: a systematic review and meta-analysis. *Clinical Gastroenterology and Hepatology*, *12*, 1611–1623.

Smither, J. W., London, M., & Reilly, R. R. (2005). Does Performance Improve Following Multisource Feedback? a Theoretical Model, Meta-Analysis, and Review of Empirical Findings. *Personnel Psychology*, *58*, 33–66.

Snow, R. E. (1989). Aptitude-treatment interactions as a framework for research on individual differences in learning. In P. L. Ackerman, R. J. Sternberg, & R. Glaser (Eds.), *Learning and individual differences: Advances in theory and research* (pp. 13–59). New York, NY: Freeman.

Stemig, M. S., Sackett, P. R., & Lievens, F. (2015). Effects of Organizationally Endorsed Coaching on Performance and Validity of Situational Judgment Tests. *International Journal of Selection and Assessment*, *23*, 174–181.

Stern, D. T., Frohna, A. Z., & Gruppen, L. D. (2005). The prediction of professional behaviour. *Medical Education*, *39*, 75–82.

Stone, D. L., & Stone, E. F. (1985). The effects of feedback consistency and feedback favorability on self-perceived task competence and perceived feedback accuracy. *Organizational Behavior and Human Decision Processes*, *36*, 167–185.

St-Sauveur, C., Girouard, S., & Goyette, V. (2014). Use of Situational Judgment Tests in Personnel Selection: Are the different methods for scoring the response options equivalent? *International Journal of Selection and Assessment*, *22*, 225–239.

Veloski, J. J., Fields, S. K., Boex, J. R., & Blank, L. L. (2005). Measuring professionalism: a review of studies with instruments reported in the literature between 1982 and 2002. *Academic Medicine, 80*, 366–370.

Viswesvaran, C., & Ones, D. S. (1999). Meta-analyses of fakability estimates: Implications for personality measurement. *Educational and psychological measurement*, *59*, 197–210.

Weekley, J. A., Ployhart, R. E., & Harold, C. M. (2004). Personality and Situational Judgment Tests Across Applicant and Incumbent Settings: An Examination of Validity, Measurement, and Subgroup Differences. *Human Performance*, *17*, 433–461.

West, S. G., Biesanz, J. C., & Pitts, S. C. (2000). Causal inference and generalization in field settings: Experimental and quasi-experimental designs. *Handbook of research methods in social and personality psychology*, 40–84.

Whetzel, D. L., McDaniel, M. A., & Nguyen, N. T. (2008). Subgroup Differences in Situational Judgment Test Performance: A Meta-Analysis. *Human Performance*, *21*, 291–309.

Whitener, E. M. (1989). A Meta-Analytic Review of the Effect on Learning of the Interaction Between Prior Achievement and Instructional Support. *Review of Educational Research*, *59*, 65–86.

Wilkinson, T. J., Wade, W. B., & Knock, L. D. (2009). A blueprint to assess professionalism: results of a systematic review. *Academic Medicine, 84*, 551–558.

Williams, J. B., McDonough, M. A., Hilliard, M. W., Williams, A. L., Cuniowski, P. C., & Gonzalez, M. G. (2009). Intermethod Reliability of Real-time Versus Delayed

Videotaped Evaluation of a High-fidelity Medical Simulation Septic Shock Scenario. *Academic Emergency Medicine, 16,* 887–893.

Wynia, M. K. (2008). The short history and tenuous future of medical professionalism: the erosion of medicine's social contract. *Perspectives in Biology and Medicine, 51,* 565–578.

Zickar, M. J. (2000). Modeling faking on personality tests. Retrieved from http://psycnet.apa.org/books/10375/005

Table 1

Qualitative feedback on the training intervention

Theme	Comment
SJT critiques	• Too many options for responses. Some outlier responses were obvious that you should not pick them. Disliked having to rate each situation twice (theoretically what is more professional versus what we would actually do). • The situations and answers were not entirely realistic and not designed for variation in practice specialties. • It was frustrating to see that the situations were ranked by academic faculty and not by residents who have different perspectives of the situations. For example, in many situations if I were to tell my attending that I felt I needed to hand off my pager so I could take a nap because I felt I was too tired to do my work, they would not feel that is an appropriate response and it would reflect poorly on their judgment of my clinical abilities. I agree that in theory many of the responses were correct but we were supposed to answer how we would in actual clinical practice. Unfortunately our work environment is still hierarchical and difficult for a resident to stand up for their own needs. • I thought that watching the scenarios was not helpful and took much longer than just reading the scenario. I thought the scenarios were interesting to think about and definitely consider, but it would have been much easier to just read the scenarios.
Trouble completing exercise	• I didn't complete the scenario evaluation correctly. I only selected one answer for each question. • It was hard to access the results report. Many of us didn't realize what the email was and deleted it. • Took so long to do all of this stuff, which Makes me less motivated to do anything • Very confusing and disorganized.
Unable to attend debrief	• Difficult to assess the effect of this, as I was not able to make it to the debrief due to scheduled residency conflict. Perhaps there should be info given out to us if not able to make it to the debrief. • was not able to attend the group debriefing d/t being on call. Maybe it would've helped I don't know. The scenarios themselves -- there are so many details which influence decision making that are not in them. Depending on context and relationship with other residents/staff/faculty I might have decided differently.

	• I was unable to attend the feedback session, so I do not feel like I learned from the exercise. • To explain the answers above, I was off service at the time of the debrief session.
Lacking feedback	• I don't remember getting any feedback. I did not go to any group session • I have a vague memory of an online situational judgement exercise, but have no recollection of getting feedback.
Training critiques	• Professionalism as an art is a complex qualitative phenomenon. We are trying to quantify it with this exercise. The discussions are useful, but only by following and emulating physician role models with "good" and "quality" professionalism skills can we learn how to do this ourselves. • I just don't think you can teach professionalism to all but the most ignorant residents using an online training module followed by a formal discussion section. / / For one, I'm afraid many residents aren't going to be enthusiastic about devoting an hour to discussing hypothetical "professionalism" scenarios--the reality is that there's just too much else to learn and do as a resident! / / But more importantly, I guess I feel that professionalism is best learned in an *informal* way: through role modeling by faculty and ancillary staff; through one-on-one feedback to residents following real-life experiences; through the slow process of growing up and becoming a mature human. / / To me, an individual is "professional" if they act in a mature, thoughtful, and kind way, AND have the necessary (professional/setting-specific) experience to understand the potential outcomes of a given situation. Thus, new doctors become "professional" as they mature emotionally and grow in self-knowledge, and as they gain experience in medicine and in working with others. / / I certainly understand the rationale underlying the program's desire to *formally* address professionalism. But we don't try to formally teach people to *mature* -- we expect that maturity comes with time and with thoughtful engagement with one's life and work. The process is, by definition, inefficient, and improvement is hard to measure. • I think a lot of this material was covered during my training in medical school and is redundant in residency

	• This could be improved by having designated time set aside from clinical duties to complete this exercise. I was not motivated to spend a great deal of time or thought on the scenarios as I was rushing to complete this on a day off. • The scenarios were helpful for group discussion - but everyone agreed that our real life actions would be different. Professionalism involves reading a room, being empathic, and working in a team approach - not being so rigid that you alienate your superiors and support staff. The term itself "professionalism" is condescending. Work ethic, motivation, and professional development are all better descriptions of our goals. Most residents have worked in many fields and had several jobs - our profession is as important as any other. • I felt the feedback and discussion session was more useful than filling out the online portion, but both were good. Thank you!
Specialty critiques	• For radiology I think we'd need more relevant professionalism scenarios to make this more valuable. It was a lot of "oh I remember from intern year when..." • The scenarios were little relevant to Pathology. • The situations provided in the exercise had little to do with the world of pathology and more to do with the day to day activities of someone who works directly with patients. Therefore, at least in regards to pathology, I question the instrument's accuracy. / / Also, you should question the results of the study as a whole. Most residents have excessive amounts of work to do. What is the likelihood that the subjects gave good thought to the exercise instead of breezing through it because it was time consuming? Moreover, at the beginning, the instrument declared itself to be voluntary and yet I was explicitly told I must complete it. I would question the results. • Had to extrapolate a bit to consider how these scenarios could apply to a pathology resident where team dynamics and patient interactions are quite different.
Positive feedback	• Thank you for this opportunity. • I liked having the discussion because it emphasizes that everyone wants to be professional and it is important to reflect on your professionalism and where you and your group can improve. I am of the opinion that

	professional habits cannot change just through a survey and feedback. I did enjoy having a formal conversation though. More effective than a professionalism lecture.

Table 2
CFA Model Fit Indices

		A priori model 1	A priori model 2	Null Model
Absolute				
	SRMR	0.094	00.095	0.091
Parsimonious				
	RMSEA	0.056	0.055	0.057
	AIC	68346.689	68319.876	68592.295
Incremental				
	TLI	0.329	0.334	0.286
	CFI	0.345	0.349	0.300

Note: A priori model 1 is the rationale sort (see Figure 1), A priori model 2 is sorting at the item level into the same 7 competencies (see Figure 2), Null model is all item options load onto one factor.

Table 3

7 Factor EFA solution compared with the rationale sort solution

Item Option	F1	F2	F3	F4	F5	F6	F7	Comp
101_A	0.20							A
113_B	0.27							A
101_C	0.36							A
101_D	0.40							A
102_A	0.31							AE
108_C	0.20							AE
109_F	0.27							AE
103_A	0.68							C
103_F	0.40							C
111_C	0.30							I
111_D	0.46							I
104_C	0.78							I
104_E	0.58							I
104_F	0.24							I
103_C	0.58							PC
112_A	0.34							ST
112_C	0.23							ST
105_A	0.30							T
105_C	0.57							T
105_G	0.55							T
106_C	0.50							T
106_E	0.42							T
106_G	0.50							T
107_B	0.39							T
107_E	0.59							T
102_E		0.26						A
113_A		0.24						A
108_D		0.26						AE
103_E		0.38						C
111_B		0.32						I
111_E		0.27						I
109_B		0.26						I
103_D		0.27						PC
103_G		0.26						PC
110_C		0.37						PC
110_E		0.34						PC
114_A		0.49						ST
114_B		0.32						ST
114_C		0.25						ST
114_G		0.34						ST
112_B		0.42						ST
112_D		0.38						ST
105_D		0.34						T

105_E	0.26				T
106_B	0.37				T
106_F	0.43				T
107_A	0.20				T
107_D	0.64				T
113_D		0.21			A
113_E		0.29			A
108_G		0.48			AE
115_E		0.47			C
111_A		0.32			I
109_G		0.48			I
114_F		0.23			ST
106_D		0.38			T
107_C		0.33			T
108_A			0.21		AE
115_A			0.65		C
115_C			0.74		C
115_D			0.54		C
115_F			0.37		C
109_A			0.39		I
109_C			0.30		I
109_D			0.47		I
111_G				0.20	I
101_F				0.32	A
101_G				0.37	A
102_B				0.40	AE
102_C				0.39	AE
102_G				0.24	AE
108_B				0.31	AE
103_B				0.28	C
104_A				0.30	I
104_D				0.49	I
104_G				0.26	I
109_E				0.24	I
114_E				0.26	ST
105_B				0.52	T
107_F				0.34	T
113_C					0.21 A
101_B					0.19 A
101_E					0.36 A
102_D					0.24 AE
115_G					0.32 C
110_A					0.40 PC
110_B					0.32 PC
110_D					0.45 PC
110_F					0.32 PC

110_G	0.29		PC
115_B	0.34		T
113_F		0.35	A
113_G		0.27	A
102_F		0.27	AE
108_E		0.25	AE
108_F		0.30	AE
111_F		0.31	I
104_B		0.20	I
114_D		0.29	ST
112_E		0.36	ST
112_F		0.24	ST
112_G		0.49	ST
105_F		0.34	T
106_A		0.40	T
107_G		0.43	T

Note: Standardized loadings for EFA extracting 7 factors using direct oblimin rotation. N=237. Competencies abbreviated in table: A (Accountability), AE (Aspiring to Excellence), C (Conscientiousness), I (Integrity), PC (Patient- Centered Care), ST (Stress Tolerance), T (Teamwork). Table is sorted by factor and then by competency.

Table 4

3 Factor EFA solution compared with effectiveness ratings

Item Option	Factor 1	Factor 2	Factor 3	Effectiveness	Comp
103_A	0.56			1	C
103_C	0.52			1	PC
104_C	0.76			1	I
104_E	0.62			1	I
101_E	0.3			1	A
106_C	0.56			1	T
102_A	0.33			1.5	AE
115_A	0.43			2	C
115_C	0.29			2	C
115_F	0.46			2	C
103_F	0.34			2	C
108_A	0.25			2	AE
108_C	0.31			2	AE
111_C	0.34			2	I
111_D	0.55			2	I
109_A	0.56			2	I
109_C	0.5			2	I
109_D	0.45			2	I
113_F	0.47			2	A
101_C	0.41			2	A
101_D	0.4			2	A
105_A	0.49			2	T
105_C	0.64			2	T
105_G	0.57			2	T
106_E	0.5			2	T
106_G	0.46			2	T
107_B	0.47			2	T
107_E	0.56			2	T
110_B	0.28			2	PC
112_A	0.51			2	ST
104_F	0.2			3	I
102_G	0.19			6	AE
108_B	0.34			6	AE
113_B	0.22			6	A
101_F	0.22			6	A
115_D		0.19		3	C
103_E		0.29		3	C
111_B		0.19		3	I
111_E		0.21		3	I
109_B		0.43		3	I
113_A		0.27		3	A
101_A		0.22		3	A
114_C		0.31		3	ST

112_B	0.28		3	ST
112_E	0.48		3	ST
112_G	0.44		3	ST
103_G	0.29		3.5	PC
113_G	0.39		3.5	A
106_B	0.33		3.5	T
114_A	0.51		3.5	ST
103_D	0.33		4	PC
102_D	0.25		4	AE
108_F	0.21		4	AE
101_B	0.1		4	A
105_D	0.35		4	T
105_E	0.31		4	T
106_A	0.29		4	T
107_D	0.48		4	T
110_E	0.45		4	PC
114_G	0.48		4	ST
112_D	0.46		4	ST
107_G	0.45		4.5	T
114_B	0.44		4.5	ST
115_B	0.36		5	T
102_E	0.28		5	A
108_D	0.36		5	AE
108_E	0.27		5	AE
111_F	0.47		5	I
111_G	0.41		5	I
113_C	0.41		5	A
105_F	0.41		5	T
106_F	0.47		5	T
107_A	0.22		5	T
110_A	0.28		5	PC
110_C	0.44		5	PC
110_F	0.37		5	PC
114_D	0.41		5	ST
104_B	0.22		5.5	I
113_E	0.35		5.5	A
112_F	0.37		5.5	ST
115_G	0.15		6	C
104_A	0.25		6	I
109_E	0.27		6	I
107_F	0.21		6	T
110_G	0.23		6	PC
114_E	0.32		6	ST
114_F	0.18		6	ST
115_E		0.18	6	C
102_B		0.23	6	AE

102_C	0.19	6	AE
102_F	0.17	6	AE
111_A	0.38	6	I
104_D	0.27	6	I
109_F	0.36	6	AE
113_D	0.27	6	A
101_G	0.15	6	A
105_B	0.29	6	T
107_C	0.23	6	T
110_D	0.22	6	PC
112_C	0.26	6	ST
104_G	0.27	6.5	I
103_B	0.43	7	C
108_G	0.37	7	AE
109_G	0.48	7	I
106_D	0.38	7	T

Note: Standardized loadings for EFA extracting 3 factors using direct oblimin rotation. N=237. Competencies abbreviated in table: A (Accountability), AE (Aspiring to Excellence), C (Conscientiousness), I (Integrity), PC (Patient- Centered Care), ST (Stress Tolerance), T (Teamwork). Effectiveness= Faculty Effectiveness Rating (higher ratings = higher effectiveness). Table is sorted by factor and then by effectiveness rating.

Table 5
Reliability for the SJT scales

Scale	Alpha	N	Inter-item correlation
Overall SJT	0.80	105	0.04
Conscientiousness	0.58	10	0.12
Aspiring to Excellence	0.18	14	0.02
Integrity	0.51	20	0.05
Accountability	0.35	15	0.03
Teamwork	0.44	22	0.03
Patient-Centered Care	0.24	10	0.03
Stress Tolerance	0.57	14	0.09
Low Effectiveness	0.83	35	0.12
Medium Effectiveness	0.85	52	0.10
High Effectiveness	0.63	18	0.09

Note: Rational sort scales include: 1) Conscientiousness, 2) Aspiring to Excellence, 3) Integrity, 4) Accountability, 5) Teamwork, 6) Patient-Centered Care, 7) Stress Tolerance. Empirically derived method factors include: 1) Low Effectiveness, 2) Medium Effectiveness, 3) High Effectiveness.

Table 6

Correlation Results for SJT scale scores

	SJT	Low	Med	High	A	AE	C	I	PC	ST	T
SJT	1	0.50	0.68	0.42	0.67	0.58	0.53	0.64	0.56	0.62	0.73
Low	0.50	1	-0.20	0.27	0.29	0.40	0.49	0.50	0.12	-0.04	0.41
Med	0.68	-0.20	1	0.02	0.50	0.31	0.07	0.34	0.49	0.80	0.56
High	0.42	0.27	0.02	1	0.28	0.22	0.26	0.46	0.11	0.18	0.39
A	0.67	0.29	0.50	0.28	1	0.32	0.13	0.35	0.40	0.42	0.47
AE	0.58	0.40	0.31	0.22	0.32	1	0.28	0.39	0.12	0.22	0.40
C	0.53	0.49	0.07	0.26	0.13	0.28	1	0.20	0.05	0.02	0.26
I	0.64	0.50	0.34	0.46	0.35	0.39	0.20	1	0.23	0.34	0.47
PC	0.56	0.12	0.49	0.11	0.40	0.12	0.05	0.23	1	0.31	0.35
ST	0.62	-0.04	0.80	0.18	0.42	0.22	0.02	0.34	0.31	1	0.46
T	0.73	0.41	0.56	0.39	0.47	0.40	0.26	0.47	0.35	0.46	1

Note: Correlation coefficients based on N=180 participants in the experimental condition who completed the SJT. SJT= Overall score from the SJT; Low= SJT low effectiveness composite, Med= SJT medium effectiveness composite, High= SJT high effectiveness composite, A =Accountability; AE =Aspiring to Excellence; C =Conscientiousness; I =Integrity; PC = Patient- Centered Care; ST =Stress Tolerance; T =Teamwork

Table 7

Correlation Results for SJT scores and Performance Criteria

	SJT	Low	Med	High	A	AE	C	I	PC	ST	T
360T2	0.16*	0.10	0.11	0.06	-0.04	0.14	0.09	0.15	0.10	0.15	0.10
360T3	0.19*	0.19*	0.03	0.14	-0.09	0.18*	0.20*	0.11	0.05	0.12	0.13
Avoid CWB	0.04	0.05	-0.04	0.05	0.03	0.06	0.16	-0.01	0.02	-0.14	-0.03
Milestone Composite	0.13*	-0.03	0.13*	0.04	0.04	0.02	0.11	-0.03	0.04	0.16	0.10
Professionalism Performance	0.14*	0.01	0.12	0.05	0.05	0.03	0.13	-0.01	0.03	0.15	0.11
ICS Performance	0.14*	-0.02	0.13*	0.07	0.06	0.00	0.11	-0.04	0.07	0.18	0.13
Professionalism Knowledge	0.27*	0.27*	0.16*	0.12	0.17	0.22	0.08	0.32	0.04	0.20	0.27
Professionalism Self-Identity	0.08	0.19*	-0.13*	0.15*	0.06	0.13	0.13	0.08	-0.02	-0.04	-0.01

Note: Correlation coefficients based on N=180 participants in the experimental condition who completed the SJT. SJT= Overall score from the SJT; Low= SJT low effectiveness composite, Med= SJT medium effectiveness composite, High= SJT high effectiveness composite; A =Accountability; AE =Aspiring to Excellence; C =Conscientiousness; I =Integrity; PC = Patient- Centered Care; ST =Stress Tolerance; T =Teamwork; 360T2= other's ratings of performance at time 2 measured via 360; 360T3= other's ratings of performance at time 3 measured via 360 (N=113) ; *= $p < .05$ one-tailed test

Table 8

One-tailed T-test Results for Post-Training Performance

	Received Training		Control Group			
	Mean	SD	Mean	SD	t-value	p-value
360T2*	4.72	0.40	4.55	0.52	2.64	0.00
360T3*	4.67	0.39	4.54	0.47	1.73	0.04
Avoid CWB*	14.43	2.39	13.27	2.39	3.35	0.00
Milestone Composite	4.89	1.92	5.74	1.38	-3.87	0.99
Professionalism Performance	5.11	2.11	6.07	1.54	-3.95	0.99
ICS Performance	5.00	2.01	6.01	1.50	-4.25	0.99
Professionalism Knowledge	83.68	4.78	84.18	5.01	-0.71	0.76
Professionalism Self-Identity	4.43	0.62	4.38	0.44	0.70	0.24

Note: Received training is defined as those in the experimental condition who completed the SJT and attended the debriefing session. All data was collected at time two aside from the 360 collected at time 3. N ranges from 94 to 127 for received training group and 94 to 114 for control group. Time 3 360 N's are 74 received training, 63 control group. *= significant at $p < .05$

Table 9

Regression Results for Post-Training Performance: All Participants

	360T2	360T3	Avoid CWB	Milestone Composite	Professionalism Performance	ICS Performance	Professionalism Knowledge	Professionalism Self-identity
Baseline	0.79*	0.50*	0.58*	0.77*	0.74*	0.66*	0.20*	0.37*
Group	1.54*	-0.12	0.10	-0.31*	-0.28*	-0.45*	-2.15	-0.97*
Baseline*Group	-1.42*	0.23	-0.03	0.28*	0.26*	0.44*	2.12	0.97
Model 1 r^2	0.33*	0.26*	0.35*	0.83*	0.77*	0.77*	0.12*	0.27*
Model 2 Δr^2	0.02*	0.01	0.01	0.00*	0.00	0.01*	0.00	0.00
Model 3 Δr^2	0.02*	0.01	0.00	0.01*	0.01*	0.02*	0.01	0.01*

Note: Includes data from all participants in the control group and all participants in the experimental group, regardless of whether they completed the training. Standardized regression coefficients. Model 1 = baseline measurements. Model 2 = baseline measurements and group (0= control group [N=118], 1= experimental group [N=198]). For 360T3 measured at time 3 (no training [N=63], training [N=124]). *= significant at $p < 0.05$.

Table 10

Regression Results for Post-Training Performance: Trained Participants

	360T2	360T3	Avoid CWB	Milestone Composite	Professionalism Performance	ICS Performance	Professionalism Knowledge	Professionalism Self-identity
Constant	4.51*	4.55*	13.77*	5.52*	5.73*	5.77*	83.92*	4.40*
Baseline	0.38*	0.29*	1.41*	1.24*	1.35*	1.21*	1.06	0.21*
Group	0.12*	0.10	0.32	-0.33*	-0.28*	-0.43*	-0.03	0.01
Baseline*Group	-1.10	-0.15	0.21	0.44*	0.42*	0.61*	1.35	0.15*
Model 1 r^2	0.37*	0.21*	0.37*	0.83*	0.79*	0.77*	0.10*	0.27*
Model 2 Δr^2	0.01	0.01	0.00	0.01*	0.00*	0.01*	0.00	0.00
Model 3 Δr^2	0.01	0.02	0.00	0.02*	0.01*	0.03*	0.02	0.02*

Note: Includes all data from all participants in the control group and participants in the experimental group who completed the SJT and attended the debriefing session. Unstandardized regression coefficients. Model 1 = baseline measurements. Model 2 = baseline measurements and group (0= no training [N=118], 1= training [N=127]) For 360T3 measured at time 3 (no training [N=63], training [N=74]). Trained group includes participants who completed the SJT and attended the debriefing session. *= significant at $p < 0.05$.

Table 11

Regression Results for Post-Training Performance: Fully Trained Participants

	360T2	360T3	Avoid CWB	Milestone Composite	Professionalism Performance	ICS Performance	Professionalism Knowledge	Professionalism Self-identity
Baseline	0.64*	0.54*	0.54*	0.76*	0.75*	0.67*	0.21*	0.44*
Group	0.14	-0.03	0.15	-0.46*	-0.39*	-0.58*	-1.00	-0.66
Baseline*Group	-0.06	0.05	-0.02	0.34*	0.29*	0.44*	1.04	0.75
Model 1 r^2	0.42*	0.29*	0.32*	0.80*	0.75*	0.71*	0.06*	0.25*
Model 2 Δr^2	0.01	0.00	0.02	0.02*	0.02*	0.03*	0.00	0.01
Model 3 Δr^2	0.00	0.00	0.00	0.02*	0.01*	0.03*	0.00	0.01

Note: Includes all data from all participants in the control group and participants in the experimental group who completed the SJT, attended the debriefing session, and completed the goal setting exercise. Standardized regression coefficients. Model 1 = baseline measurements. Model 2 = baseline measurements and group (0= no training [N=118], 1= training [N=53]). For 360T3 measured at time 3 (no training [N=63], training [N=33]). Trained group includes only participants in the experimental condition who completed the SJT, attended the debriefing session, and completed the goal setting handout. *= significant at $p < 0.05$.

Table 12
Two-Tailed T-Test Results for Baseline Performance

	Received Training		Control Group			
	Mean	SD	Mean	SD	t-value	p-value
360T1	4.53	0.50	4.57	0.41	-0.52	0.61
Avoid CWB*	13.46	2.79	12.43	2.70	3.05	0.00
Milestone Composite*	4.33	1.92	4.88	1.80	-2.47	0.01
Professionalism Performance*	4.55	2.06	5.41	1.92	-3.56	0.00
ICS Performance*	4.55	2.07	5.25	1.98	-2.86	0.00
Professionalism Knowledge	83.60	4.27	84.39	5.47	-1.37	0.17
Professionalism Self-Identity	4.38	0.51	4.31	0.52	1.17	0.24

Note: Analyses based on baseline data for the full sample of participants. N ranges from 176 to 190 for the experimental group and 94 to 111 for the control group. * = significant at $p < 0.05$

Table 13

Two-Tailed T-Test Results for Baseline Measures of Individual Differences

	Received Training		Control Group			
	Mean	SD	Mean	SD	t-value	p-value
Gender	0.52	0.50	0.45	0.50	1.12	0.26
Type of Program*	0.11	0.31	0.03	0.18	2.31	0.02
Age	31.45	4.21	30.70	4.44	1.42	0.16
Cognitive Ability	31.20	3.67	30.80	3.71	0.76	0.45
Extraversion	3.34	0.78	3.23	0.95	1.14	0.26
Agreeableness	4.08	0.56	4.20	0.55	-1.78	0.07
Conscientiousness	4.11	0.56	4.06	0.52	0.88	0.38
Emotional Stability	3.51	0.77	3.54	0.74	-0.35	0.73
Openness	3.61	0.58	3.60	0.67	0.15	0.88
Self-Efficacy	6.14	0.83	6.21	0.61	-0.73	0.47
Motivation to Learn	5.64	1.15	5.79	1.12	-1.06	0.29

Note: Gender (0= Female, 1= Male); Type of Program (0= Residency, 1= Fellowship); Cognitive Ability = MCAT scores where higher scores are better; N's range from 132 to195 for the experimental group and 74 to 104 for the control group. *= significant at $p < 0.05$

Table 14
Regression Results for Post-Training Performance: Possible ATIs

	360T2	360T3	Avoid CWB	All Perf.	Prof. Perf.	ICS Perf.	Prof. Know.	Prof. Self-identity
Baseline Measure	0.65*	0.57*	0.54*	0.90*	0.90*	0.82*	0.21*	0.51*
Group	-2.42	1.92	-0.68	-1.44	-1.76*	-2.01*	0.88	0.93
Race	-0.10	0.10	0.12	0.01	0.06	0.06	0.15	0.20
Gender	0.10	-0.01	0.07	0.06	0.15*	0.03	-0.38*	-0.11
Program	0.02	0.20	-0.04	-0.03	-0.11	-0.11	-0.19	-0.08
Type of Program	0.26*	NA	-0.19	-0.05	-0.01	-0.02	0.11	0.06
Age	0.06	0.02	-0.15	-0.05	-0.06	-0.05	-0.07	0.08
Cognitive Ability	-0.07	-0.08	-0.11	-0.04	-0.11	-0.10	0.26*	-0.01
Extraversion	0.04	-0.08	-0.11	0.04	-0.02	0.01	-0.17	0.01
Agreeableness	-0.02	-0.21	-0.15	0.08	0.14	0.05	0.01	-0.12
Conscientiousness	-0.14	0.02	0.02	-0.11	-0.11	-0.10	0.17	-0.05
Emotional Stability	0.08	0.19	0.09	0.01	-0.05	0.07	0.09	0.17
Openness	-0.33*	-0.20	0.17	-0.06	-0.04	-0.06	0.21	0.04
Self-efficacy	0.05	0.31*	0.32*	0.06	0.06	0.01	-0.05	0.59*
Race* Group	0.10	-0.16	-0.22	-0.10	0.09	-0.16	-0.14	-0.09
Gender*Group	-0.19	-0.19	0.13	-0.08	-0.11	-0.04	0.13	0.24
Program* Group	0.04	-0.25	0.49*	0.07	0.19	0.14	0.21	-0.11
Pgm Type* Group	-0.15	NA	0.33*	0.08	-0.00	0.03	-0.23	-0.03
Age* Group	0.34	-0.71	0.26	0.63	0.60	0.73	0.41	-1.15
CA* Group	1.26	-0.14	0.89	0.48	0.70	0.60	-0.88	1.66*
Ex* Group	0.20	0.28	0.18	0.01	0.24	-0.07	0.17	0.05
A* Group	0.15	0.61	1.70	-0.18	-0.20	-0.19	-0.63	0.61
C* Group	0.55	0.04	-0.08	0.59	0.58	0.73	-0.66	1.02
ES* Group	-0.17	-0.18	-0.28	-0.04	0.05	-0.11	0.17	-0.74
O* Group	0.87	0.43	-0.35	0.11	0.02	-0.03	-1.14	-0.24
SE* Group	-0.60	-1.78	-1.92*	-0.17	-0.26	0.26	1.49	-2.01*
Model 1 r^2	0.44*	0.40*	0.36*	0.83*	0.79*	0.72*	0.10*	0.22*
Model 2 Δr^2	0.01	0.00	0.00	0.02*	0.01*	0.03*	0.00	0.00
Model 3 Δr^2	0.07	0.08	0.06	0.01	0.02	0.02	0.14	0.17*
Model 4 Δr^2	0.06	0.10	0.11	0.02	0.02	0.02	0.09	0.12

Note: Standardized regression coefficients from Model 4. Model 1 = baseline measurements. Model 2 = baseline measurements and group (0= no training, 1= training). Model 3= baseline measurement, group, race, gender, program, type of program, age, Cognitive Ability [CA], Extraversion [Ex], Agreeableness [A], Conscientiousness [C], Emotional Stability [ES], Openness [O], self-efficacy (measured post-treatment) [SE]. Model 4 = baseline measurement, group, race, gender, program, type of program, age, Cognitive Ability, Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness, self-efficacy (measured post-treatment), race*group, gender*group, program*group, type of program*group, age*group, Cognitive Ability*group, Extraversion*group, Agreeableness*group, Conscientiousness*group, Emotional Stability*group, Openness*group, self-efficacy (measured post-treatment) *group. *= significant at $p < 0.05$. Cognitive ability is measured by groups' average MCAT score. All Perf. = Milestone Composite

Table 15

Follow Up Regression Results for Professionalism Self-Identity

	Prof. Self-identity
Baseline Measure	0.53*
Group	0.51
Race	0.14
Gender	0.00
Program	-0.12
Type of Program	0.08
Age	-0.04
Cognitive Ability	-0.01
Extraversion	0.02
Agreeableness	-0.06
Conscientiousness	0.04
Emotional Stability	0.01
Openness	0.01
Self-efficacy	0.59*
CA* Group	1.52*
SE* Group	-1.91*
Model 1 r^2	0.22*
Model 2 Δr^2	0.00
Model 3 Δr^2	0.17*
Model 4 Δr^2	0.07*

Note: Standardized regression coefficients from Model 4. Model 1 = baseline measurements. Model 2 = baseline measurements and group (0= no training, 1= training). Model 3= baseline measurement, group, race, gender, program, type of program, age, cognitive ability, Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness, self-efficacy (measured post-treatment) [SE]. Model 4 = baseline measurement, group, race, gender, type of program, age, cognitive ability, Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness, self-efficacy (measured post-treatment), Cognitive Ability [CA]*group, self-efficacy (measured post-treatment) *group. *= significant at $p < 0.05$. Cognitive ability is measured by groups' average MCAT score.

Figure 1
A priori SJT model 1

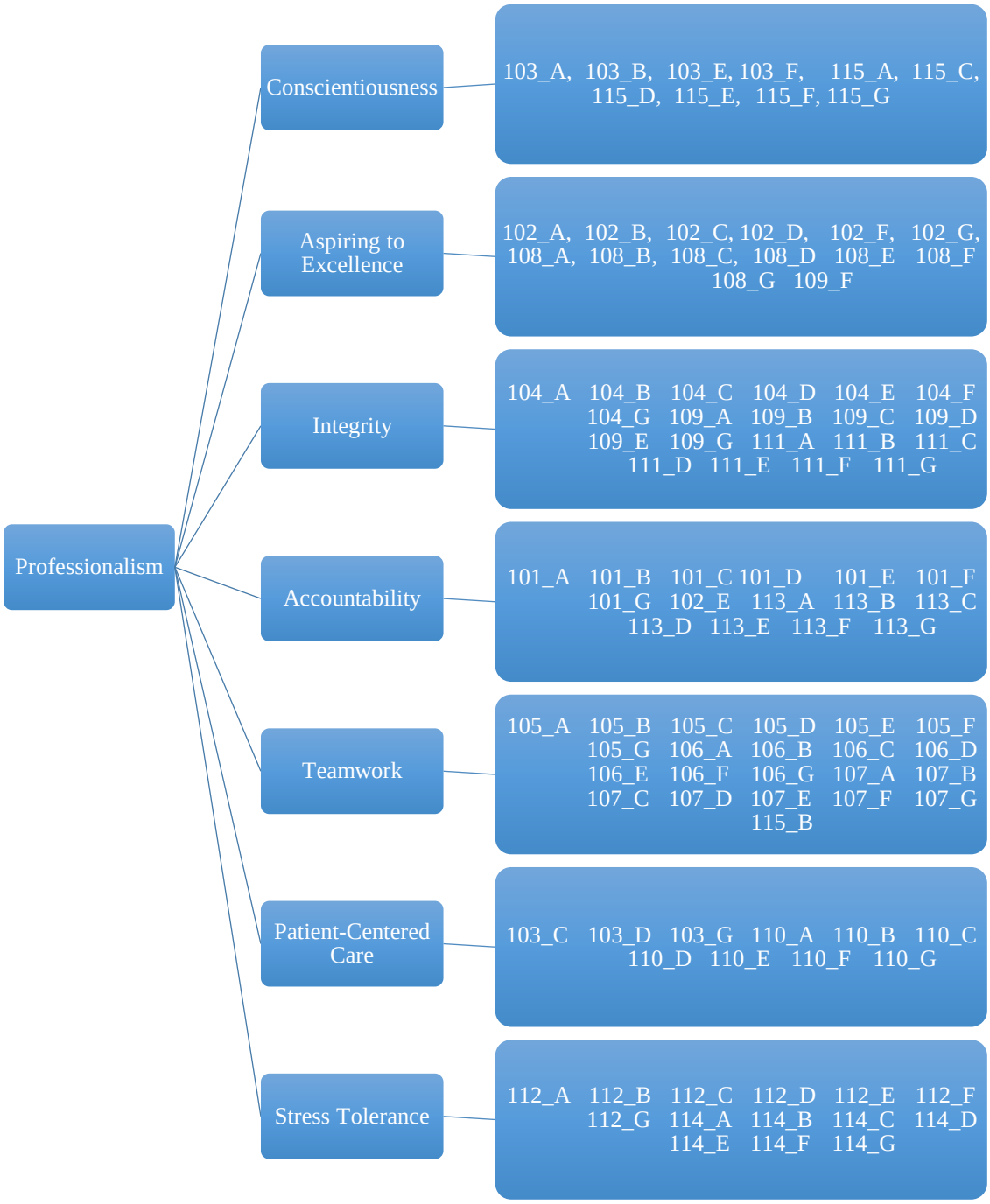


Figure 2
A priori SJT model 2

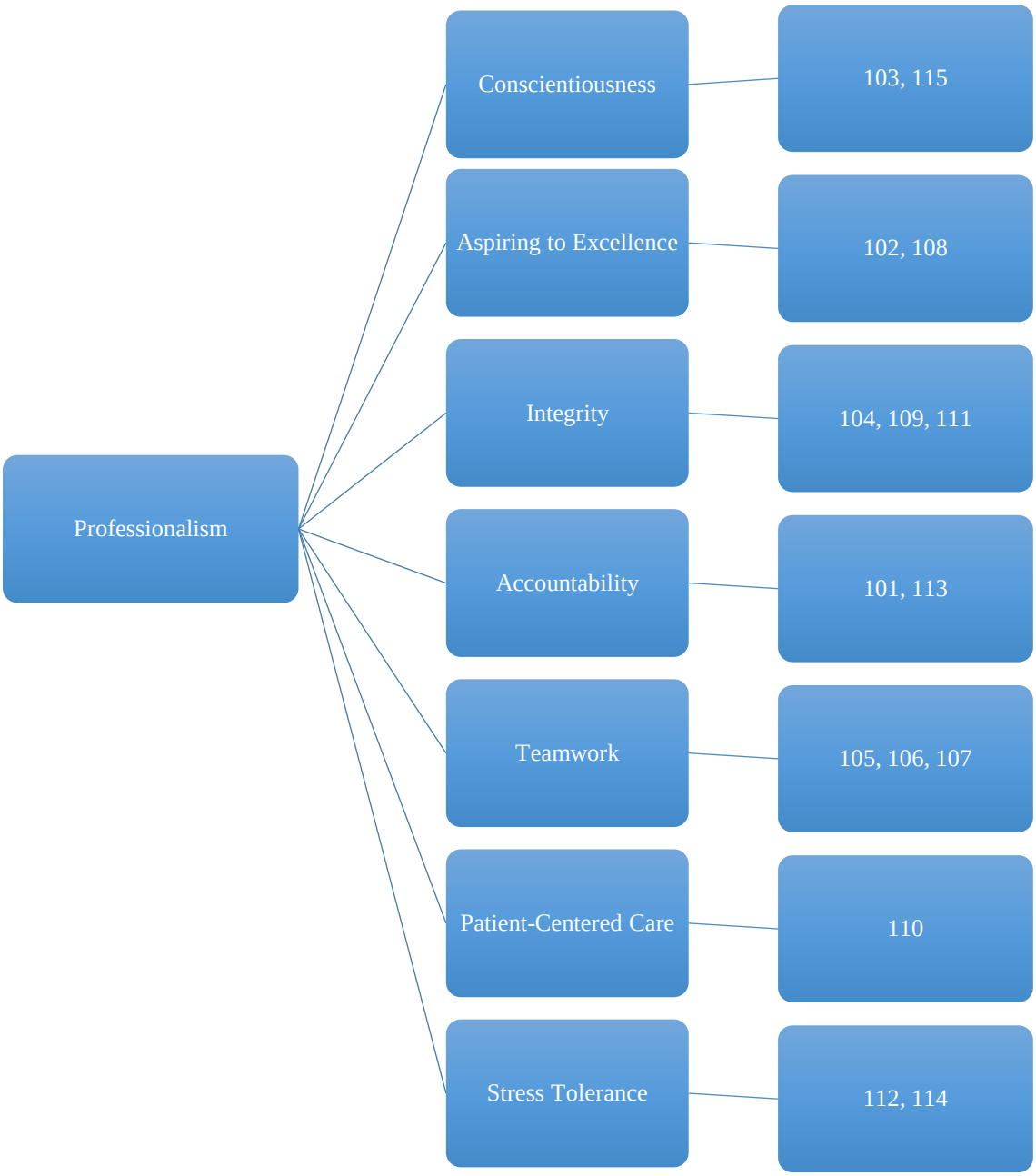


Figure 3
Interaction graph of group by time for the milestone composite

Figure 4

Interaction graph of group by time for professionalism performance

Figure 5

Interaction graph of group by time for interpersonal communication skill performance

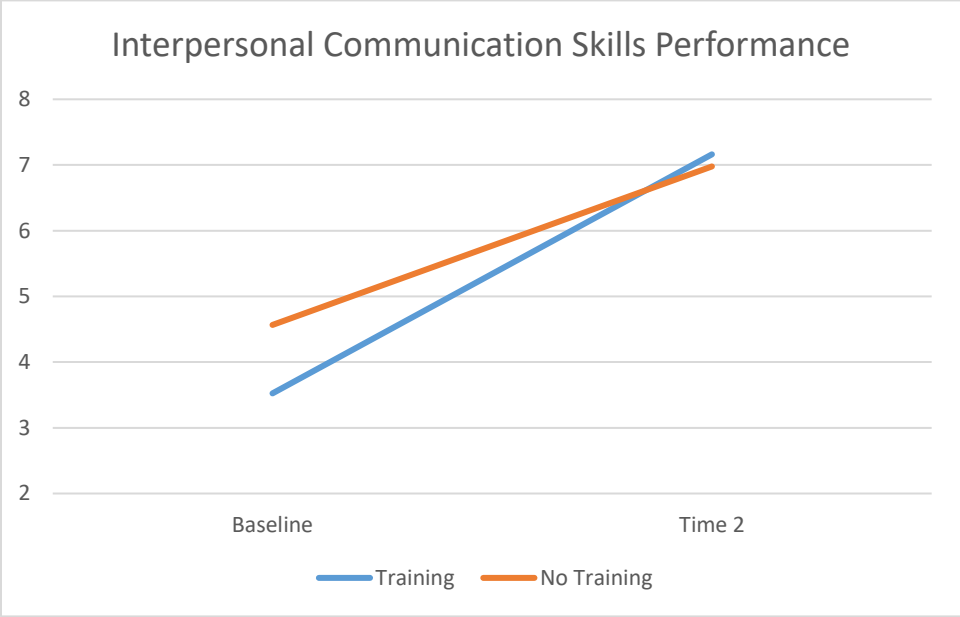


Figure 6
Interaction graph of group by time for professionalism self-identity

Appendix A
Professionalism Competency Model

Institutional Professionalism Competencies and Definitions	
Competency	Competency Definition
Conscientiousness: Demonstrating a high degree of reliability by following through on commitments, approaching work in a methodical manner, and completing work tasks thoroughly and systematically; displaying high standards of attendance, punctuality, enthusiasm, and vitality in approaching and completing tasks.	
Dependability	Being reliable and responsible; following through on commitments.
Planning/Organizing	Approaching work in a methodical manner; planning and scheduling work tasks so that work is completed on time; determining priorities and allocating time and resources effectively.
Thoroughness	Meticulously keeping track of details; completing work thoroughly and systematically; being exacting, precise and accurate.
Aspiring to Excellence: Exerting a high level of effort and perseverance toward goal attainment; working hard to become excellent at doing tasks by setting high standards; setting goals for personal improvement; striving to continuously learn and share the products of that learning with others.	
Work Commitment	Pursuing work with energy, drive, and a strong accomplishment orientation; concentrating on work without becoming bored or distracted; setting high standards of personal competence; producing high quality work under time pressure or other stress.
Motivation to Learn	Demonstrating interest in learning new skills; continually engaging in self-directed learning to increase knowledge and skill base; seeking constructive feedback from others; sharing the products of learning with others.
Integrity: Showing consistency between principles and values, and behavior; choosing an ethical course of action and doing the right thing; being truthful and direct; maintaining confidentiality; remaining free from substance abuse; avoiding conflicts of interest; obeying health system and regulatory policies.	
Trustworthiness	Being truthful in all dealings with patients and interprofessional staff.

Institutional Professionalism Competencies and Definitions	
Competency	Competency Definition
Discretion	Respecting confidentiality of information; discussing sensitive subjects with tact and diplomacy.
Personal Conduct	Showing consistency between principles and values, and behavior; choosing an ethical course of action and doing the right thing; avoiding conflicts of interest; being free from substance abuse; refraining from abusing privileges or mismanaging organizational resources.
Organizational Citizenship	Obeying health system and regulatory policies and treating hospital and other property with care; displaying personal appearance and demeanor consistent with professional expectations.
Accountability: Accepting responsibility for individual and group performance; accepting the consequences of one's behavior; admitting mistakes and attempting to learn from mistakes.	
Personal Responsibility	Taking responsibility for one's actions and work and for those of one's team even when task ownership is not clearly defined; accepting the consequences of behavior; admitting mistakes and attempting to learn from feedback provided.
Self-Awareness	Accurately identifying own strengths, weaknesses, and personal limitations; taking action to address personal limitations; monitoring and attending to burnout/work-life balance issues; observing appropriate boundaries with patients.
Teamwork: Collaborating and coordinating with others to achieve work goals; showing concern for and providing assistance and support to others; interacting respectfully with others; creating a desire for team accomplishment.	
Cooperation	Working cooperatively with others to achieve goals; sharing own knowledge and expertise with others on the team; volunteering to help complete tasks; sharing ownership of tasks.
Respectful Interaction	Treating every person fairly and impartially irrespective of that person's role on the interprofessional team; remaining free from bias; being open-minded about alternatives and other points of view.

Institutional Professionalism Competencies and Definitions	
Competency	Competency Definition
Team Building	Communicating expectations to team members; creating trust, a feeling of belonging to a team, and a desire for team accomplishment by showing respect for and empowering others.
Patient-Centered Care: Understanding patients' needs and feelings and treating them with respect; focusing one's efforts on discovering and meeting patients' needs; handling challenging patient situations effectively; promoting and striving to create a workforce and environment that represents and values diversity of people and ideas.	
Compassion	Understanding patients' needs and feelings; having a genuine interest in patients and their welfare; patiently tolerating rudeness and anger and responding with tact and empathy.
Patient-Advocacy	Empowering and engaging patients and their families by including them in the decision making process; actively seeking ways to help patients and their families be part of the healthcare team by listening to them, asking questions, clearly communicating, and finding answers to their questions; paying attention to how patients are responding and changing approach if necessary.
Respect for Diversity	Understanding and showing respect and appreciation for the uniqueness of all individuals, cultures, and values; promoting a workforce that represents and values diversity of people and ideas.
Stress Tolerance: Effectively handling stressful situations and interactions, even when under time pressure; making effective decisions under time pressure.	
Situational Stress Tolerance	Thinking clearly and taking effective action in stressful or emergency situations; taking control of a stressful situation to calm others; successfully tolerating stressful circumstances; prioritizing effectively under stress.
Interpersonal Stress Tolerance	Maintaining situational awareness in order to recognize interpersonal conflict and one's impact on others. Demonstrating self-control, diplomacy, and tact when faced with conflict or confrontation.

Appendix B
Professionalism Critical Incident Worksheet

Professionalism Critical Incident Worksheet

Directions: In the rows below, write 6 critical incidents for any of the Professionalism Competency clusters listed below. Also, if possible, write 1-2 critical incidents related to interpersonal skill, and 1-2 related to communication skill. For each critical incident, describe the situation, action, and outcome. Note that we have added examples of critical incidents that are less and more useful in the first two rows.

Critical incidents could be events that actually happened, or hypothetical events. In either case, try to focus on incidents that:

1) Could occur across specialties
2) Are complex enough that there are no right or wrong answers, but rather more effective and less effective ways to deal with the situation, and
3) Are important in the sense that every student, resident, or fellow should know how to deal with the situation

Professionalism Competency Clusters:
Cluster 1: Conscientiousness: Dependability, Planning/Organizing, Thoroughness
Cluster 2: Aspiring to Excellence: Work Commitment, Motivation to Learn
Cluster 3: Integrity: Trustworthiness, Discretion, Personal Conduct, Organizational Citizenship
Cluster 4: Accountability: Personal Responsibility, Self-Awareness
Cluster 5: Teamwork: Cooperation, Respectful Interaction, Team Building
Cluster 6: Patient-Centered Care: Compassion, Patient-Advocacy, Respect for Diversity
Cluster 7: Stress Tolerance: Situational Stress Tolerance, Interpersonal Stress Tolerance

	What was the situation leading up to the event (Describe the context)?	***What did the individual (Resident) do?***	***What was the outcome or result of the individual's (Resident's) actions?***
EXAMPLE OF A CRITICAL INCIDENT THAT IS LESS USEFUL	*A patient became interested in a medical student following an examination.*	*The student told the patient he could not have a relationship with her.*	*The patient did not contact the medical student again.*
EXAMPLE OF A CRITICAL INCIDENT	*On call in the ER (Emergency Room), a male OB-GYN student was sent to*	*The student informed the patient that as a member of the*	*Though the patient was disappointed, she understood his stance on*

THAT IS MORE USEFUL	*evaluate a patient with pelvic pain. The patient was similar in age to the student. A History and Physical was done, including breast and pelvic exam. During the course of the H & P, the student asked the patient about her hobbies and interests and a five-minute friendly conversation about philosophy ensued. After the assessment was complete, the patient was ruled out for major pathology and sent home. A few days later, the patient contacted the student by looking him up, and made advances.*	*medical team providing her care, he could not begin any relationship with her except as a patient.*	*professional ethics and from that point on he did not hear from her.*
Professionalism Cluster	***What was the situation leading up to the event (Describe the context)?***	***What did the individual (Resident) do?***	**What was the outcome or result of the individual's (Resident's) actions?**
1			
2			
3			
4			
5			
6			
7			
Interpersonal Skill			
Interpersonal Skill			
Communication			
Communication			

Appendix C
SJT Scoring Exercise

University of Minnesota Medical School Residency and Fellowship Programs
Situational Judgment Test (SJT) Scoring Exercise

Rater Name: _____

Below you will find a list of scenarios from the situational judgment test. Each row contains a scenario, and potential responses. You will make two sets of ratings for each scenario, and a separate set of ratings for the scenario responses, as described below.

Scenario Ratings: Rating 1: Beside each **scenario**, you will see a set of appropriateness criteria, such as the scenario's sensitivity to various groups, fairness, realism, suitability for trainees, clarity, and generalizability to trainees in different programs. **Using the scale provided below, rate each scenario on the appropriateness criteria provided.** See the separate appropriateness criteria sheet for definitions of these criteria.

Appropriateness rating scale:
5 = to a very great extent
4 = to a great extent
3 = somewhat
2 = to a small extent
1 = to a very small extent

Scenario Ratings: Rating 2: After making the appropriateness ratings, **rate the overall quality of the scenario on a 1=low to 5=high scale**.

Response Ratings: Each scenario is followed by several possible responses. After each **response** is one cell for you to provide a rating of **how effective that response would be.** Record a rating from 1 to 7 in each cell that follows a response. Rate how effective each response would be to the scenario. Each rating should be made independently of the others. Therefore, it is possible to have several 1s, 3s or 7s (for instance) for each scenario.

Effectiveness rating scale:						
Highly ineffective		**Moderately effective**			**Highly effective**	
1	2	3	4	5	6	7

Other things to consider:

- The “you” in the scenario is the test taker, who is being spoken to by the people in each scenario and asked for advice. The test taker will be told to assume s/he is a mid-level resident.
- Unless otherwise told “you” (the test taker) are not involved in the situation/ patient care.
- We will make sure the final scenarios used are balanced by gender and race (i.e. male and female attendings). However, if you believe a certain race/ gender explicitly should be used or should not be used in one of these scenarios please make a note.

Fill in the highlighted sections below:
Yellow = scenario appropriateness ratings
Orange = scenario overall quality rating
Green= response effectiveness ratings

Item ID	*Scenario*	*Scenario Appropriateness* *5 = to a very great extent* *4 = to a great extent* *3 = somewhat* *2 = to a small extent* *1 = to a very small extent*	*Response*	*Your Rating* *7 = Highly Effective* *4 = Moderately Effective* *1= Highly Ineffective*
Aspiring to Excellence 201	**Scene Set-up:** Suzuki, an intern, approaches you in the cafeteria (she is visibly upset). **Suzuki:** I just met with our program director. Apparently some faculty members think I’m underperforming. One commented that I’m at the level of a fourth year medical student. Another commented that I hand off too many patient care decisions to the attending and faculty. I don’t agree with these comments. I hand off important patient care decisions to the attending because it is her job to supervise us and make sure we don’t make mistakes. What do you think I should do?	Sensitive to groups: _____ Fair: _____ Realistic: _____ Suitable for GME: _____ Suitable for UME: _____ Understandable: _____ Generalizable: _____	A. Advise Suzuki to make an appointment with these faculty members to discuss their concerns.	
			B. Advise Suzuki to write a formal response to these faculty members stating why she disagrees with their opinions.	
		Overall Quality of Scenario (1=low to 5=high) _____		
			C. Advise Suzuki to reflect on why she received this feedback.	
			D. Advise Suzuki to meet with the chief and ask for more feedback and guidance.	
			E. Advise Suzuki to seek more support from trusted colleagues.	
			F. Advise Suzuki to wait until her next review before taking any action.	

			G. Advise Suzuki to try and take more ownership of decisions.	
			H. Advise Suzuki to ask a trusted colleague to observe her and provide feedback.	
			I. Advise Suzuki to review all recent patient cases to identify ways in which she could have taken more ownership.	
			J. Advise Suzuki to seek constructive feedback from her peers and faculty with the intention of developing herself.	
			K. Advise Suzuki to embrace this feedback as an opportunity to improve.	
			L. Advise Suzuki to learn to adapt to this type of feedback while she is still an intern.	
			M. Offer to approach the faculty members directly to clarify why they think Suzuki is under-performing.	
			ADD NEW RESPONSE IF YOU WISH.	

Appendix D
SJT Construct Validation Template

Background: We are developing a situational judgment test (SJT) to develop professionalism in medical residents and fellows. The scenarios and responses in this exercise were developed from critical incidents written by experienced physicians. Although item writers were asked to create scenarios that tapped specific professionalism competencies (see the Item IDs on the Ratings sheet tab), we are interested in obtaining your judgments about which professionalism competencies are being measured **by the RESPONSES** to each situation.

Instructions: For each response, please rate how much **THAT RESPONSE** reflects each of the 7 professionalism competencies (i.e., conscientiousness, aspiring to excellence, integrity, accountability, teamwork, patient-centered care, and stress tolerance). It is possible that each response may measure more than one professionalism competency, to varying degrees. Please review the full competency model on the third tab to better understand the professionalism competencies (and associated facets) before you begin your ratings.

Rating Scale
7= Completely measures this competency
6= Mostly measures this competency
5= Largely measures this competency
4= Moderately measures this competency
3= Somewhat measures this competency
2= Slightly measures this competency
1= Does not measure this competency

Directions: Below you will find a list of scenarios that medical residents and fellows might encounter followed by potential responses to those scenarios. Scenarios in column B are followed by potential responses in column C, with each response appearing in a new row. Please assess the extent to which each response measures at least one part of the definition of each professionalism competency. For instance, when deciding whether a response measures the Conscientiousness competency, you should judge the extent to which that response measures at least one part of the Dependability, Planning/Organizing or Thoroughness facets associated with

Conscientiousness. **You are NOT rating the effectiveness of the response but rather which subcompetencies the response is related to (i.e. losing one's temper should be given a high rating for Stress Tolerance even though it is an ineffective way to respond).** Record a rating from 1 to 7 in each cell following a response. Note that the cells following each scenario are shaded as a reminder that you will not rate the scenario but will rate the responses.

			To what extent is this response relevant to <u>at least one</u> part of the definition of the professionalism competency?						
Item ID	***Scenario***	***Response***	***Conscientiousness***	***Aspiring to Excellence***	***Integrity***	***Accountability***	***Teamwork***	***Patient-Centered Care***	***Stress Tolerance***
Aspiring to Excellence 201	Scene Set-up: Suzuki, an intern, approaches you in the cafeteria (she is visibly upset) Suzuki: I just met with our program director. Apparently some faculty think I'm underperforming. One commented that I'm at the level of a fourth year medical student. Another commented that I hand off too many patient care decisions to the attending and faculty. I don't agree with these comments. I hand off important patient care decisions to the attending because it is her job to supervise us and make sure we don't make mistakes. What do you think I should do?								
		A. Advise Suzuki to make an appointment with these faculty to discuss their concerns.							
		B. Advise Suzuki to write a formal response to these faculty stating why you disagree with their opinions.							
		C. Advise Suzuki to reflect on why she received this feedback.							

		D. Advise Suzuki that she meet with the chief and ask for more feedback and guidance.							
		E. Advise Suzuki to seek more support from trusted colleagues.							
		F. Advise Suzuki to wait until her next review before taking any action.							
		G. Advise Suzuki to try and take more ownership of decisions.							
		H. Advise Suzuki to ask a trusted colleague to observe her and provide feedback.							
		I. Advise Suzuki to review all recent patient cases to identify ways in which she could have taken more ownership.							
		J. Advise Suzuki to seek constructive feedback from her peers and faculty with the intention of developing herself.							
		K. Advise Suzuki to embrace this feedback as an opportunity to improve.							
		L. Advise Suzuki to learn to adapt to this type of feedback while she is still an intern.							
		M. Offer to approach Suzuki's attendings directly to clarify why exactly they think Suzuki is under-performing.							

Appendix E
Final Content Validation Ratings

Item ID	*Response*	*Consc.*		*Asp. to Excel.*		*Integrity*		*Acnt.*		*Team*		*PCC*		*Stress*	
		Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*
Aspiring to Excellence 201															
	A. Advise Suzuki to make an appointment with these faculty to discuss their concerns.	3.0	1.8	4.5	2.3	2.7	2.1	4.4	1.9	2.5	1.7	1.1	0.4	1.9	1.6
	B. Advise Suzuki to write a formal response to these faculty stating why you disagree with their opinions.	2.4	1.1	4.5	2.2	2.7	1.9	4.0	2.0	2.1	1.7	1.1	0.3	1.9	1.7
	C. Advise Suzuki to reflect on why she received this feedback.	2.3	1.3	4.3	2.4	1.6	1.1	4.2	1.8	1.5	1.5	1.1	0.3	1.5	1.2
	D. Advise Suzuki that she meet with the chief and ask for more feedback and guidance.	2.5	1.4	5.5	1.8	1.9	1.5	4.2	1.8	2.2	1.9	1.1	0.3	1.6	1.3
	E. Advise Suzuki to seek more support from trusted colleagues.	1.9	1.4	3.1	2.2	1.6	1.1	3.7	2.2	3.1	2.0	1.1	0.3	1.5	1.0
	F. Advise Suzuki to wait until her next review before taking any action.	1.9	1.1	4.7	2.0	1.6	1.3	3.9	2.3	1.5	1.4	1.0	0.0	1.7	1.1
	G. Advise Suzuki to try and take more ownership of decisions.	2.0	1.4	3.3	1.9	2.3	2.0	5.9	1.6	1.3	0.8	1.1	0.3	1.3	0.9

	H. Advise Suzuki to ask a trusted colleague to observe her and provide feedback.	2.4	1.7	5.2	1.9	1.5	0.8	3.7	2.1	2.7	1.4	1.1	0.3	1.3	0.6
	I. Advise Suzuki to review all recent patient cases to identify ways in which she could have taken more ownership.	3.9	1.5	5.7	1.4	1.7	1.0	5.2	1.7	1.2	0.4	1.2	0.4	1.1	0.4
	J. Advise Suzuki to seek constructive feedback from her peers and faculty with the intention of developing herself.	2.7	1.9	6.3	1.1	1.9	1.2	4.5	1.6	2.9	1.8	1.0	0.0	1.5	0.8
	K. Advise Suzuki to embrace this feedback as an opportunity to improve.	2.2	1.4	5.7	1.4	1.5	0.7	4.3	1.8	1.1	0.4	1.0	0.0	1.4	1.1
	L. Advise Suzuki to learn to adapt to this type of feedback while she is still an intern.	1.9	1.2	4.1	2.4	1.4	0.7	3.1	2.2	1.1	0.3	1.0	0.0	1.9	1.9
	M. Offer to approach Suzuki's attendings directly to clarify why exactly they think Suzuki is under-performing.	2.1	1.6	3.5	2.3	1.7	1.2	3.2	2.1	2.3	1.7	1.1	0.5	1.3	0.9
Aspiring to Excellence 202															
	A. Recommend that Joseyln follow the procedure typically used by your institution.	3.1	1.7	5.5	2.0	1.9	1.1	2.6	1.8	1.4	0.9	2.6	2.0	1.0	0.0
	B. Recommend that Joseyln look for advice in discipline-specific journals.	3.7	1.4	6.3	1.2	1.6	1.0	2.3	1.5	1.3	0.8	2.1	1.5	1.0	0.0
	C. Recommend that Joseyln publish a case report on this phenomenon so that you	2.7	1.4	6.5	1.1	1.9	1.5	2.5	1.5	1.6	1.4	2.2	1.7	1.0	0.0

	can begin a national dialogue on this phenomenon.														
	D. Recommend that Joseyln consider conducting a research study on different treatments for ABC phenomenon.	3.0	1.4	6.5	0.9	1.7	1.3	2.2	1.3	1.2	0.6	2.1	1.7	1.0	0.0
	E. Recommend that Joseyln call in a consult from a specialty that is likely to have more insight into the phenomenon.	3.3	2.0	5.9	1.1	1.8	1.6	2.5	2.0	2.7	1.5	2.6	1.9	1.0	0.0
	F. Recommend that Joseyln contact the health sciences librarian to help with a more exhaustive search of the literature.	3.7	1.8	6.3	1.2	1.7	1.3	2.5	2.0	1.9	0.9	2.2	1.7	1.0	0.0
	G. Recommend that Joseyln contact the health sciences librarian and report back by the end of the day after a more exhaustive search of the literature.	3.8	1.5	6.3	1.0	1.9	1.5	3.1	2.2	2.0	1.0	2.1	1.7	1.0	0.0
	H. Recommend to proceed as previously observed since there is clear precedent.	3.1	1.8	5.5	2.0	1.7	1.0	2.5	1.7	1.4	0.9	2.2	1.9	1.0	0.0
Communication 1															
	A. Ask the father to calm down, because you need to discuss where to go from here, and won't be able to do this when he is this angry.	1.7	1.1	1.3	0.8	2.0	1.5	3.4	2.0	2.3	1.9	5.5	1.8	5.9	1.7

	B. Tell the father you realize he is upset, but inform him that a lawsuit would not be successful because there is no way to know for sure that you could have saved his daughter's leg even if your team had caught it earlier.	1.7	1.2	1.5	1.1	2.6	1.7	3.3	2.2	2.1	1.9	5.6	1.7	5.8	1.9
	C. Apologize sincerely to the father, without interrupting him, explaining how this situation evolved and your recommended management plan.	2.1	1.5	1.7	1.3	2.7	1.8	4.1	2.1	2.1	1.9	6.0	1.3	6.1	1.3
	D. Turn around and leave since you obviously cannot have a rational discussion with the father at this time.	1.9	1.7	2.0	2.0	2.5	2.0	3.7	2.5	2.4	2.2	5.2	2.4	5.5	2.2
	E. Once the father stops screaming, calmly explain the management plan to the family.	2.1	1.7	1.5	1.1	2.2	1.5	2.9	1.9	2.2	1.9	5.5	1.7	5.7	1.6
	F. Wait for the father to take a breath and resume discussing the necessity of treating the patient's compartment syndrome.	1.9	1.1	1.5	1.1	2.1	1.6	3.1	2.1	2.1	2.0	5.4	1.8	5.7	1.7
	G. After allowing the father to vent his frustration to the fullest extent explain that you will seek the daughter's consent alone.	1.9	1.2	1.7	1.4	2.6	1.5	3.0	2.0	2.1	1.9	5.6	1.8	5.5	2.0
	H. Remind the father of the urgency of his daughter's situation and that arguing will only delay care.	1.8	1.1	1.7	1.1	2.3	1.7	3.0	2.1	2.1	1.9	5.8	1.5	5.7	1.7

	I. Empathize with the father, but reiterate the necessity to move forward with the treatment plan to provide the best treatment for the daughter.	1.9	1.2	1.7	1.2	2.6	1.7	3.2	2.1	2.0	2.0	6.1	1.4	6.0	1.4
	J. Explain to the father how this will affect patient care going forward.	2.1	1.7	1.5	1.4	2.1	1.5	2.9	1.9	1.9	1.9	5.1	2.1	4.9	2.2
	K. Explain to the father how you will avoid this issue in the future.	1.9	1.2	2.3	1.6	2.1	1.5	4.2	2.0	1.9	1.9	4.3	2.4	4.9	2.2
	L. Try to appease the father, but do not apologize because it may invite a lawsuit.	1.7	1.4	1.3	0.9	2.5	1.5	4.0	2.4	1.8	1.9	4.1	2.6	4.9	2.4
Communication 2															
	A. Advise Jamie to proceed with the cholecystectomy as scheduled because, legally, the patient provided consent by signing the consent forms.	3.2	1.9	2.3	1.6	3.8	2.0	3.3	2.3	1.6	1.2	6.1	1.7	1.2	0.6
	B. Advise Jamie to obtain the patient's consent a second time where she requires the patient to explain the procedure, risks, and benefits back to the resident.	3.2	2.0	2.4	1.5	4.2	2.0	3.4	2.2	1.6	1.2	6.6	0.6	1.3	0.5
	C. Advise Jamie to obtain the patient's consent a second time with someone from interpreter services present.	3.5	1.9	2.6	1.7	4.4	1.9	3.4	2.4	2.4	1.2	6.5	0.8	1.3	0.5

	D. Advise Jamie to have another resident obtain consent for the patient's cholecystectomy using different and simpler language.	2.6	1.7	2.3	1.6	4.5	2.0	3.4	2.5	2.6	1.4	6.6	0.7	1.1	0.4
	E. Advise Jamie to give the patient a brochure about his cholecystectomy in his native language and let him review it.	2.8	1.8	2.1	1.2	4.3	2.1	2.7	2.3	1.6	1.3	6.3	1.0	1.1	0.4
	F. Advise Jamie to wait until the daughter visits later this evening and then elicit her help in translating to obtain the patient's consent for his procedure.	3.3	1.7	2.1	1.5	4.4	2.2	3.1	2.3	2.1	1.2	6.3	1.1	1.2	0.4
	G. Advise Jamie to go back with the consent form and ask the patient whether he is sure he understands and has any questions.	3.1	1.7	2.1	1.4	3.7	1.9	2.6	2.1	1.4	1.1	5.8	1.7	1.2	0.4
	H. Advise Jamie to explain the procedure to an interpreter over the phone and ask the interpreter to obtain consent.	2.8	1.7	2.1	1.6	3.9	1.9	3.1	2.1	2.3	1.3	5.7	1.6	1.3	0.5
	I. Advise Jamie to ask one of the patient's regular nurses to assist her in obtaining consent for the cholecystectomy .	2.5	1.8	2.1	1.6	3.9	1.9	2.8	2.2	2.4	1.5	5.8	1.7	1.2	0.4
	J. Advise Jamie to review hospital policy for interpreter services to determine the correct protocol.	3.8	2.0	2.7	1.9	3.4	2.0	2.9	2.5	1.6	1.2	4.9	1.8	1.1	0.4
	K. Advise Jamie to offer interpreter services again, and if the patient	2.9	1.8	2.2	1.7	4.1	2.0	3.1	2.3	1.9	1.2	6.1	1.4	1.1	0.3

	still refuses, to accept his consent.														
Communication 3															
	A. Advise Valerie to apologize to Sarah about the mix-up and to write her a new prescription.	2.7	1.7	2.5	1.9	5.6	1.7	6.3	1.2	2.4	1.9	4.4	2.2	1.7	1.0
	B. Advise Valerie to tell Sarah the nurse should have alerted you to her allergies before you entered the room, and to write her a new prescription.	2.3	1.7	2.5	1.8	4.7	1.9	6.1	1.2	3.5	1.6	4.1	1.8	1.8	1.3
	C. Advise Valerie to tell Sarah the currently prescribed medication is not covering the specific strain of bacteria she has, and to write her a new prescription.	2.5	1.5	2.3	1.7	5.1	2.3	5.5	2.0	1.7	1.0	4.1	2.1	1.6	1.0
	D. Advise Valerie to ask the nurse to inform Sarah she is going to use a different medication, and to write her a new prescription	2.2	1.3	2.3	1.6	4.3	2.0	5.1	2.0	2.8	1.4	4.1	1.8	1.7	1.0
	E. Advise Valerie to thank the nurse, assure her that the prescription will be changed to doxycycline, and to write her a new prescription. There is no need to discuss this error with Sarah.	2.5	1.4	2.6	2.0	4.5	2.2	5.4	2.1	3.0	1.5	4.7	2.3	1.7	1.0

	F. Advise Valerie to change the medication and tell Sarah the EHR should never have allowed her to write the wrong prescription.	2.2	1.3	2.1	1.4	4.9	2.1	5.6	1.9	2.9	1.5	3.8	2.1	1.6	1.0
	G. Advise Valerie to tell the nurse to call the pharmacist to change the prescription to doxycycline.	2.4	1.3	2.1	1.4	4.1	2.0	4.8	2.1	2.5	1.4	3.9	2.2	1.5	1.0
Conscientiousness 101															
	A. Advise Teresa to tell Jesse she can handle the extra work and do the pre-rounding herself.	3.9	1.5	2.6	1.6	2.1	1.5	3.5	2.5	3.4	2.3	1.4	0.8	1.1	0.3
	B. Advise Teresa to allow Jesse to collect the lab values but double check them before any clinical decisions are made.	5.1	1.6	2.7	1.7	2.4	1.8	4.1	2.5	4.2	1.9	1.6	1.4	1.0	0.0
	C. Advise Teresa to allow Jesse to collect the data after providing Jesse with clear expectations about the data she collects, ensuring to review the data with Jesse as part of rounds, and continuing to double check Jesse's accuracy.	5.6	1.6	3.1	1.9	2.5	2.0	4.2	2.5	4.6	1.7	1.8	1.5	1.1	0.3
	D. Advise Teresa to let Jesse collect the lab values, and if any data is missed/incorrect let the attending know that Jesse collected the data.	4.7	1.5	2.6	1.6	3.0	2.0	3.9	2.5	4.4	1.9	1.7	1.5	1.1	0.3

	E. Advise Teresa not to let Jesse do anything important.	3.4	1.7	2.1	1.4	2.1	1.6	2.9	2.3	3.7	2.2	1.1	0.4	1.0	0.0
	F. Advise Teresa to let Jesse collect the pre-values but to insist that Jesse always present them to her so that she can double check before presenting to others.	4.9	1.8	2.8	1.5	2.7	1.7	3.9	2.4	4.0	1.9	1.7	1.5	1.0	0.0
	G. Advise Teresa to tell Jesse that she can collect pre-values but will have to allow a resident to present them.	3.7	1.8	2.1	1.3	2.7	2.1	3.6	2.4	3.9	1.9	1.6	1.4	1.0	0.0
	H. Advise Teresa to give Jesse graded responsibility based on performance.	3.6	1.7	2.1	1.3	2.6	1.7	3.1	2.1	3.6	2.1	1.5	1.3	1.1	0.3
Conscientiousness 102															
	A. Recommend that she just power through the final four hours of her shift.	4.0	2.1	2.8	2.0	2.7	1.9	3.5	2.1	2.2	1.8	1.4	0.9	1.9	1.6
	B. Ask Ariel to use the available resources to support a fatigued resident.	4.7	1.5	2.4	1.5	3.3	2.0	3.9	1.6	2.5	1.4	1.2	0.6	1.7	1.6
	C. Offer to cover her pager for a few hours while she naps.	3.9	2.1	3.1	1.9	2.9	1.7	3.9	2.1	4.7	2.3	1.4	0.6	1.7	1.6
	D. Recommend a cup of coffee.	3.4	2.3	2.3	1.6	2.1	1.5	3.1	2.2	2.6	1.9	1.1	0.4	1.7	1.6
	E. Recommend that she take a nap in the on-call room while keeping her pager on loud in case of an emergency.	4.4	2.0	2.7	1.6	2.9	1.8	3.6	2.2	2.4	1.7	1.1	0.4	1.9	1.7
	F. Suggest that Ariel speak to the attending and inform	4.4	1.9	2.5	1.6	3.1	2.1	3.9	2.2	2.7	1.7	1.1	0.4	1.8	1.6

	her she is too tired to work.														
	G. Suggest that Ariel keep working through her shift, but put off documentation until she is better rested.	4.1	1.9	2.6	1.6	2.6	2.0	3.1	2.2	1.9	1.1	1.1	0.4	1.8	1.6
Integrity 301															
	A. Advise Juanita to talk to the chief resident on behalf of all the residents so that the chief resident can address the situation.	2.8	1.8	1.9	1.2	4.8	1.8	3.7	2.2	4.0	2.0	1.2	0.4	1.2	0.6
	B. Tell Juanita you will speak to the other residents to see what they have observed so that you can help her plan a course of action.	2.8	1.9	1.8	1.3	4.3	2.0	3.1	2.4	4.3	2.2	1.1	0.3	1.2	0.6
	C. Advise Juanita to invite Peter to coffee so she can explain her concerns and offer to help.	2.6	1.8	2.0	1.4	4.5	2.1	3.3	2.2	5.0	1.8	1.1	0.3	1.3	0.6
	D. Advise Juanita to wait until Peter is late again and then tell him that this is the last time she will cover for him.	2.1	1.4	1.7	1.3	4.6	1.7	3.6	2.2	3.9	2.0	1.1	0.3	1.4	0.6
	E. Advise Juanita to offer to help Peter with some of the tasks with which he is struggling.	2.1	1.4	2.3	1.7	4.5	2.1	3.6	2.5	5.1	2.0	1.1	0.3	1.2	0.6
	F. Advise Juanita to do nothing. This is Peter's issue.	2.6	2.1	2.7	2.2	5.4	1.9	3.4	2.6	4.1	2.6	1.1	0.3	1.3	0.6
	G. Remind Juanita that residents are entitled to their privacy and she should allow Peter some more time before taking action.	2.3	1.8	2.1	1.6	4.4	2.0	2.8	2.4	3.9	2.2	1.1	0.4	1.3	0.5

	H. Suggest that Juanita tell him directly she can't keep covering for him and that she will be going to the chief or attending if the situation doesn't change.	2.4	1.9	1.9	1.3	4.9	1.9	3.9	2.4	4.2	2.3	1.1	0.3	1.3	0.6
	I. Suggest that Juanita send Peter an email relating her observations and offering to meet with him because she can't keep covering for him.	2.2	1.1	2.0	1.3	4.7	1.8	3.1	2.1	4.1	2.3	1.1	0.3	1.4	0.6
	J. Advise Juanita that Peter's behavior may be a hazard to patients and needs to be reported to the chief resident and program director immediately.	2.5	1.9	2.5	2.0	5.7	1.3	3.4	2.3	3.3	2.5	1.9	1.5	1.2	0.6
	K. Advise Juanita to do nothing because attendings should notice Peter's behavior.	2.7	2.1	2.3	2.1	4.9	1.9	3.6	2.6	3.4	2.2	1.1	0.4	1.1	0.3
	L. Advise Juanita to ask Peter to cover for her at the end of the workday, since she covered for him at the beginning.	2.2	1.4	1.8	1.3	4.4	2.2	3.4	2.4	4.0	2.0	1.1	0.3	1.1	0.4
	M. Advise her to have the chief resident approach Peter and ask him if anything has been bothering him lately.	2.0	1.4	1.8	1.1	4.3	2.1	3.1	2.4	4.3	2.3	1.1	0.4	1.2	0.4
	N. Offer to go with Juanita to meet with Peter to ask if he is ok.	2.0	1.6	1.9	1.6	4.2	2.2	3.0	2.5	4.7	2.5	1.1	0.4	1.4	0.7
Integrity 302															

	A. Advise Karen to decline to decrease the pain medication.	2.3	1.7	2.1	1.7	6.4	0.9	3.3	2.6	1.8	1.4	3.7	2.1	2.1	1.5
	B. Advise Karen that she should only decrease the pain medication if the patient consents and the patient is told why the attending wants the dose reduced.	2.6	1.6	1.6	1.2	6.6	0.8	3.2	2.6	1.5	0.9	5.0	1.7	2.2	1.6
	C. Advise Karen to decrease the pain medication and monitor the patient.	2.7	1.7	1.7	1.3	6.1	1.7	3.1	2.5	1.6	0.9	3.5	2.4	2.2	1.6
	D. Advise Karen to decrease the pain medication but speak to her program director about it later.	2.3	1.5	1.5	0.9	5.9	1.6	3.4	2.4	2.1	1.7	3.1	2.2	2.1	1.5
	E. Advise Karen to contact the program director.	2.3	1.5	1.4	0.8	5.9	1.8	2.9	2.4	2.3	1.8	2.9	2.2	2.1	1.4
	F. Remind Karen that this action is not dangerous because the pain medication can easily be increased.	1.6	1.2	1.5	0.8	6.1	1.6	3.0	2.4	1.5	1.0	3.1	2.1	2.1	1.5
	G. Advise Karen to tell the attending that if she wants this done, she will need to decrease the medication herself.	1.8	1.3	1.6	0.9	5.7	1.8	3.2	2.3	2.5	2.0	3.1	2.1	2.4	1.7
	H. Advise Karen that she should only decrease the pain medication if the patient consents and the patient is told why the attending wants the dose reduced.	2.5	1.6	1.6	1.0	6.8	0.4	3.2	2.6	1.6	1.1	4.9	2.1	2.4	1.5
Integrity 303															

	A. Immediately tell Charu he should not discuss patients in public places, before he can share any more details.	2.0	1.4	1.9	1.4	6.9	0.5	2.5	1.8	2.4	1.8	3.4	2.3	1.3	0.8
	B. Wait until you are alone with Charu, so you do not embarrass him, and tell him not to discuss patients loudly in public places in the future.	1.9	1.3	1.6	1.2	6.7	0.6	2.4	1.8	2.6	1.8	3.5	2.2	1.3	0.8
	C. Ask for some more details about the story.	1.8	1.3	1.3	0.7	6.3	1.6	2.4	1.9	1.4	0.7	2.9	2.3	1.1	0.3
	D. Tell Charu that telling a story like that in the future would be OK, if he does not use any names.	1.6	1.2	1.4	0.7	6.4	0.8	2.4	1.9	2.0	1.1	2.7	2.1	1.1	0.3
	E. Remind Charu of the importance of protecting patient privacy and advise him not to share such information in the future.	1.9	1.3	1.9	1.4	6.9	0.5	2.6	1.8	2.4	1.7	3.7	2.6	1.3	0.8
	F. Pretend you don't know the celebrity so that he will stop talking about it.	1.6	1.2	1.5	1.2	6.3	1.6	2.3	1.9	1.8	1.4	2.6	2.1	1.3	0.6
	G. Report the break in confidentiality to the patient and the program director.	2.3	1.7	1.7	1.3	6.6	0.8	2.8	2.2	2.2	1.5	2.9	2.2	1.4	0.9
	H. Pull Charu aside to remind him that his duty is to protect patient privacy and that the hallway is a poor location for such a story.	2.1	1.7	1.7	1.2	6.8	0.6	2.9	1.8	2.5	1.8	3.4	2.6	1.3	0.8

Integrity 304															
	A. Advise Danielle to report the surgery attending to the program director.	2.5	1.2	2.8	1.5	6.1	1.3	3.8	2.4	3.1	1.9	2.6	1.7	1.8	1.4
	B. Advise Danielle to let it go – this attending is "old-school" and will be retiring soon anyway.	2.2	1.3	2.8	1.2	5.5	2.1	3.5	2.2	2.3	1.7	2.3	1.7	1.6	1.4
	C. Advise Danielle to send a formal email of complaint to the director of the unit.	2.4	1.4	2.6	1.4	5.6	1.6	3.5	2.3	2.5	1.8	2.2	1.7	1.6	1.4
	D. Advise Danielle to print off a journal article with the updated recommendations and put it in the attending's mailbox.	2.2	1.4	2.9	1.9	5.5	1.7	3.1	2.0	3.0	2.0	2.4	1.8	1.6	1.4
	E. Advise Danielle to set up a meeting with the attending and a chief resident to explain the current recommendations and set clear expectations.	2.6	1.6	3.5	1.9	6.1	1.4	3.6	2.4	3.1	1.9	2.5	1.8	1.6	1.3
	F. Tell Danielle that next time, she should put in the central line with the ultrasound before the attending sees her.	2.2	1.2	2.6	1.5	5.9	1.9	3.5	2.2	2.8	2.2	2.2	1.7	1.9	1.5
	G. Tell Danielle to ask the attending to do the procedure himself to demonstrate his technique in non-ultrasound guided central line placement.	2.2	1.5	3.1	2.0	5.4	2.0	3.4	2.4	2.6	1.6	2.2	1.7	1.9	1.6

	H. Advise Danielle to be honest in expressing her discomfort in practicing outside of the established guidelines to the attending once the patient is out of earshot.	2.6	1.7	2.7	1.9	6.1	1.6	4.2	2.3	3.1	2.0	2.6	1.7	1.9	1.6
	I. Advise Danielle to place the central line without the ultrasound guidance because residents should defer to the attending's expertise.	2.4	1.8	2.6	1.3	5.6	1.9	3.4	2.3	2.7	2.1	2.3	1.8	1.7	1.4
	J. Advise Danielle to call a "hard stop" and see if others are uncomfortable with it.	2.0	1.2	2.5	1.4	5.4	1.9	3.4	2.3	3.2	2.4	2.4	1.7	2.0	1.8
	K. Advise Danielle to speak to the director of the unit and ask for education/ clarification about central line policy.	2.6	1.5	3.4	2.0	5.6	1.8	3.6	2.6	2.9	2.0	2.3	1.7	1.7	1.4
Integrity 305															
	A. Advise Sanjay that that seems like a reasonable approach.	3.1	1.9	1.5	0.9	5.1	2.1	2.5	2.0	1.6	1.2	1.0	0.0	1.3	0.6
	B. Tell Sanjay that that seems like a reasonable approach, and that you'll do the same from now on.	3.1	1.9	1.7	0.9	5.1	2.1	2.6	2.1	1.9	1.2	1.0	0.0	1.3	0.6
	C. Explain to Sanjay that she should enter the full number of hours worked whether or not it violates the duty hour requirements.	3.6	2.2	1.6	0.9	5.9	1.9	2.9	2.0	1.4	0.7	1.0	0.0	1.3	0.6

	D. Encourage Sanjay to meet with her program director (PD) to see whether the PD can offer institutional support or advice about working more efficiently.	3.4	2.2	2.6	1.6	5.4	1.7	2.9	1.7	2.8	2.2	1.0	0.0	1.3	0.6
	E. Advise Sanjay to work only the number of hours she is allowed to work, since she is risking burnout and increased medical errors if she works more hours than the duty hour allotment.	3.4	2.3	2.2	1.4	5.6	1.9	3.4	2.1	2.0	1.8	1.4	0.9	1.3	0.6
	F. Ask Sanjay to describe her specific struggles to see if there is a way for her to work more efficiently and still meet her requirements.	3.0	2.0	2.6	1.7	4.8	2.2	2.9	2.4	2.8	1.9	1.1	0.3	1.4	0.8
	G. Advise Sanjay to work whatever hours are required for her to maintain top standards of patient care, but notify her attending immediately that this will necessitate her exceeding her duty hours.	3.6	2.1	2.1	1.5	5.3	2.2	3.3	2.1	2.1	1.8	1.4	0.9	1.3	0.6
	H. Tell Sanjay it will get better as time goes on.	2.6	1.7	1.5	0.8	4.7	2.4	2.6	1.9	2.0	1.8	1.0	0.0	1.2	0.6
	I. Tell Sanjay you will need to inform the program director that she is not being honest in reporting her duty hours.	3.1	2.1	1.6	0.8	5.6	1.8	2.6	1.9	2.2	1.8	1.0	0.0	1.4	0.7

Integrity 306															
	A. Advise Tommy to tell his attending Greg is broadcasting negative information about the hospital on social media.	1.8	1.1	1.6	0.9	6.2	1.2	2.5	1.9	2.3	1.8	1.0	0.0	1.2	0.6
	B. Advise Tommy to tell Greg to take the post down.	1.7	1.1	1.4	0.8	5.9	1.4	2.3	1.7	2.1	1.8	1.0	0.0	1.4	0.9
	C. Advise Tommy to flag the post as inappropriate on Facebook so that Facebook will delete the post.	1.6	1.0	1.4	0.8	5.6	1.5	2.4	1.6	1.9	1.6	1.0	0.0	1.1	0.5
	D. Advise Tommy to inform the chief resident about Greg's Facebook post.	1.9	1.1	1.5	0.8	6.1	1.1	2.5	1.8	2.4	1.7	1.0	0.0	1.2	0.6
	E. Advise Tommy to write his own positive comment on the hospital's Facebook page to counteract Greg's negative post.	1.6	0.8	1.4	0.9	5.9	1.4	2.4	1.8	2.0	1.7	1.0	0.0	1.1	0.5
	F. Advise Tommy to do nothing. It is none of his business what others post on their Facebook pages.	1.8	1.4	1.8	1.4	5.7	1.8	2.4	1.8	2.4	1.9	1.0	0.0	1.1	0.5
	G. Ask Greg if there is anything you can do to help because he is clearly overworked.	1.6	0.9	1.7	1.2	4.8	2.7	2.4	1.7	3.9	2.0	1.2	0.6	1.3	0.7
	H. Inform the program director that Greg is demonstrating signs of burnout.	1.6	1.0	1.6	1.1	5.5	2.0	3.0	2.1	3.0	2.6	1.2	0.6	1.3	0.7

	I. Ask Tommy if Greg has any friends who can approach him about his negative comments and their impact on his colleagues.	1.5	0.8	1.6	0.9	5.5	1.7	2.3	1.6	3.1	2.0	1.0	0.0	1.1	0.5
	J. Offer to meet with Greg to go over the social media policy and rules of conduct without informing the program so that he may do the right thing and delete his post.	2.0	1.2	1.6	0.9	6.2	1.1	2.5	1.5	3.8	1.8	1.0	0.0	1.1	0.5
	K. Ask the program director to meet with all residents to review the social media policy and rules of conduct without referring to the specific post you have heard about.	2.1	1.3	2.0	1.2	6.3	1.1	2.6	1.8	3.0	1.8	1.0	0.0	1.1	0.5
	L. Ask the program director to meet with all residents to review the social media policy and rules of conduct after providing him/her with a screen shot of the specific post you had heard about.	2.2	1.5	1.9	1.2	6.4	0.9	2.8	1.8	3.1	2.0	1.0	0.0	1.1	0.5
	M. Tell Tommy that this is none of his business and that people can do and say what they want as private citizens.	1.6	1.1	1.4	0.7	5.8	1.7	2.4	1.7	2.3	1.7	1.0	0.0	1.5	1.2
Patient Centered Care 601															

	A. Advise Sarah to file a report because physicians are mandated to file a report if they have any *suspicion* of abuse. Since her team has a suspicion of abuse, she should file the report.	3.1	1.6	2.3	1.3	5.4	1.4	2.9	2.3	1.6	0.8	6.0	1.7	2.1	1.5
	B. Advise Sarah to use her best judgment. If she doesn't think that abuse is likely, then she doesn't have to report it.	2.6	1.6	1.9	1.0	4.8	2.1	2.8	2.2	1.6	0.9	5.5	2.2	2.1	1.5
	C. Advise Sarah to go back and ask the child directly if she's being abused.	2.2	1.5	2.0	1.4	4.3	2.3	3.2	2.4	1.5	0.8	6.1	1.6	2.1	1.6
	D. Ask Phillip for clarification about what specifically made him suspicious. If his concern makes sense, report it.	3.2	1.9	1.9	1.1	4.6	1.9	3.1	2.2	1.7	0.9	5.7	1.9	2.1	1.5
	E. Advise Phillip and Sarah to collect more information before filing a report because a child abuse investigation may damage the parents' reputation.	3.3	2.2	2.2	1.6	4.8	2.2	2.9	2.2	1.9	1.0	6.4	1.1	2.1	1.4
	F. Explain that Phillip and Sarah both have good points but to do whatever the attending wants to do.	2.4	1.6	2.1	1.3	4.5	2.3	3.0	2.4	1.9	1.4	5.1	2.2	1.9	1.4
	G. Advise Sarah and Phillip to file a report because the consequences to the child of not reporting suspected abuse are far greater than the consequences of an erroneous report..	2.4	1.4	2.1	1.6	4.9	2.1	3.0	2.1	1.4	0.8	6.6	1.2	2.0	1.5

	H. Have Phillip and Sarah make their respective cases to the attending physician and have the attending decide whether or not to make a report.	2.9	1.8	2.0	1.1	4.2	2.1	2.9	2.2	2.5	1.6	5.4	2.1	2.0	1.5
	I. In an effort to avoid harming the family's relationship with the treatment team, ask the child again yourself how the injuries were sustained, and if the explanation seems reasonable, do not make a report.	2.8	1.6	1.9	1.0	4.6	2.2	2.9	2.1	1.4	0.8	6.3	1.6	2.0	1.6
Patient Centered Care 602															
	A. Advise Jordan to ask for a consult and expert advice from a chemical dependence specialist to explore alternative chemical dependence treatment options.	2.8	2.0	2.8	1.8	2.8	2.0	2.0	1.4	2.2	1.9	6.2	1.6	1.5	1.0
	B. Advise Jordan to release the patient, since she cannot force him to undergo treatment.	2.3	1.5	1.9	1.2	3.3	2.4	2.2	1.8	1.4	1.2	5.9	1.7	1.4	0.9
	C. Advise Jordan to explore options to avoid co-pay, since that is the patient's main argument against the proposed treatment.	2.5	1.9	2.6	1.6	2.9	2.0	1.8	1.4	1.3	0.7	6.5	1.1	1.4	0.9
	D. Advise Jordan to proclaim the patient as incompetent to make his own decisions and admit him against his will.	2.1	1.3	2.1	1.5	4.1	2.5	1.9	1.7	1.4	0.7	6.0	1.8	1.5	1.0

	E. Advise Jordan to discharge the patient with brochures about treatment programs, in case he changes his mind.	2.3	1.8	2.3	1.4	3.1	2.1	2.0	1.6	1.3	0.7	6.5	0.8	1.4	0.9
	F. Advise Jordan to arrange for a meeting with chemical dependency consultants and to ask his family members to be present to help encourage him to go into treatment.	2.2	1.4	2.5	1.4	3.1	2.1	2.0	1.7	2.2	1.5	6.9	0.3	1.4	0.9
	G. Advise Jordan to talk to family members to collect any evidence that could be used to commit the patient.	2.4	1.5	2.1	1.3	3.8	2.5	1.9	1.5	1.5	0.9	6.2	1.6	1.4	0.9
	H. Advise Jordon to continue dialogue with the patient about the concerns expressed by the family members as well as her own and see if the patient would be willing to explore residential treatment.	2.2	1.4	2.3	1.4	3.1	2.2	2.1	1.7	1.4	0.8	6.9	0.4	1.4	0.9
Patient Centered Care 603															
	A. Find the faculty member who is meeting with this patient and let her take care of her patient.	2.1	1.4	1.8	1.1	1.9	1.2	2.2	1.5	2.4	1.9	4.6	2.2	3.8	2.3
	B. Ask the receptionist to apologize and give the patient a coffee card.	1.7	1.1	1.8	1.3	2.0	1.4	2.4	1.9	2.3	1.4	5.0	1.9	3.9	2.0
	C. Ask the receptionist to put the patient in the patient	1.9	1.3	1.9	1.3	1.9	1.3	2.5	1.8	3.1	2.2	5.0	2.0	4.0	2.0

	counseling room so you can meet with him.														
	D. Wait until security arrives, then escort the patient directly to an examining room and start the visit.	1.9	1.2	1.6	1.2	1.9	1.3	2.3	1.8	2.4	1.9	4.9	2.3	3.6	2.2
	E. Tell the patient to calm down.	1.7	1.3	1.5	0.9	1.7	1.1	2.1	1.6	1.4	0.6	5.4	2.1	3.6	2.2
	F. Apologize to the patient and tell him that you'll figure out what's causing the delay.	2.0	1.3	1.9	1.4	2.2	1.6	2.6	1.9	2.0	1.6	6.0	1.3	4.2	2.2
	G. Go and see your next patient since security is already on the way and you don't want to end up running behind too.	2.2	1.8	1.9	1.3	2.0	1.6	2.7	2.1	2.1	1.7	5.1	1.9	3.5	2.2
	H. Explain to the patient that clinic often runs late and that if he wants to be seen more expeditiously he could choose a different clinic.	1.9	1.3	1.7	1.3	2.0	1.4	2.6	1.9	1.5	1.1	5.6	1.8	3.9	2.2
	I. Later, talk to the doctor about why her clinic runs late and offer suggestions for running a more efficient clinic.	2.4	1.5	2.5	1.6	2.0	1.3	2.8	1.8	3.3	2.2	4.4	2.3	3.2	2.2
	J. Alert security to a potentially volatile situation in the waiting room.	2.0	1.4	1.6	1.0	1.9	1.4	2.4	1.9	1.8	1.1	4.2	2.5	4.0	2.2
	K. Bring the patient a glass of water and acknowledge that the long wait time is pretty unprofessional.	1.9	1.3	1.7	1.1	2.4	1.8	2.9	1.8	1.9	1.5	5.6	1.8	4.2	2.4
	L. Ask the patient to please lower his voice, as he is disturbing the staff and	1.7	1.3	1.6	1.1	1.9	1.3	1.9	1.4	1.1	0.4	5.3	1.6	4.3	2.1

	the other patients in the waiting room.														
	M. Walk up to the receptionist and ask if there is anything you can do to help.	2.0	1.5	2.1	1.3	2.0	1.4	2.6	2.0	4.2	2.5	3.8	2.3	3.6	2.1
Patient Centered Care 604															
	A. Tell Lacey to send the letter to Mr. Patterson so that he can learn how others perceive him.	1.4	0.7	1.5	0.7	3.1	1.6	1.8	1.4	1.7	1.7	5.2	2.0	1.0	0.0
	B. Advise Lacey to tell Fred that these comments are unprofessional.	1.6	0.9	2.1	1.3	3.6	1.9	2.4	1.7	2.6	1.9	3.6	2.2	1.1	0.3
	C. Tell Lacey to do nothing because if this is Fred's honest assessment there is nothing inappropriate about it.	2.1	1.8	2.3	1.7	3.5	1.9	2.4	2.0	2.4	1.7	3.6	2.3	1.0	0.0
	D. Advise Lacey to tell Fred that she will report him if he writes this type of thing again in the EMR.	1.7	0.9	2.0	1.1	3.6	1.9	2.7	1.9	3.1	2.0	3.6	2.2	1.2	0.6
	E. Advise Lacey to ask Fred for the specific observations that led him to think there is nothing wrong with this patient.	2.7	2.0	2.8	1.5	2.8	1.5	2.6	1.9	3.1	2.1	4.3	2.2	1.2	0.6
	F. Advise Lacey to report this incident to Fred's attending.	1.9	1.2	1.9	1.2	3.4	2.0	2.7	1.7	3.1	2.1	3.9	2.2	1.1	0.4
	G. Advise Lacey to explain to Fred that this summary is inappropriate for the	1.9	1.0	1.9	1.1	3.5	1.9	2.8	1.8	2.9	1.9	4.1	2.3	1.2	0.4

	EMR and should be amended.														
	H. Advise Lacey to ask Fred why he thought this documentation was appropriate.	1.9	1.2	2.2	1.4	2.9	1.6	2.5	1.8	3.0	2.0	3.9	2.1	1.3	0.8
	I. Advise Lacey to report her concern to the clinic attending so that he or she may discuss medical documentation guidelines with the residents.	2.0	1.2	2.0	1.3	3.6	2.1	2.7	1.8	3.2	2.1	4.1	2.4	1.2	0.6
	J. Advise Lacey to transfer the patient's care to Fred since he clearly was able to see what she had missed.	2.2	1.8	2.2	1.7	2.9	2.0	2.6	2.1	2.7	1.9	4.1	2.4	1.1	0.3
Patient Centered Care 605															
	A. Advise Tina to respect that patient's wishes and notify a male colleague that he's waiting.	1.6	0.8	1.3	0.6	2.2	1.4	1.6	1.1	1.9	1.1	6.4	1.4	1.6	1.2
	B. Advise Tina to explain that she is a 'real' doctor and proceed with the history.	1.4	0.5	1.4	0.5	1.9	1.3	1.5	1.1	1.2	0.6	5.6	2.1	1.7	1.3
	C. Advise Tina to have her attending introduce her as a doctor and request that she be allowed to perform the initial history and examination.	1.4	0.6	1.3	0.6	1.9	1.3	1.8	1.3	2.2	1.5	5.7	2.1	1.6	1.2

	D. Advise Tina to tell him she is a real doctor, and that unless he wants to wait for another doctor, which could be quite some time, he will need to be examined by her.	1.4	0.5	1.4	0.8	2.0	1.4	1.6	1.5	1.6	1.3	6.0	2.1	1.6	1.2
	E. Tell Tina to let him know she respects his wishes, and she will do her best to find someone quickly who can examine him.	1.5	0.5	1.7	1.1	2.0	1.4	1.9	1.6	2.1	1.5	6.4	1.4	1.6	1.2
	F. Advise Tina to ask a male faculty member to see the patient instead.	1.4	0.5	1.2	0.4	1.6	0.8	1.6	1.3	2.9	1.6	5.9	1.6	1.6	1.2
	G. Advise Tina to offer to have a male nurse accompany her while she does the exam.	1.6	0.9	1.3	0.6	1.6	1.1	1.6	1.0	2.5	1.3	5.8	1.6	1.6	1.2
Patient Centered Care 606															
	A. Advise Rebecca to send the patient for a competency evaluation.	1.5	1.0	1.3	0.5	1.9	1.3	1.7	1.4	1.1	0.3	5.9	1.8	1.3	0.8
	B. Advise Rebecca to clearly document the conversation and schedule a follow-up to ensure he doesn't change his mind.	3.4	2.2	1.6	0.7	2.5	1.8	2.1	1.6	1.1	0.3	6.1	1.7	1.3	0.6
	C. Advise Rebecca to arrange for a colleague to see the patient, hoping a different person will be able to convince him that the medication is necessary.	1.6	0.9	1.4	0.7	1.8	1.1	1.9	1.5	2.6	1.8	6.1	1.0	1.3	0.6

	D. Advise Rebecca to re-explain the risk of not taking the medication to him, and document this explanation, but to accept his decision if he still refuses, and provide the care he will accept.	2.9	1.8	1.6	0.7	2.6	1.7	2.4	1.9	1.1	0.3	6.4	1.4	1.4	0.7
	E. Tell Rebecca she shouldn't be the patient's doctor any longer - she can ask the nurse to call him and find him a new doctor.	1.9	1.2	1.6	0.9	2.2	1.4	2.4	1.8	1.9	1.4	5.6	2.1	1.4	0.9
	F. Advise Rebecca to ask the patient whether there are any circumstances in which he would accept medications not tested on animals, so that in case he becomes more ill, she will be able to prescribe it.	2.4	1.4	2.0	1.3	2.1	1.6	2.0	1.8	1.1	0.3	6.8	0.6	1.4	0.7
	G. Advise Rebecca to ensure the patient is competent to decline the medication, in that he is able to clearly describe his condition and the risks, benefits and alternatives of this treatment. If he is clearly able to articulate his understanding of the condition and his reasoning, accept his decision and provide the care he will accept.	2.8	1.8	1.6	0.8	2.8	1.7	2.1	1.7	1.1	0.3	6.9	0.3	1.4	0.9
	H. Advice Rebecca to request a full neuropsychological assessment in order to determine if the patient is cognitively intact	2.3	1.5	1.7	1.1	2.4	1.7	1.8	1.4	1.1	0.4	5.6	2.1	1.2	0.6

	enough to make this decision.														
	I. Advise Rebecca to ask the clinic legal counsel to draft a legal document for the patient to sign that absolves you of potential consequences of the patient not taking the medication.	2.5	1.6	1.5	0.8	2.1	1.2	2.9	1.8	1.5	0.8	5.5	2.1	1.4	0.7
Patient Centered Care 607															
	A. Advise Samantha that Dr. Gardner should do the surgery because she has more experience.	1.8	1.1	1.2	0.4	2.9	1.9	1.8	1.3	1.9	1.5	6.2	1.2	1.3	0.6
	B. Reassure Samantha that you will be in the operating room the whole time while Dr. Gardner is operating.	1.6	1.0	1.2	0.4	2.5	1.8	1.6	1.2	2.1	1.4	6.7	0.6	1.4	0.6
	C. Remind Samantha that Dr. Gardner will be in the operating room even if you operate so she is better off sticking with the more experienced surgeon.	1.6	1.2	1.2	0.4	2.4	1.9	1.8	1.2	1.9	1.4	6.5	0.9	1.3	0.6
	D. Advise Samantha to make her request to Dr. Gardner herself.	1.6	1.3	1.1	0.4	2.2	1.6	1.9	1.2	1.9	1.6	6.4	1.6	1.4	0.6
	E. Tell Samantha you will ask Dr. Gardner if you can proceed with the procedure yourself.	1.9	1.4	1.2	0.6	2.5	2.0	1.9	1.5	2.3	1.8	6.4	1.6	1.4	0.6

	F. Offer to find a different physician to perform Samantha's procedure.	1.9	1.3	1.4	0.9	2.0	1.6	2.0	1.8	2.6	2.1	6.4	1.6	1.3	0.6
	G. Explain to Samantha that the whole team works together to provide her care and that Dr. Gardner has the expertise to make sure the surgery goes successfully.	1.9	1.3	1.2	0.6	2.4	1.9	1.8	1.3	3.0	2.0	6.9	0.4	1.3	0.6
	H. Explain that Dr. Gardner's presence and expertise is required to perform the operation, but that she will continue to be a key part of the care team.	1.8	1.2	1.2	0.6	2.3	1.7	1.9	1.3	2.4	1.5	6.9	0.3	1.3	0.6
	I. Tell Samantha that Dr. Gardner is the only one who can perform this operation.	1.6	1.0	1.1	0.4	2.1	1.8	1.7	1.2	2.2	1.7	6.3	1.6	1.3	0.6
	J. Explain that you know from personal experience that Dr. Gardner cares a great deal about every single one of her patients, and ask for permission to share with Dr. Gardner the feedback about how she is perceived so that she may pay more attention to connecting with her patients.	2.0	1.4	1.9	1.8	2.2	1.5	2.4	2.1	3.2	2.2	6.4	1.3	1.3	0.6
	K. Offer to ask Dr. Gardner to come back to go over some of Samantha's concerns directly so that Samantha can get a better sense of her attending physician and gain trust.	1.9	1.3	1.5	0.9	2.0	1.5	2.1	1.6	2.9	2.0	6.5	1.6	1.3	0.6

Patient Centered Care 608															
	A. Tell Meredith she is the one assigned to this case, so she needs to stay on it and fulfill her duty as a doctor.	1.8	1.4	1.6	1.2	3.3	2.1	2.2	1.6	2.4	2.1	5.3	2.1	3.5	1.8
	B. Tell Meredith to find a replacement if she feels she cannot treat the patient objectively.	1.6	1.2	1.5	1.0	2.8	1.8	2.4	1.7	2.8	1.8	5.1	2.1	3.1	1.9
	C. Tell Meredith to briefly excuse herself to gain composure and continue to treat the patient.	1.6	1.2	1.3	0.8	2.3	1.9	2.1	1.6	2.6	1.8	4.8	2.2	3.3	1.8
	D. Offer to find a replacement for Meredith.	1.6	1.2	1.7	1.2	2.8	2.0	2.1	1.6	3.9	2.2	4.6	2.4	3.0	2.0
	E. Agree with Meredith's assessment and refuse to treat the patient as well.	2.5	2.1	1.8	1.3	3.5	2.2	2.4	2.0	2.4	1.9	5.0	2.4	3.3	2.1
	F. Take the lead on this patient and tell Meredith to wait out back for the next ambulance car.	1.9	1.6	2.4	1.8	2.7	1.9	2.2	1.8	3.9	2.1	5.1	2.4	3.1	1.9
	G. Clarify if Meredith is unwilling to provide care based on her beliefs regarding those who commit violence or is she unable to provide care based on her current emotional/psychological state.	2.7	1.8	1.4	0.9	2.5	1.8	2.1	1.5	2.7	2.0	5.0	2.2	3.2	1.8

	H. Ask Meredith to call the attending to have the attending serve her role in the case.	1.9	1.3	1.6	0.9	2.9	2.0	2.1	1.7	3.3	2.0	4.8	2.3	3.1	1.9
	I. Ask Meredith to at least participate in the immediate stabilization of the patient.	1.8	1.4	1.6	1.0	2.2	1.8	2.1	1.7	2.9	1.8	5.1	2.1	3.1	1.9
	J. Explain that until the patient is stabilized or she can find a replacement it is her duty to care for the patient, despite her feelings.	2.0	1.6	1.6	1.2	3.3	2.0	2.5	2.1	2.7	1.7	5.6	1.9	3.3	2.0
	K. Frankly tell Meredith it is unprofessional for her to abandon the patient and her co-workers in a critical situation.	1.6	1.2	1.7	1.4	3.4	2.0	2.5	2.0	3.2	2.0	5.6	2.1	3.6	1.9
	L. After validating Meredith's concerns, ask for her help until someone can step into her place.	2.0	1.5	1.5	0.9	2.4	1.9	2.1	1.7	3.1	2.2	4.9	2.3	3.1	2.0
Stress Tolerance 701															
	A. Advise Jaroslav to tell the nurse he is busy and will come as soon as he can.	1.9	1.4	1.9	0.9	2.0	1.4	2.6	1.7	2.6	1.7	2.7	2.2	4.8	2.6
	B. Advise Jaroslav to tell the nurse he is currently dealing with an emergency and that it will be at least 30 minutes before he can reassess this patient.	1.9	1.4	1.6	0.8	2.1	1.7	2.6	1.9	2.5	1.5	2.9	2.2	5.5	2.2
	C. Advise Jaroslav to give orders over the	1.9	1.4	1.7	0.8	2.1	1.1	2.3	1.7	2.5	1.3	2.8	2.2	5.0	2.1

	phone for additional medication.														
	D. Advise Jaroslav to tell the nurse he will not be able to see the patient for some time so the nurse can call the chief resident for immediate advice.	1.8	1.1	1.7	1.0	2.2	1.3	2.5	1.7	3.1	1.8	3.0	2.2	5.4	2.2
	E. Advise Jaroslav to tell the nurse that he will call and ask the chief resident to see the patient.	1.9	1.2	1.8	1.1	1.9	1.2	2.5	1.7	3.1	1.6	3.0	2.2	5.1	2.1
	F. Advise Jaroslav to ask for the patient's vital signs to ensure he's hemodynamically stable and see him within an hour, after checking on your other patients.	2.5	2.0	2.1	1.2	1.9	1.1	2.6	1.9	2.6	1.9	3.6	2.4	5.4	2.3
	G. Advise Jaroslav to call another resident to ask for help. He can see the patient with shortness of breath, and the other resident can assess the patient's back pain.	2.1	1.5	1.8	0.9	1.6	0.8	2.6	1.9	3.6	1.8	3.3	2.3	5.2	2.3
	H. Advise Jaroslav to explain to the nurse that he has another emergency, and ask the nurse for the name of a resident who can help out.	1.9	1.4	1.6	0.8	2.0	1.5	2.6	1.9	3.2	1.6	3.1	2.3	5.1	2.3
	I. Advise Jaroslav to take 5-10 minutes to get something to drink, and just take a break. The patients can wait, and he needs to take care of himself.	1.8	1.4	1.9	0.9	2.1	1.6	2.9	2.0	2.1	1.8	3.9	2.4	5.6	2.0

Stress Tolerance 702															
	A. Advise Julia to tell the nurse she has already dealt with this, and that there is nothing more she can do at the moment.	2.5	2.1	2.3	1.4	2.1	1.4	2.6	1.9	2.5	1.8	4.0	2.2	4.2	2.5
	B. Advise Julia to explain to the nurse that the night nursing staff felt the pain control was adequate, and that she will get there as soon as she can, but it won't be anytime soon.	2.5	2.0	2.2	1.5	2.2	1.4	3.1	1.8	2.9	1.7	3.3	2.2	4.2	2.6
	C. Recommend to Julia that at the first available opportunity she visit the patient with the nurse to see why her assessment is different than that of the night shift nurse.	2.9	2.1	2.4	1.5	1.7	1.0	2.7	2.1	3.2	2.0	3.9	2.1	4.6	2.3
	D. Recommend to Julia that she ask the current nurse to review the notes from the previous nursing shift, then to notify you of the difference and make adjustments in pain medications accordingly.	3.0	2.0	2.0	1.2	2.1	1.3	2.8	2.0	2.9	1.9	4.1	2.0	4.8	2.5
	E. Recommend to Julia that she tell the nurse to increase the pain medication a little bit without evaluating him because she already knows his symptoms.	3.1	2.2	2.5	1.7	2.6	1.6	2.6	2.1	2.6	1.8	4.1	2.2	4.4	2.6

	F. Recommend to Julia that she ask the nurse to explain the nature of the patient's pain, and if anything is different from the previous nurse's assessment re-examine the patient immediately.	3.0	1.8	2.6	1.6	2.0	1.1	2.7	2.1	3.1	1.7	4.3	2.1	4.8	2.5
	G. Recommend to Julia that she assure the nurse that the patient was already assessed for pain and to allow the day team physicians to make their own assessment.	2.5	1.7	2.1	1.3	2.1	1.3	2.5	1.9	2.9	1.7	4.1	2.0	4.2	2.5
	H. Recommend to Julia that she drop everything she is doing to go and see the patient so that she may not miss some life-threatening change in the patient's status.	3.1	2.0	2.6	1.7	2.0	1.2	2.6	2.0	2.2	1.7	4.9	1.8	4.8	2.5
	I. Recommend to Julia that she ignore the nurse for now (since she did due diligence all night and has documentation in the chart to prove it) and try to get all her other things done.	3.2	2.1	2.4	1.7	1.9	1.1	3.1	1.9	2.6	1.8	3.7	2.2	4.4	2.6
	J. Recommend to Julia that she visit the patient with the nurse at the first available opportunity so they can assess the patient's pain together.	3.0	2.0	2.4	1.6	1.9	1.1	2.6	1.9	3.4	1.9	4.4	1.9	4.7	2.4
Stress Tolerance 703															

	A. Tell Thomas he should have run to the bedside of his patient without checking in with the urgent consults because codes are the most time sensitive.	3.1	2.3	2.5	1.8	2.6	1.8	2.5	2.0	2.1	1.8	3.4	2.2	4.9	2.4
	B. Tell Thomas he should have verified whether any of the urgent consults could have waited and then see how his patient was doing.	3.1	2.0	2.2	1.4	2.4	1.8	2.6	2.1	2.2	1.9	3.6	2.2	5.1	2.4
	C. Tell Thomas he should have stabilized the patients in the ED and then gone to the floor with his patient.	2.7	1.9	1.9	1.2	2.3	1.7	2.4	2.0	1.9	1.8	3.4	2.3	5.0	2.3
	D. Tell Thomas he should have alerted the ED staff that he was going to a code and would be back as soon as possible to see the consults.	2.6	1.9	1.9	1.2	2.3	1.7	2.6	2.0	2.6	2.0	3.4	2.3	5.2	2.4
	E. Tell Thomas that he should have attended the code and asked his senior resident/fellow to ask for assistance with the ED consults.	2.6	1.8	2.4	1.8	2.1	1.4	2.6	2.1	2.9	1.9	3.4	2.1	5.0	2.4
	F. Tell Thomas he should have prioritized the urgent ED consults, then check on the patient who coded, then see the non-urgent ED consult.	3.0	2.2	1.9	1.2	2.4	1.7	2.6	2.1	2.1	1.8	3.6	2.3	5.2	2.4
	G. Tell Thomas he should have continued with the urgent ED consults since he was not assigned to the code team and the code was adequately covered with	2.8	2.0	2.0	1.2	2.4	1.7	2.6	2.1	2.0	1.4	3.4	2.3	5.2	2.4

	the appropriate providers.														
Teamwork 501															
	A. Advise Jasmine to tell the nurse she has made her decision and it is final in the absence of new information.	1.9	1.4	1.9	1.1	2.4	1.6	2.4	1.5	5.1	2.0	3.2	2.4	3.4	2.3
	B. Advise Jasmine to re-examine the patient with the nurse in order to respond directly to Imelda's concerns.	2.1	1.3	2.2	1.4	2.1	1.4	2.4	1.6	6.3	0.7	3.6	2.3	3.3	2.4
	C. Advise Jasmine to tell Imelda she is overwhelmed and that the patient needs to be assigned to a different nurse.	2.1	1.5	1.6	0.9	2.1	1.4	2.6	2.0	5.7	1.7	3.1	2.1	3.5	2.4
	D. Advise Jasmine to call the attending physician for advice.	1.9	1.3	1.9	1.2	2.1	1.4	2.4	1.8	4.9	1.9	2.9	1.9	3.2	2.3
	E. Advise Jasmine to set definite criteria for transfer (such as oxygen saturation below 88%).	2.9	1.9	2.0	1.1	2.1	1.4	2.4	1.6	4.9	2.4	3.2	1.6	3.0	2.4
	F. Advise Jasmine to approach Imelda and explain the conditions that patients must meet to be transferred to ICU so that Imelda understands why Jasmine does not	2.5	1.8	1.7	0.9	2.4	1.7	2.4	1.6	6.5	0.8	3.4	2.0	3.2	2.3

	think the patient needs to be transferred.														
	G. Advise Jasmine to transfer the patient to ICU, since this would not harm the patient, and Imelda may be right.	2.0	1.4	2.1	1.5	2.0	1.3	2.4	1.8	5.1	1.9	3.3	2.0	3.1	2.3
	H. Advise Jasmine to let the situation settle down for several minutes and then re-approach Imelda to explain the patient's plan again.	1.9	1.4	1.6	0.9	2.4	1.7	2.4	1.7	5.4	2.1	2.9	1.9	3.4	2.3
	I. Advise Jasmine to apologize to Imelda and ask what her particular concerns are about the patient.	2.1	1.8	2.1	1.5	2.1	1.4	2.4	1.7	5.9	1.6	3.1	1.9	3.1	2.3
Teamwork 502															
	A. Advise John to tell the chief resident it will not happen again.	2.1	1.1	2.1	1.1	2.5	1.4	5.4	1.7	3.4	2.2	2.2	1.5	2.0	1.4
	B. Advise John to apologize to the child, family members and the nurse.	2.0	1.2	1.9	1.2	2.9	1.4	5.1	2.1	3.8	2.4	4.6	2.1	2.1	1.4
	C. Advise John to tell the chief resident it was important to change the dressing when he did and that he did not have time to follow his normal procedure.	2.4	1.2	1.9	1.1	3.1	1.4	4.9	2.1	3.6	2.2	2.6	1.9	2.4	1.5

	D. Advise John to speak to the nurse to learn how this situation can be avoided in the future.	2.3	1.3	3.2	1.6	2.5	1.5	4.1	2.2	5.2	1.7	2.2	1.7	2.1	1.4
	E. Advise John to ask the nurse why she didn't come to speak to him before contacting the chief resident.	2.0	1.2	1.8	1.1	2.2	1.3	4.4	1.9	5.2	1.8	1.8	1.5	2.1	1.4
	F. Advise John to ask for his faculty/ chief resident's assistance in planning how to apologize to the child, family members, and the nurse and apologize as recommended.	2.4	1.5	2.7	1.6	2.9	1.8	5.3	1.8	5.6	1.8	3.3	1.9	1.9	1.3
	G. Advise John to let it pass - he learned his lesson, and the nurse talked with the chief resident already.	2.3	1.4	2.5	1.5	2.6	1.3	4.9	1.9	3.7	2.2	2.6	1.9	2.3	1.6
	H. Advise John to call the family and apologize over the telephone.	2.0	1.4	1.8	1.1	2.7	1.4	5.2	1.9	3.0	2.2	3.9	2.3	2.1	1.6
Teamwork 503															
	A. Tell Devon to enter the patient's room and confront the attending, explaining why your team chose the specific antibiotic.	1.5	1.2	1.6	1.2	2.4	1.5	2.0	1.4	6.2	1.1	3.5	2.4	3.5	2.0
	B. Tell Devon to contact a resident on the other team and explain your team's choice of antibiotic.	1.4	0.8	1.6	1.2	2.1	1.5	2.2	1.4	6.5	0.7	2.1	1.9	2.3	1.8

	C. Advise Devon to go back to the patient's room after the attending from the other team has left and tell the patient and his family that your team's plan is better.	1.5	1.2	1.5	1.2	2.4	1.5	2.1	1.5	5.9	1.8	3.4	2.5	2.4	2.1
	D. Suggest that Devon arrange a conference among the involved teams to come to a resolution.	1.7	1.1	2.1	1.4	1.7	1.1	2.4	1.6	6.9	0.4	1.8	1.7	2.3	1.9
	E. Advise Devon to write a note in the chart detailing why your team's choice is better than the other team's.	2.4	1.7	1.7	1.4	2.1	1.5	1.9	1.3	5.9	1.7	1.9	1.8	2.4	1.9
	F. Advise Devon to let it go. Everyone knows this attending does this - there is nothing to be done about it.	1.9	1.6	1.9	1.5	2.1	1.5	1.8	1.3	5.6	2.1	2.0	1.9	2.4	1.8
	G. Advise Devon to go to the program director to complain.	1.6	0.9	1.5	1.2	2.5	1.7	2.1	1.5	5.9	1.7	1.7	1.7	2.4	2.1
	H. Advise Devon to go to the attending from the consulting service to let her know how upset he was and ask her to explain the choice of antibiotic.	2.1	1.3	2.1	1.5	2.4	1.6	1.9	1.2	6.1	1.2	1.7	1.7	2.5	2.1
	I. Tell Devon that he should submit an I-Care (electronic event report) and follow up with the hospital, to find out what next steps the hospital is taking to address the attending's behavior.	2.5	1.7	1.8	1.1	2.8	1.7	2.0	1.5	6.4	0.8	1.8	1.8	2.4	2.1

	J. Advise Devon to inform the senior attending on his own service about the other attending's poor behavior.	1.4	0.9	1.5	0.9	2.6	1.5	2.1	1.3	6.0	1.7	1.8	1.8	2.4	1.9
	K. Advise Devon to submit an I-Care (electronic event report) and ask the senior attending on his own service what else he should have done to ensure patient safety and promote team cooperation.	2.3	1.5	3.4	2.2	2.6	1.9	2.6	1.9	6.4	1.1	2.3	2.0	2.3	1.9
	L. Advise Devon to review the evidence for the choice of antibiotic.	3.1	1.9	2.9	1.8	1.6	0.9	2.1	1.4	4.1	2.4	2.1	1.9	1.9	1.5
Teamwork 504															
	A. Advise Sabr to tell the chief resident she feels discriminated against and ask for help educating the group.	1.1	0.4	2.0	1.2	3.5	2.2	1.8	1.6	6.1	1.3	1.4	1.6	2.7	2.1
	B. Advise Sabr to print an article about bacteria cultured on physicians' neckties and put it under Dr. Smith's door.	1.9	1.7	2.3	1.8	3.2	1.9	1.4	0.9	5.5	2.0	1.4	1.6	3.1	2.1
	C. Advise Sabr to arrange a meeting with Dr. Smith and a representative from the office for diversity to defend herself.	1.2	0.4	1.5	0.8	3.4	1.9	1.9	1.7	6.0	1.2	1.4	1.6	2.8	2.2
	D. Advise Sabr to ignore this and just do the best job she can.	1.6	1.6	1.9	1.7	2.9	2.3	1.8	1.6	4.9	2.1	1.4	1.6	2.9	2.1

	E. Advise Sabr to contact the program director about the interaction and ask for advice.	1.4	0.7	2.4	1.9	3.1	1.9	1.8	1.7	5.6	1.5	1.4	1.6	2.8	2.2
	F. Advise Sabr not to approach Dr. Smith, but complete the end of rotation evaluation, including this interaction, and give him a low rating.	1.4	0.8	1.4	0.7	3.5	2.2	2.1	1.8	5.6	1.7	1.4	1.6	2.6	2.2
	G. Advise Sabr to discreetly but directly inform Dr. Smith that his statement may be perceived as prejudicial.	1.4	0.9	1.4	0.7	3.6	2.1	2.1	2.1	6.4	0.9	1.4	1.6	2.8	2.2
	H. Advise Sabr to call the Office of Diversity and file a report.	2.0	1.5	1.4	0.6	3.6	1.8	2.2	1.9	5.1	1.9	1.4	1.6	2.6	2.2
	I. Advise Sabr to call Dr. Smith racist and bigoted the next time they are on rounds. He needs to know that this behavior will not be tolerated.	1.4	0.9	1.5	0.9	3.6	1.9	1.9	1.7	5.8	1.7	1.4	1.6	3.2	2.3
	J. Advise Sabr to avoid working with Dr. Smith going forward and make sure to inform other residents of Muslim background to stay clear of this person.	1.3	0.7	1.2	0.6	3.4	2.0	2.1	2.0	5.8	1.8	1.4	1.6	2.9	2.3
	K. Advise Sabr to ask the program to take Dr. Smith off the teaching service until he undergoes sensitivity training and has coaching sessions.	1.4	0.9	1.6	1.4	3.3	2.2	2.0	1.8	5.4	1.9	1.4	1.6	2.8	2.3
	L. Advise Sabr to create an anonymous ethics concern entry to	1.5	1.0	1.6	1.1	3.4	2.1	1.6	0.9	5.4	1.7	1.4	1.6	2.6	2.3

	appropriate hospital staff.														
Teamwork 505															
	A. Advise Ed to tell the consultant that he did talk with a fellow in his specialty who agreed to the plan.	1.8	1.3	1.2	0.6	1.5	0.9	3.1	1.6	6.1	1.1	1.2	0.6	3.1	2.2
	B. Advise Ed to thank the consultant for the recommendation, but explain that he knows the patient better because he's on the primary team.	1.6	0.9	1.4	0.7	1.6	1.1	2.8	1.4	6.0	1.6	1.4	0.7	3.1	2.2
	C. Advise Ed to keep the consultant happy by telling the consultant he doesn't know what happened and that he will discontinue the medication right away, but in practice proceed with his team's plan.	1.6	1.0	1.4	0.7	2.8	2.2	3.3	1.8	6.2	1.6	1.3	0.6	3.0	2.2
	D. Advise Ed to tell his attending what happened, and ask for her advice.	1.6	1.2	2.4	2.2	1.4	0.8	2.8	1.7	5.6	2.1	1.1	0.5	2.8	2.0
	E. Advise Ed to ask the ID fellow to tell the consultant why the team decided to keep the patient on the lower dose rather than discontinue the medication.	1.9	1.5	1.6	1.4	2.3	1.8	3.1	1.6	6.4	0.8	1.4	0.6	3.1	2.2
	F. Advise Ed to call his program director to have the angry consultant	1.4	0.8	1.4	0.9	1.7	1.2	2.3	1.5	6.1	1.6	1.1	0.5	3.4	2.3

	removed from the teaching service.														
	G. Advise Ed to apologize to the consultant for incomplete communication.	1.4	0.8	1.4	0.9	2.2	1.5	3.7	2.3	6.6	0.6	1.1	0.5	3.4	2.3
	H. Advise Ed to affirm the expertise of the consultant while explaining the rationale for reducing the medication.	1.9	1.2	1.9	1.7	2.1	1.8	3.1	1.9	6.9	0.4	1.3	0.6	3.2	2.2
	I. Advise Ed to call the consultant and request an apology. Residents do not need to tolerate rudeness, even from experts.	1.4	0.7	1.4	0.9	1.4	0.8	2.0	1.4	6.1	1.6	1.1	0.5	3.6	2.4
	J. Advise Ed to contact the primary team attending to discuss the conflict and ask the attending to "smooth things over" with the consultant.	1.6	0.9	1.5	1.2	1.8	1.3	2.9	1.8	6.3	1.6	1.2	0.6	3.3	2.5
Teamwork 506															
	A. Advise Felicity to set up a meeting with Tess where Tess can explain her perspective, and then determine a plan for addressing the issue.	2.1	1.3	1.5	0.9	2.7	2.1	2.4	1.8	6.6	0.9	1.0	0.0	2.6	1.8
	B. Advise Felicity to let it slide - a prestigious award is always a good thing for the program, and chances are the other residents are getting the work done.	1.8	1.8	1.8	1.8	2.9	1.9	2.4	1.8	5.5	2.4	1.0	0.0	2.3	1.8

	C. Advise Felicity to talk to the attending about Tess's disappearance and lack of oversight of the team and ask the attending for advice on how to handle the situation.	1.7	1.0	2.1	1.6	2.4	1.6	2.0	1.5	6.2	1.3	1.0	0.0	2.5	1.8
	D. Advise Felicity to talk to other team members and create a plan to talk to Tess as a group about the expectations of the team and their need for supervision and teaching to be successful.	1.8	1.3	1.9	1.5	2.8	1.8	2.8	1.8	6.8	0.4	1.0	0.0	2.5	1.8
	E. Advise Felicity to talk to the chief resident or program director to address the issue of lack of supervision, teaching and team leadership and the concern that giving any feedback could result in retaliation or poor evaluations.	1.9	1.3	1.4	0.8	2.8	1.6	2.2	1.5	6.5	0.9	1.0	0.0	2.5	1.8
	F. Advise Felicity to give Tess a very bad evaluation at the end of the rotation and not do anything about it in the interim so that she may not retaliate or make things worse for the team.	1.7	1.3	1.8	1.5	3.0	1.9	1.9	1.5	5.7	2.2	1.0	0.0	2.5	1.8
	G. Advise Felicity to tell Tess that everyone thinks she is doing a bad job, hoping this will spur Tess to be more present.	1.5	1.2	1.2	0.6	3.0	1.8	2.1	1.4	6.2	1.8	1.0	0.0	2.7	1.8

Teamwork 507															
	A. Advise Tina to tell Dave he needs to take responsibility for his patients regardless of his personal issues.	1.8	1.3	1.6	1.0	3.2	1.8	3.5	1.9	6.0	1.7	2.0	1.9	2.2	1.6
	B. Advise Tina to inform the attending that Dave has been acting strange and she is worried it is affecting patient care.	1.9	1.0	2.0	1.8	3.1	1.8	2.3	1.8	5.9	1.9	2.1	1.8	2.3	1.6
	C. Advise Tina to warn Dave that if she sees him ignore his pager again she will have to tell the attending because he is compromising patient care.	1.9	1.4	1.9	1.4	3.4	1.6	3.1	1.8	6.4	1.2	2.4	1.8	2.3	1.6
	D. Advise Tina to tell Dave she is worried about him and ask if there is anything she can do to help.	1.4	0.9	1.4	0.9	2.9	1.5	2.3	1.3	6.6	0.8	1.2	0.6	2.5	1.6
	E. Advise Tina to tell Dave, whether or not it is true, that he has been doing a great job managing patients over the last two weeks in order to boost his self-esteem.	1.4	1.2	1.4	0.9	2.9	2.1	2.2	1.7	6.4	1.6	1.4	0.8	2.2	1.6
	F. Advise Tina to approach Dave and ask him to contact the program director.	1.4	0.7	1.3	0.6	2.6	1.6	2.3	1.7	6.1	1.2	1.3	0.8	2.1	1.6
	G. Advise Tina to tell Dave that he should probably switch specialties.	1.3	0.7	1.4	0.9	2.3	1.6	1.7	1.0	6.1	1.6	1.3	0.8	2.1	1.6
	H. Advise Tina to express her concerns to the chief resident and program director.	1.6	1.0	1.4	0.9	2.4	1.5	1.9	1.6	6.1	1.2	1.4	1.1	2.1	1.6

	I. Advise Tina to assure appropriate patient care is being provided and immediately call the attending on-call and/or chief resident to let them know that Dave appears to be unable to engage in patient care at this time.	2.6	1.9	2.1	1.7	3.3	1.8	2.9	1.7	6.3	1.4	2.7	2.3	2.4	1.6
	J. Advise Tina to tell Dave this behavior is unbecoming of a physician and to "snap out of it".	1.4	1.2	1.3	0.6	2.3	1.5	1.9	1.3	6.4	1.6	1.1	0.3	2.5	2.0
	K. Advise Tina to offer to return the page for Dave to allow him to have some space to rest.	1.4	0.8	1.7	1.3	2.0	1.4	2.3	1.7	6.4	1.1	1.4	0.9	2.1	1.4
Teamwork 508															
	A. Tell Romain to note the finding in the patient's chart. There is no need to communicate with the attending about the discrepancy at this point.	3.1	2.0	2.5	1.8	2.6	1.8	2.7	2.2	5.7	2.2	1.9	1.7	1.5	1.1
	B. Tell Romain to note the finding in the patient's chart and inform the attending that they have both recorded different findings.	3.2	2.0	2.7	1.5	2.7	1.9	2.9	2.1	6.2	1.7	2.0	1.7	1.5	1.1
	C. Offer to examine the patient with Romain, and if the finding is confirmed, help him to approach the attending about it.	3.2	1.9	2.8	1.7	2.5	1.9	2.8	2.1	6.3	1.7	2.4	2.1	1.4	1.1

	D. Tell Romain he must be mistaken because the attending did an exam and did not note anything concerning.	2.6	2.0	2.6	2.0	2.1	1.6	2.7	2.0	5.3	2.4	2.2	2.1	1.5	1.1
	E. Tell Romain you should both go find the attending immediately and discuss this discrepancy.	2.9	2.0	2.6	1.6	2.2	1.6	2.7	2.1	6.0	1.6	2.1	1.8	1.5	1.1
	F. Thank Romain for catching the error and contact the attending immediately to see how the treatment plan should be altered in light of this.	3.4	1.7	2.7	1.6	2.4	2.0	2.9	2.0	5.9	1.7	2.4	2.2	1.5	1.1
	G. Encourage Romain to ask the attending to repeat the exam with him and point out his question about the concerning finding.	3.1	2.0	3.0	1.9	2.3	1.8	3.5	2.0	6.1	2.1	2.3	2.1	1.5	1.1
Accountability 401															
	A. Advise Jorge to draw blood from his patient and send it to the lab before answering the attending's page.	2.8	1.5	1.3	0.6	3.9	2.2	5.5	2.1	2.1	1.6	1.3	0.6	2.3	1.6
	B. Advise Jorge to respond to the page and tell his attending he does not have the results yet but will give them to him as soon as they are available.	2.7	1.5	1.2	0.6	3.8	2.1	5.8	1.7	2.2	1.7	1.1	0.3	2.3	1.6
	C. Advise Jorge to respond to the page and tell his attending he had a busy night and did not	3.0	1.5	1.3	0.6	4.7	2.0	6.3	1.7	2.1	1.8	1.1	0.3	2.3	1.6

	have time to get the blood to the lab.														
	D. Advise Jorge to draw blood from his patient, send it to the lab, and ignore the page until he has the results.	2.9	1.5	1.2	0.6	4.1	2.2	5.7	2.1	2.1	1.8	1.2	0.4	2.3	1.6
	E. Advise Jorge to find an intern to draw blood and order the lab test while telling his attending that he is waiting on the results.	2.5	1.6	1.3	0.7	3.9	2.3	5.6	2.4	2.3	1.5	1.1	0.4	2.3	1.6
	F. Advise Jorge to tell the attending the level was "relatively unchanged" without actually running the blood test.	3.1	1.8	2.2	1.8	4.9	2.2	6.1	2.1	2.1	1.8	1.4	0.9	2.3	1.7
	G. Advise Jorge to tell the attending the specimen wasn't processed properly and he needs to redraw it.	2.9	1.7	1.5	0.9	4.8	2.1	5.9	2.0	2.0	1.6	1.1	0.4	2.3	1.7
	H. Advise Jorge that he was unprofessional in lying to his attending.	2.7	1.8	1.5	0.9	4.2	2.2	5.7	1.7	2.2	1.9	1.1	0.3	1.9	1.3
	I. Advise Jorge to call his attending back and let the attending know that he had intended to immediately draw the blood, became distracted by a patient care matter and apologize for the error.	3.3	1.8	1.5	1.0	4.9	2.0	6.8	0.6	2.5	2.1	1.1	0.3	2.3	1.7
	J. Advise Jorge to draw the blood immediately and wait to return the attending's call until the results return.	2.8	1.7	1.5	1.0	4.0	2.2	5.7	2.1	2.0	1.6	1.2	0.4	2.3	1.7

	K. Advise Jorge to call the attending and report the patient declined a blood draw earlier, but is now willing to have his blood drawn.	2.6	1.7	1.5	0.9	4.9	2.1	5.7	2.1	2.1	1.8	1.5	0.7	2.5	1.9
Accountability 402															
	A. Agree to take some of John's case load and not say anything to your attending.	1.9	0.9	1.4	0.9	3.5	2.3	4.8	2.2	4.4	2.3	1.5	1.0	1.6	0.8
	B. Agree to take some of John's case load, but tell your attending you are covering for John because he is late.	1.8	0.9	1.5	0.9	3.9	2.2	5.3	1.9	4.4	2.5	1.5	1.0	1.7	0.9
	C. Don't agree to take some of John's case load because his personal life should not impact your work life.	1.9	1.0	1.4	0.9	3.2	2.5	5.1	2.3	4.4	2.4	1.6	1.7	1.5	0.8
	D. Don't agree to take some of John's case load and report him to your attending.	2.1	1.3	1.4	0.9	3.3	2.4	5.0	2.3	4.1	2.2	1.6	1.7	1.6	0.8
	E. Call John and tell him you will cover for him this time, but the next time he is late you will report him to your attending.	2.0	1.1	1.3	0.7	4.1	2.1	5.1	1.9	4.3	2.1	1.3	0.9	1.5	0.7
	F. Verbally agree to take some of John's case load but don't actually cover his patients so your attending will discover John is absent without you being the whistle blower.	2.0	1.3	1.6	1.0	4.6	2.3	5.5	2.1	4.7	2.3	2.1	1.7	1.6	0.8

	G. Don't agree to take some of John's case load, but instead arrange a meeting between you, John, and the chief resident to discuss his absences and the impact on patient care.	2.1	1.3	1.7	1.0	4.1	2.1	5.7	1.9	4.5	2.4	1.6	1.1	1.6	0.8
	H. Make sure John's patients are provided appropriate medical care and inform the chief resident and program director about your concern with John.	2.3	1.4	1.7	1.0	4.2	2.0	5.7	1.9	4.5	2.1	2.9	2.1	1.7	1.0
	I. Make sure John's patients are provided appropriate medical care and approach John once he comes in to explain you are concerned about him and want him to seek professional help.	2.4	1.8	1.7	1.0	4.1	1.9	5.3	1.9	4.3	2.3	2.9	2.1	1.7	1.1
	J. Page John and tell him to come to work immediately.	1.6	0.9	1.3	0.6	2.9	2.0	4.0	2.5	4.0	2.4	1.1	0.5	1.9	1.7
	K. Don't agree to take some of John's case load and report John to the state medical board for substance abuse.	1.8	1.0	1.3	0.7	4.2	2.0	4.7	2.2	3.9	2.6	1.1	0.5	1.6	0.9
	L. Call the Minnesota Health Professionals Services Program and discuss your concerns.	2.1	1.4	1.4	0.7	3.7	1.9	4.8	1.9	3.2	2.2	1.1	0.5	1.7	1.1
	M. Agree to cover for John's patients today, but make sure he is aware this is the last time you will be willing to cover.	1.7	1.0	1.4	0.8	3.5	2.2	4.7	2.0	4.5	2.2	1.7	1.0	1.7	1.1

	N. Offer to assist as much as possible, but insist John continue to write the progress notes for his patients.	1.7	1.0	1.4	0.8	3.5	2.2	4.7	2.3	4.6	2.1	1.6	1.0	1.7	1.1
	O. After ensuring proper patient care, express your concern by letting John know that you've noticed he's been struggling, and are worried that his alcohol use may be impacting his job performance.	2.1	1.3	1.6	0.8	4.0	2.0	5.1	2.1	4.8	2.3	2.1	1.4	1.9	1.5
Accountability 403															
	A. Advise Valerie to leave on time but to make a final quick round of the patients and make a note in their records of any issues she would have handed over orally to Orlando.	3.3	1.8	2.0	1.3	2.2	1.6	5.3	2.3	3.5	2.2	2.1	1.3	1.9	1.2
	B. Advise Valerie to leave on time but to write a list of all the patient issues and leave it with a nurse to give to Orlando.	3.3	1.8	1.8	1.1	2.1	1.6	5.3	2.3	3.3	2.3	2.1	1.3	1.9	1.2
	C. Advise Valerie to leave on time but to write a list of all the patient issues and leave it with the attending.	3.3	1.8	1.8	1.1	2.3	1.6	5.3	2.3	3.3	2.3	2.1	1.3	1.9	1.2
	D. Advise Valerie to leave on time but make a list of all the patient issues and give the list to another resident to give to Orlando when he arrives.	3.3	1.8	1.8	1.1	2.2	1.6	5.3	2.3	3.3	2.3	2.1	1.3	1.9	1.2

	E. Advise Valerie to call daycare to explain she will be late, and when Orlando arrives, hand over the list of issues and leave.	3.5	1.9	2.2	1.3	2.4	1.8	5.7	1.9	3.1	2.2	2.2	1.4	1.9	1.2
	F. Advise Valerie to get another resident to agree to cover her patients and sign out to him/her before picking up her child.	2.7	1.8	1.7	1.1	2.4	1.8	5.1	2.2	3.7	2.1	2.1	1.3	1.9	1.2
	G. Advise Valerie to call Orlando and sign out to him over the phone before picking up her child.	2.7	1.8	1.9	1.2	2.4	1.9	5.1	2.1	3.3	2.3	1.7	1.2	1.9	1.2
	H. Advise Valerie to call daycare to explain she will be late, and when Orlando arrives, go through all the patients with him before leaving.	3.5	1.9	2.3	1.4	2.5	1.9	5.7	1.9	3.6	2.2	2.3	1.4	1.9	1.2
	I. Advise Valerie to remain in the hospital until Orlando arrives, and personally offer to pick up Valerie's son if able.	3.3	2.1	2.5	1.6	2.6	1.8	5.6	2.0	4.1	2.4	2.1	1.4	1.9	1.2
	J. Advise Valerie to sign out to Orlando over the telephone while picking up her child.	3.0	1.8	2.2	1.4	2.6	1.7	5.1	2.2	3.4	2.4	1.9	1.3	1.9	1.2
	K. Advise Valerie to utilize the "backup resident" policy to make sure someone is covering the service at all times.	3.0	1.7	2.0	1.3	2.7	1.9	5.3	2.2	3.3	2.3	2.1	1.3	1.9	1.2
Accountability 405															

	A. Advise Saul to tell the attending that he gave the appropriate information to the patient to enable informed consent and that anything less would have been be ethically inappropriate.	2.4	1.5	2.2	1.8	3.2	2.0	5.3	2.0	1.8	1.2	3.9	1.8	1.6	0.9
	B. Advise Saul to tell the attending what he remembers saying to the patient and ask how he could have done better.	1.9	1.2	4.3	2.2	2.1	1.6	5.5	1.8	2.3	1.6	3.6	2.2	1.5	0.9
	C. Advise Saul to apologize to the patient and find out what upset him so he can learn from the incident.	2.0	1.4	3.9	2.5	2.5	1.6	5.6	2.1	1.5	0.8	5.0	1.7	1.6	1.0
	D. Advise Saul that most residents need further guidance about informed consent procedures and suggest that he obtain further practice with standardized patients.	2.1	1.2	3.7	2.1	2.2	1.7	4.7	2.3	2.3	1.7	3.1	2.2	1.5	0.9
	E. Advise Saul to apologize to the attending, telling her it will not happen again.	1.6	1.0	1.9	1.7	2.4	1.7	5.5	1.8	2.3	1.9	2.8	2.2	1.5	0.9
	F. Advise Saul to offer to meet with the patient and the attending to address the patient's concerns.	2.3	1.4	3.1	1.8	2.5	1.7	5.7	1.7	2.3	1.8	4.7	2.2	1.6	1.0
	G. Suggest to Saul that he go to the patient to apologize and to ask for feedback so he can better judge next time how much detail to provide.	2.2	1.3	4.3	2.3	2.3	1.6	5.9	1.8	1.4	0.8	5.0	1.6	1.6	1.0

	H. Suggest to Saul that he seek out an attending known for having good patient rapport, explain the encounter, and ask for advice.	2.1	1.1	3.9	2.2	2.3	1.7	5.5	2.1	2.7	1.8	3.7	2.3	1.6	1.0
	I. Advise Saul to limit the amount of detail for patients going forward, and only provide it if asked.	1.8	1.2	2.1	1.8	2.5	1.9	4.3	2.5	1.4	0.8	3.9	2.2	1.6	1.0
	J. Counsel Saul that all patients are different, and he should reflect on the encounter and chalk it up to a "learning experience."	1.6	0.8	3.0	2.2	2.0	1.5	4.5	2.1	1.5	1.0	3.5	2.3	1.5	1.0
	K. Counsel Saul that all patients are different, and he will eventually learn what is best.	1.9	1.1	2.9	2.2	1.9	1.5	4.6	2.3	1.5	1.0	3.5	2.3	1.5	1.0
Accountability 406															
	A. Advise Jose to go home, get some sleep, and return the next day without any further action.	1.9	1.4	2.9	2.2	2.3	1.8	4.9	2.1	1.5	1.0	1.0	0.0	1.4	0.9
	B. Advise Jose to tell the faculty member he is fine to stay because he is just a little tired and will try harder.	1.7	1.0	3.2	2.2	1.9	1.5	5.2	2.0	1.6	1.2	1.0	0.0	1.4	0.9
	C. Advise Jose to meet with the director of learner development to discuss his burnout issues and how to tackle them.	1.9	1.2	3.6	2.0	2.3	1.5	5.5	1.8	1.9	1.5	1.0	0.0	1.7	1.0

	D. Advise Jose to arrange an appointment with his primary care provider to get a sick certificate to present to the faculty member.	1.9	1.2	2.5	2.1	2.3	1.6	5.2	2.1	1.3	0.7	1.0	0.0	1.4	0.9
	E. Advise Jose that the treatment by the faculty member was unprofessional and that he should discuss this unfair treatment with his program director.	1.3	0.7	2.7	2.2	1.9	1.4	5.3	2.1	1.9	1.3	1.0	0.0	1.5	1.0
	F. Advise Jose to reflect on what might be the source of burnout and to make an appointment with the program director to discuss this issue and make a plan.	2.2	1.9	3.4	2.0	2.0	1.5	5.7	1.7	2.2	2.0	1.0	0.0	1.7	1.2
	G. Advise Jose to consider switching specialties because residency will only get harder.	1.3	1.0	2.9	2.2	1.9	1.5	3.9	2.4	1.8	1.5	1.0	0.0	1.7	1.6
	H. Advise Jose to ask faculty for specific feedback about what deficiencies they have identified and ask for advice on how to improve.	2.5	1.9	4.7	1.8	2.0	1.5	6.3	1.6	4.1	8.2	1.0	0.0	1.7	1.2
	I. Offer sympathy and support, as it is human to feel burn out during surgical residency and you've "been there" yourself.	1.3	0.6	2.5	2.4	1.5	1.1	4.0	2.2	3.7	2.3	1.0	0.0	1.5	0.8
	J. Offer a supportive response, acknowledging the importance of recognizing and managing burnout.	1.3	0.8	2.4	2.2	1.5	1.1	4.9	1.9	3.8	2.2	1.0	0.0	1.8	1.1

	K. Suggest to Jose that he meet with the program director to learn about additional resources to deal with burnout.	1.8	1.3	3.3	1.9	1.9	1.4	5.2	2.1	2.1	1.8	1.0	0.0	1.6	1.0
	L. Offer to trade rotations so that Jose can have lighter call duties during the next rotation.	1.6	1.1	2.5	2.1	1.7	1.3	4.3	2.5	3.5	2.4	1.0	0.0	1.2	0.6
	M. Tell Jose that his behavior is unbecoming of the profession and he will need to straighten out his goals.	1.5	1.0	2.5	2.2	1.9	1.4	3.9	2.5	2.8	2.0	1.0	0.0	1.5	0.9
Accountability 407															
	A. Advise Amanda to ignore the friend request and continue service as normal.	1.3	0.7	1.2	0.6	4.2	2.2	4.3	2.3	1.0	0.0	2.1	1.8	1.7	1.0
	B. Advise Amanda to switch patients with another resident to avoid potentially misleading the patient.	1.3	0.7	1.3	0.7	4.0	2.3	4.3	2.4	1.5	1.1	2.9	1.8	1.7	1.0
	C. Advise Amanda to tell the patient that hospital policy states she cannot become Facebook friends with patients.	1.7	1.3	1.2	0.6	4.7	2.0	5.3	2.1	1.0	0.0	2.8	2.1	1.7	1.0
	D. Advise Amanda to reject the request and feign ignorance if the patient asks about it.	1.5	1.0	1.2	0.6	4.3	2.5	5.0	1.9	1.0	0.0	2.7	2.1	1.7	1.0
	E. Advise Amanda to tell the patient she has a boyfriend so she is not misleading the patient.	1.4	0.9	1.1	0.4	4.4	2.4	4.5	2.5	1.0	0.0	2.8	2.2	1.7	1.0

	F. Advise Amanda to accept the friend request if she wants to do so.	1.6	1.3	1.2	0.6	4.3	2.3	4.5	2.7	1.0	0.0	2.5	2.2	1.7	1.0
	G. Advise Amanda to close her Facebook account.	1.5	1.1	1.1	0.4	3.5	2.5	4.3	2.5	1.1	0.5	2.5	2.0	1.9	1.3
	H. Advise Amanda to discuss with the patient that she is not comfortable with a social relationship with any of her patients on Facebook, but that she is happy to be the patient's doctor.	2.0	1.3	1.3	0.8	4.6	2.0	5.5	2.1	1.0	0.0	3.4	2.0	1.7	1.0
	I. Advise Amanda to friend the patient to get on with her work and unfriend as soon as the hospital stay is over.	1.4	1.1	1.2	0.6	4.3	2.3	4.3	2.7	1.0	0.0	2.7	1.9	1.9	1.3
	J. Advise Amanda to explain to the patient that they have a professional patient-provider relationship and that she will decline his social media request to be able to care for him.	1.9	1.3	1.3	0.8	4.7	1.9	5.1	2.4	1.0	0.0	3.5	1.9	1.7	1.0
	K. Advise Amanda to ask the patient why he sent her a friend request (just being friendly, seeking comfort, seeking a romantic relationship) so that she may openly discuss her position and boundaries, and ways to carry on in a professional relationship.	1.9	1.5	1.3	0.8	4.6	1.9	4.7	2.4	1.0	0.0	3.5	2.2	1.7	1.0

Accountability 408															
	A. Offer to do the appendectomy so Mike can catch up on sleep.	1.7	1.2	2.0	1.5	4.4	2.4	5.0	2.3	3.5	2.2	2.8	2.3	1.5	0.9
	B. Ask Mike if he is sure he should be doing surgery in his current state.	1.6	1.1	1.8	1.1	4.3	2.4	5.5	1.6	2.4	1.5	2.9	2.2	1.5	0.9
	C. Tell Mike he should not be doing surgery in his current state.	1.5	1.1	1.9	1.4	4.7	2.1	5.9	1.4	2.2	1.5	2.9	2.2	1.5	0.9
	D. Make an offhand comment to the effect, “I would never operate on someone if I was hungover”.	1.3	0.7	1.9	1.6	4.1	2.5	5.1	2.2	2.8	1.9	2.7	2.3	1.7	1.0
	E. Ask Mike to trade procedures as a ploy to stop him from operating while hungover.	1.5	0.9	2.0	1.4	4.3	2.3	5.3	2.5	2.9	1.8	2.9	2.2	1.7	1.1
	F. Tell an attending Mike is hungover and is about to scrub in on an operation.	1.6	1.1	2.0	1.4	4.7	1.9	5.7	1.9	2.6	1.8	2.8	2.0	1.6	1.0
	G. Do nothing. It is up to Mike to decide whether he is fit to participate in the appendectomy.	1.7	1.1	1.9	1.6	4.5	2.3	5.5	2.1	2.8	2.2	2.9	2.3	1.7	1.1
	H. Confront Mike privately and firmly tell him to get some rest before performing any procedures.	1.7	1.0	1.9	1.2	4.5	2.2	5.4	2.1	2.8	2.0	3.2	2.5	1.7	1.1
	I. Try to work in the same operating room as Mike to assure he can perform the procedure safely and correctly.	1.8	1.3	2.1	1.5	4.5	2.3	5.3	2.2	3.1	2.2	3.1	2.5	1.5	0.9

	J. Ask Akhil if you can see the Facebook photos to prove what happened last night before jumping to conclusions.	2.1	1.6	1.5	0.9	3.0	2.3	4.7	2.7	2.2	1.6	1.8	1.7	1.7	1.1

Appendix F
Final SJT Items

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
101	Accountability	Scene Set-Up: Mariam, your intern, approaches you in the hospital lunchroom. Mariam: Do you remember the 28-year old male who came in last week with hip dysplasia? He is getting surgery today and he will be in the hospital for a while. I was on-call that night so I checked him in and we chatted while I took his history. The next day he asked for my phone number. I told him I could not give it to him, but he just friended me on Facebook. I am still on his case and do not want to be rude by rejecting his request when I will be seeing him for the next few weeks. What should I do?	A. Advise Mariam to switch patients with another resident to avoid potentially misleading the patient.	3	A
			B. Advise Mariam to tell the patient that hospital policy states she cannot become Facebook friends with patients.	4	A
			C. Advise Mariam to reject the request and feign ignorance if the patient asks about it.	2	A
			D. Advise Mariam to tell the patient she has a boyfriend so she is not misleading the patient.	2	A
			E. Advise Mariam to close her Facebook account.	1	A
			F. Advise Mariam to discuss with the patient that she is not comfortable with a social relationship with any of her patients on Facebook, but that she is happy to be the patient's doctor.	6	A
			G. Advise Mariam to explain to the patient that they have a professional patient-provider relationship and that she will decline his social media request to be able to care for him.	6	A
102	Aspiring to Excellence	Scene Set-up: Suzuki, an intern, approaches you in the cafeteria (she is visibly upset). Suzuki: I just met with our program	A. Advise Suzuki to write a formal response to these faculty stating why she disagrees with their opinions.	1.5	AE
			B. Advise Suzuki to reflect on why she received this feedback.	6	AE

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
		director. Apparently some faculty members think I'm underperforming. One commented that I'm at the level of a fourth year medical student. Another commented that I hand off too many patient care decisions to the attending and faculty. I don't agree with these comments. I hand off important patient care decisions to the attending because it is her job to supervise us and make sure we don't make mistakes. What do you think I should do?	C. Advise Suzuki to meet with the chief and ask for more feedback and guidance.	6	AE
			D. Advise Suzuki to seek more support from trusted colleagues.	4	AE
			E. Advise Suzuki to try and take more ownership of decisions.	5	AC
			F. Advise Suzuki to ask a trusted colleague to observe her and provide feedback.	6	AE
			G. Advise Suzuki to seek constructive feedback from her peers and faculty with the intention of developing herself.	6	AE
103	Communication	Scene Set-Up: Jamie, a resident in your class, is speaking to you in the hallway. Jamie: I met with the patient and his wife to get consent for his cholecystectomy tomorrow. Prior to our meeting, he and his wife told the nurse that they would not need interpreter services because their adult daughter helps translate for them. They plan to speak with her later tonight and review our conversation. During the meeting, they did not talk very much. However, they nodded along during the discussion and when I asked questions. He then signed all of the	A. Advise Jamie to proceed with the cholecystectomy as scheduled because, legally, the patient provided consent by signing the consent forms.	1	C
			B. Advise Jamie to obtain the patient's consent a second time with someone from interpreter services present.	7	C
			C. Advise Jamie to have another resident obtain consent for the patient's cholecystectomy using different and simpler language.	1	PC
			D. Advise Jamie to give the patient a brochure about his cholecystectomy in his native language and let him review it.	4	PC
			E. Advise Jamie to wait until the daughter visits later this evening and then elicit her help in translating to obtain the patient's consent for his procedure.	3	C

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
		consent forms for his procedure. How should I handle this?	F. Advise Jamie to go back with the consent form and ask the patient whether he is sure he understands and has any questions.	2	C
			G. Advise Jamie to explain the procedure to an interpreter over the phone and ask the interpreter to obtain consent.	3.5	PC
104	Integrity	Scene Set-up: Damon, an intern, is talking to you in a packed elevator. Damon: Hey, you know Julia Fields, that news anchor on TV? I just helped with the delivery of her baby girl! She's going to name her Jessica.	A. Immediately tell Damon he should not discuss patients in public places, before he can share any more details.	6	I
			B. Wait until you are alone with Damon, so you do not embarrass him, and tell him not to discuss patients loudly in public places in the future.	5.5	I
			C. Ask for some more details about the story.	1	I
			D. Remind Damon of the importance of protecting patient privacy and advise him not to share such information in the future.	6	I
			E. Pretend you don't know the celebrity so that he will stop talking about it.	1	I
			F. Report the break in confidentiality to the patient and the program director.	3	I
			G. Pull Damon aside to remind him that his duty is to protect patient privacy and that the elevator is a poor location for such a story.	6.5	I
105	Teamwork	Scene Set-Up: Your intern, Suzuki, and nurse, Shannon, are talking in the hallway. You witness the following exchange. Shannon: I told you two hours ago	A. Advise Suzuki to tell Shannon she has made her decision and it is final in the absence of new information.	2	T
			B. Advise Suzuki to re-examine the patient with the nurse in order to respond directly to Shannon's concerns.	6	T

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
		your patient in 217 is getting worse and should be transferred to the ICU immediately. Suzuki: Yes, I know you told me that but I disagree. She is stable and does not need to be transferred. Shannon: I think if you examined the patient again you would feel differently. Suzuki: I did examine her again and I still don't think she needs to be transferred (nurse leaves). Suzuki (turning to you): I give up. What do you think I should do?	C. Advise Suzuki to tell Shannon she is overwhelmed and that the patient needs to be assigned to a different nurse.	2	T
			D. Advise Suzuki to call the attending physician for advice.	4	T
			E. Advise Suzuki to set definite criteria for transfer (such as oxygen saturation below 88%).	4	T
			F. Advise Suzuki to explain to Shannon the conditions that patients must meet to be transferred to ICU so that Shannon understands why Suzuki does not think the patient needs to be transferred.	5	T
			G. Advise Suzuki to transfer the patient to ICU, since this would not harm the patient, and Shannon may be right.	2	T
106	Teamwork	Scene Set-Up: Mariam (your intern, a female Muslim) approaches you in the cafeteria. Mariam: I was just rounding on a patient with Dr. Jones, who asked me if I knew how to change a patient's dressing. I told him of course I do. On the way out the door he said "How do you people maintain proper hygiene for patients when you wear those headscarves?" What should I do about this?	A. Advise Mariam to tell the chief resident she feels discriminated against and ask for help educating the group.	4	T
			B. Advise Mariam to arrange a meeting with Dr. Jones and a representative from the office for diversity to defend herself.	3.5	T
			C. Advise Mariam to ignore this and just do the best job she can.	1	T
			D. Advise Mariam to contact the program director about the interaction and ask for advice.	7	T
			E. Advise Mariam not to approach Dr. Jones, but include this interaction in the end of rotation evaluation and give him a low rating.	2	T

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
			F. Advise Mariam to discreetly but directly inform Dr. Jones that his statement may be perceived as prejudicial.	5	T
			G. Advise Mariam to ask the program to take Dr. Jones off the teaching service until he undergoes sensitivity training and has coaching sessions.	2	T
107	Teamwork	Scene Set-Up: Jamie, a resident in your class, approaches you in the call room. Jamie: Yesterday an ID consultant recommended stopping medication for one of our patients. Our primary care team disagreed. We thought this patient should be kept on the same medication but at a reduced dose. We spoke to the fellow on the ID service and she agreed the best path was to reduce the medication. We reduced the medication but did not communicate our decision to the initial ID consultant. Today the consultant returned and was furious that the medication was not stopped. He said "if you're aren't going to follow our recommendation, then don't ask for our recommendation." How should I handle this?	A. Advise Jamie to tell the consultant that he did talk with an ID fellow who agreed to the plan.	5	T
			B. Advise Jamie to thank the consultant for the recommendation, but explain that he knows the patient better because he's on the primary team.	2	T
			C. Advise Jamie to tell his attending what happened, and ask for her advice.	6	T
			D. Advise Jamie to ask the ID fellow to tell the consultant why the team decided to keep the patient on the lower dose rather than discontinue the medication.	4	T
			E. Advise Jamie to call his program director to have the angry consultant removed from the teaching service.	2	T
			F. Advise Jamie to affirm the expertise of the consultant while explaining the rationale for reducing the medication.	6	T
			G. Advise Jamie to contact the primary team attending to discuss the conflict and ask the attending to "smooth things over" with the consultant.	4.5	T
108	Aspiring to Excellence	Scene Set-up: Jackie, an intern, is presenting a case during morning	A. Recommend that Jackie follow the procedure typically used by your institution.	2	AE

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
		rounds. Jackie: In conclusion, the patient's care is complicated because I've never seen this condition before. Dr. Smith, do you have any advice? Dr. Smith: In this institution, I have noticed that we almost always treat this condition with the medications the patient is already on. I have a hypothesis as to why, but I don't know the full evidence behind it. What did you find in the literature? Jackie: When I looked, I did not see anything on UpToDate that addressed the treatment of patients with this condition. I guess we'll just continue the current treatment. Jackie (turning to you): Do you have any other ideas?	B. Recommend that Jackie look for advice in discipline-specific journals.	6	AE
			C. Recommend that Jackie publish a case report on this phenomenon so that you can begin a national dialogue about it.	2	AE
			D. Recommend that Jackie call in a consult from a specialty that is likely to have more insight into this phenomenon.	5	AE
			E. Recommend that Jackie contact the health sciences librarian to help with a more exhaustive search of the literature.	5	AE
			F. Recommend that Jackie consult additional sources besides UpToDate.	4	AE
			G. Recommend that Jackie start a discussion with this attending and other doctors about how to approach a medical condition that does not present itself frequently.	7	AE
109	Integrity	Scene Set-Up: Emily, a resident in your class, is speaking to you in the hallway of a hospital ward. Emily: I was just with a patient who needed a central line inserted in her internal jugular vein. During my anesthesiology rotation, I learned that the new standard of care requires providers to use an ultrasound while placing the line.	A. Advise Emily to let it go – this attending is "old-school" and will be retiring soon anyway.	2	I
			B. Advise Emily to send a formal email of complaint to the director of the unit.	3	I
			C. Tell Emily that next time, she should put in the central line with the ultrasound before the attending sees her.	2	I
			D. Advise Emily to place the central line without the ultrasound guidance because residents should defer to the attending's expertise.	2	I

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
		However, the surgery attending, who was aware of this new guidance, instructed me not to use an ultrasound. He said the old-fashioned way is just as good. How should I handle this situation in the future?	E. Advise Emily to call a "hard stop" and see if others are uncomfortable with it.	6	I
			F. Advise Emily to speak to the director of the unit and ask for education/ clarification about central line policy.	6	AE
			G. Advise Emily to inform the attending that she is uncomfortable proceeding with his recommendation and ask for guidance.	7	
110	Patient Centered Care	Scene Set-Up: Danielle (a white female intern) approaches you in the hallway. Danielle: I just tried to conduct a physical examination on an older white male who came to the ER complaining of abdominal pain. He told me there was no way he was going to be examined by a female resident. He said he wanted to see a male doctor. What should I do?	A. Advise Danielle to respect the patient's wishes and notify a male colleague that he's waiting.	5	PC
			B. Advise Danielle to explain that she is a doctor and proceed with the history.	2	PC
			C. Advise Danielle to have her attending introduce her as a doctor and request that she be allowed to perform the initial history and examination.	5	PC
			D. Tell Danielle to let him know she respects his wishes, and she will do her best to find someone quickly who can examine him.	6	PC
			E. Advise Danielle to ask a male faculty member to see the patient instead.	4	PC
			F. Advise Danielle to offer to have a male nurse accompany her while she does the exam.	5	PC
			G. Advise Danielle to inform the patient that a male physician is not immediately available, and to ask if he would consent to her examining him if a male nurse accompanied her for the examination.	6	PC

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
111	Integrity	Scene Set-Up: Lola, a resident in your class, approaches you in the hallway. Lola: Lately Peter has been late for many of his shifts. I have been covering for him but he is showing up later and later. Not only is he late, but his work seems to be slipping too. I don't know why he is acting this way. I know other residents have noticed these issues too. However, I don't think any of them will speak to the chief resident about the issue. How should I handle this?	A. Advise Lola to talk to the chief resident on behalf of all the residents so that the chief resident can address the situation.	6	I
			B. Tell Lola you will speak to the other residents to see what they have observed so that you can help her plan a course of action.	3	I
			C. Advise Lola to offer to help Peter with some of the tasks with which he is struggling.	2	I
			D. Remind Lola that residents are entitled to their privacy and she should allow Peter some more time before taking action.	2	I
			E. Suggest that Lola send Peter an email relating her observations and offering to meet with him because she can't keep covering for him.	3	I
			F. Advise Lola to have the chief resident approach Peter and ask him if anything has been bothering him lately.	5	I
			G. Offer to go with Lola to meet with Peter to ask if he is ok.	5	I
112	Stress Tolerance	Scene Set-up: Jackie, your intern, comes to you with a question. Jackie: One of my patients has been struggling with pain control. On three occasions I've gone to see him and made recommendations to the nurse. Up until now the night shift nurses felt the situation was under control. Now a new nurse has come on duty and is telling me the patient	A. Advise Jackie to tell the nurse she has already dealt with this, and that there is nothing more she can do at the moment.	2	ST
			B. Advise Jackie to explain to the nurse that the night nursing staff felt the pain control was adequate, and that she will get there as soon as she can, but it won't be anytime soon.	3	ST
			C. Recommend to Jackie that at the first available opportunity she visit the patient with the nurse to see why her assessment is different than that of the night shift nurses.	6	ST

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
		is in pain even with the current pain medication and wants me to evaluate him right away. I have many things to do before my shift is over. What do you think I should do?	D. Recommend to Jackie that she ask the current nurse to review the notes from the previous nursing shift, then to notify you of the difference and make adjustments in pain medications accordingly.	4	ST
			E. Recommend to Jackie that she tell the nurse to increase the pain medication a little bit without evaluating him because she already knows his symptoms.	3	ST
			F. Recommend to Jackie that she ask the nurse to explain the nature of the patient's pain, and if anything is different from the previous nurse's assessment re-examine the patient immediately.	5.5	ST
			G. Recommend to Jackie that she assure the nurse that the patient was already assessed for pain and to allow the day team physicians to make their own assessment.	3	ST
113	Accountability	Scene Set-Up: Jamie, a resident in your class, approaches you in the cafeteria. Jamie: Earlier today I consented an elderly patient for an operation. In an effort to be truthful, I described the procedure in some detail but my attending just told me I upset and frightened the patient by being so explicit. Apparently the patient felt unable to talk to me about her concerns. What should I do?	A. Advise Jamie to tell the attending that he gave the appropriate information to the patient to enable informed consent and that anything less would have been ethically inappropriate.	3	A
			B. Advise Jamie to tell the attending what he remembers saying to the patient and ask how he could have done better.	6	A
			C. Advise Jamie that most residents need further guidance about informed consent procedures and suggest that he obtain further practice with standardized patients.	5	A
			D. Advise Jamie to offer to meet with the patient and the attending to address the patient's concerns.	6	A

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
			E. Suggest to Jamie that he seek out an attending known for having good patient rapport, explain the encounter, and ask for advice.	5.5	A
			F. Advise Jamie to limit the amount of detail for patients going forward, and only provide it if asked.	2	A
			G. Counsel Jamie that all patients are different, and he should reflect on the encounter and chalk it up to a "learning experience."	3.5	A
114	Stress Tolerance	Scene Set-Up: Damon, an intern, approaches you in the hallway. Damon: I'm having a really busy night. I have three new patients waiting to be seen and a patient who has suddenly developed shortness of breath. There are notes to be written and I haven't had anything to drink for six hours. Finally, the ward nurse just called to tell me the patient I admitted a few hours ago with back pain has increasing pain and is asking for more medication. What do you think I should I tell the nurse?	A. Advise Damon to tell the nurse he is busy and will come as soon as he can.	3.5	ST
			B. Advise Damon to tell the nurse he is currently dealing with an emergency and that it will be at least 30 minutes before he can reassess this patient.	4.5	ST
			C. Advise Damon to tell the nurse he will not be able to see the patient for some time so the nurse can call the chief resident for immediate advice.	3	ST
			D. Advise Damon to tell the nurse that he will call and ask the chief resident to see the patient.	5	ST
			E. Advise Damon to ask for the patient's vital signs to ensure he's hemodynamically stable and see him within an hour, after checking on his other patients.	6	ST
			F. Advise Damon to call another resident to ask for help. He can see the patient with shortness of breath, and the other resident can assess the patient's back pain.	6	ST

Item ID	Item Competency	Item Text	Responses	Effectiveness	Professionalism Dimension
			G. Advise Damon to take 5-10 minutes to get something to drink, and just take a break. The patients can wait, and he needs to take care of himself.	4	ST
115	Conscientiousness	Scene Set-Up: An intern, Danielle, approaches you in the hallway. Danielle: It's been an extremely busy night and I can barely keep my eyes open. I have four hours to go until the end of my shift but I'm worried about my ability to think straight and make good decisions. What should I do?	A. Recommend that she just power through the final four hours of her shift.	2	C
			B. Offer to cover her pager for a few hours while she naps.	5	T
			C. Recommend a cup of coffee.	2	C
			D. Recommend that she take a nap in the on-call room while keeping her pager on loud in case of an emergency.	3	C
			E. Suggest that she speak to the attending and inform her she is too tired to work.	6	C
			F. Suggest that she keep working through her shift, but put off documentation until she is better rested.	2	C
			G. Suggest that she approach the chief resident to learn about resources available to support a fatigued resident	6	C

Note: Effectiveness=True effectiveness score based on average faculty ratings; Professionalism Dimension: A (Accountability), AE (Aspiring to Excellence), C (Conscientiousness), I (Integrity), PC (Patient-Centered Care), ST (Stress Tolerance), T (Teamwork)

Appendix G
Sample Developmental Report

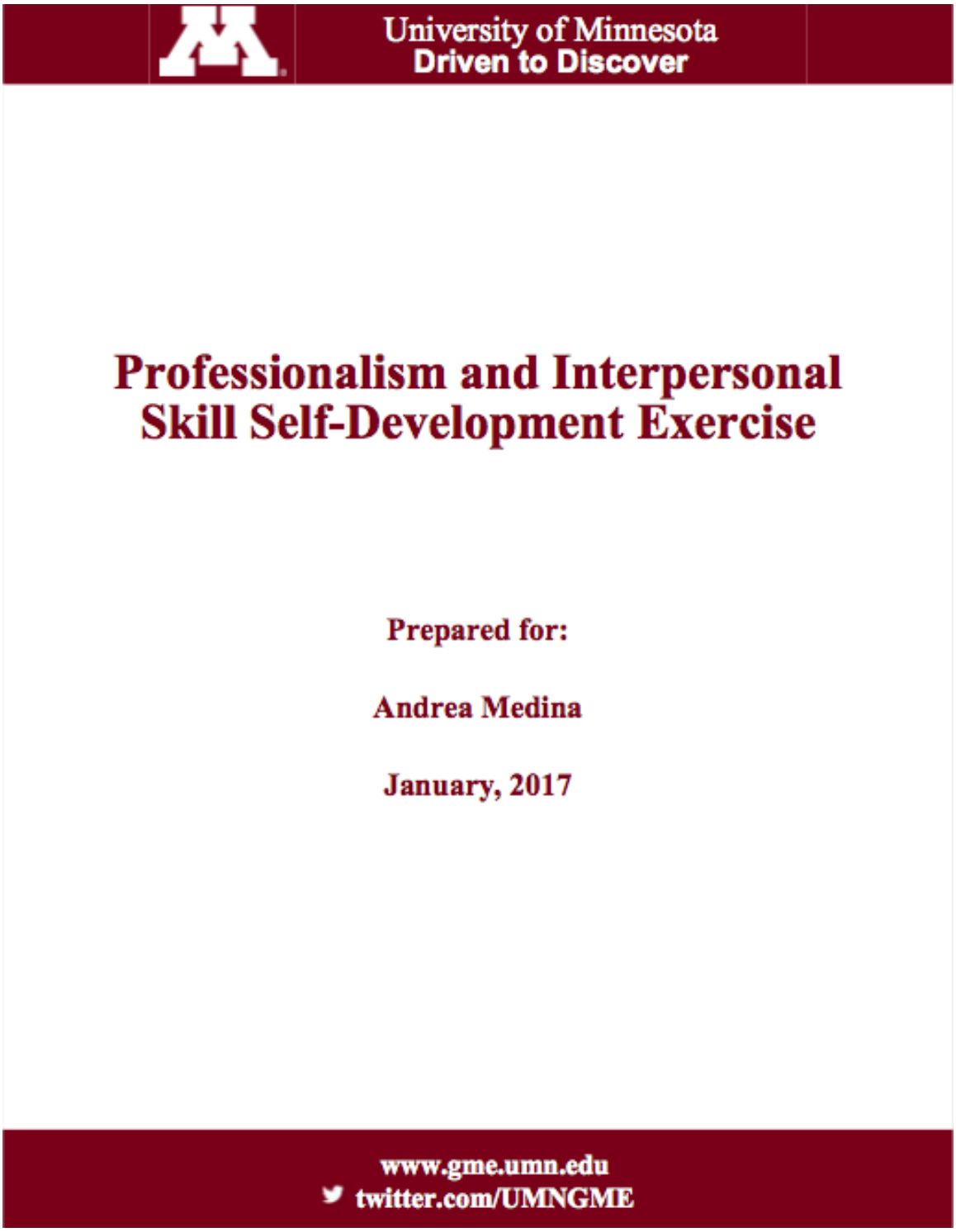


Table of Contents

Professionalism Competency Model

This report is intended to provide developmental feedback to help you improve your standing on seven key professionalism and interpersonal dimensions that are critical to success as a resident or fellow. These dimensions are shown below.

As this figure illustrates, each professionalism dimension is aligned with several important lower-level facets. In addition, each of the facets is aligned with a set of specific, observable, behaviors. These behaviors are described later in this report.

This model was developed and validated at the University of Minnesota Medical School in a series of workshops with faculty members and Ph.D. educators. The model was validated to ensure the behaviors measured the intended facets and were viewed to be important for successful performance as an independent physician.

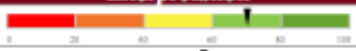
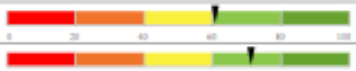
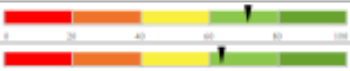
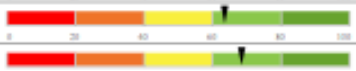
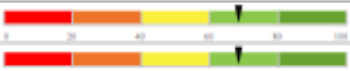
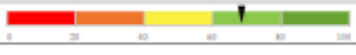
Feedback Report Overview

This report presents two sources of feedback related to the seven professionalism and interpersonal dimensions.

The first source of feedback is a set of scores on each of the seven dimensions. Scores are presented for each dimension on a scale of 1-100. In general, higher scores represent higher expected performance on each dimension.

The second source of feedback is a comparison of your responses on the scenarios with those of faculty members and other respondents.

Competency Summary

Dimension	Score	Interpretation
Conscientiousness	70	
Aspiring to Excellence	58	
Integrity	61	
Accountability	71	
Teamwork	63	
Patient-Centered Care	68	
Stress Tolerance	68	

Comparison with Other Groups

Percentile scores indicate how you compare to all other respondents. You scored equal to or better than the fraction of respondents indicated by the percentile.

Note: *There was insufficient data available to calculate percentiles.*

Competency Details

Dimension 1: Conscientiousness

Conscientiousness is defined as demonstrating a high degree of reliability by following through on commitments, approaching work in a methodical manner, and completing work tasks thoroughly and systematically. Conscientious individuals display high standards of attendance, punctuality, enthusiasm, and vitality in approaching and completing tasks.

Behaviors demonstrated by high scorers	Behaviors demonstrated by low scorers
• Demonstrates regular and punctual attendance (e.g., at rounds, conferences, and other work-related meetings). • Arrives for work well-prepared and focused on the tasks at hand. • Follows through on commitments (e.g., returns family's phone calls, enters information in EMRs, etc.). • Demonstrates a systematic approach to completing tasks and solving patient problems.	• Fails to attend promptly to clinical responsibilities, including but not limited to calls and pages. • Does not recognize or act on work that contains significant errors. • Does not follow through on commitments (e.g., does not return family's calls, keep up with chart completions). • Is not thorough in approach to work tasks (e.g., takes abbreviated, incomplete histories).

Your score for Conscientiousness is 70. Here are some developmental activities related to the Conscientiousness dimension.

Recommended developmental opportunities

- Create a timetable for your day with recurrent activities always completed in a consistent sequence.
- Create a priority list of required tasks and allocate time to each task.
- Create a system of checks to ensure all necessary tasks and paperwork (e.g., op notes, progress notes, discharge summaries) are completed on time and well. Observe others who complete tasks efficiently and ask them for their advice.
- Consider the reasons you may be late for meetings. Develop a plan to improve attendance (e.g., start ending meetings five minutes before their conclusion; allow sufficient travel time between meetings).
- Develop a plan to adequately communicate the cross-coverage plan when you are not available.
- For at least one task each day, do more than what is absolutely necessary (e.g., put a journal reference in one of your notes; talk to someone rather than emailing them; spend more time with one of your patients than you typically do). Reflect on these activities and consider how they make you feel about your work.

Dimension 2: Aspiring to Excellence

Aspiring to Excellence is defined as exerting a high level of effort and perseverance toward goal attainment; working hard to become excellent at doing tasks by setting high standards; setting goals for personal improvement; striving to continuously learn and share the products of that learning with others.

Behaviors demonstrated by high scorers	Behaviors demonstrated by low scorers
• Remains focused and persists, even when working on boring or repetitive tasks (e.g., administrative tasks such as duty hour logging, completing evaluations). • Reflects on obstacles or setbacks, and learns from them. • Seeks feedback about how to improve and develop as a physician. • Looks for opportunities to share knowledge with others (e.g., at conferences).	• Does not show initiative (e.g., avoids work, defers unnecessarily to attending physician or fellow trainees). • Lets major errors in work go uncorrected or unaddressed. • Is unprepared for scholarly discussions (e.g., journal clubs, grand rounds, etc.). • Does not demonstrate an interest in personal learning and development.

Your score for Aspiring to Excellence is 58. Here are some developmental activities related to the Aspiring to Excellence dimension.

Recommended developmental opportunities

- Reflect on recent interactions or procedures in which your performance was lower than expected and identify one thing you could improve upon next time. Meet with a coworker to discuss specific instances where your work didn't meet your own or other's expectations and what the consequences were for the patient.
- Learn one new thing each day - in a way, be your own personal trainer and document progress.
- Seek constructive feedback from at least one person each day. Seek feedback about your behavior or skill in a specific setting, its consequences, and how you can improve. Vary the role of the person selected (faculty, nurse, social worker, student, etc.).
- Offer to provide constructive feedback to a peer or mentee. If invited to do so, provide feedback that is specific and actionable.
- Ask yourself a clinical question and look up the answer.

Dimension 3: Integrity

Integrity is defined as showing consistency between principles and values, and behavior; choosing an ethical course of action and doing the right thing; being truthful and direct; maintaining confidentiality; remaining free from substance abuse; avoiding conflicts of interest; obeying health system and regulatory policies.

Behaviors demonstrated by high scorers	Behaviors demonstrated by low scorers
• Demonstrates honesty in interactions with patients, families, and other health care professionals (e.g., presents facts accurately and impartially, accurately reports content of patient communications). • Displays personal appearance and composure consistent with professional expectations (e.g., maintains clean appearance, does not dress in an overly casual manner). • Fosters dialog about ethically challenging situations. • Demonstrates an understanding of the importance of disclosing conflicts of interest to patients and professional associates (e.g., acceptance of gifts).	• Knowingly includes erroneous information in the electronic medical record (e.g., misrepresents services that were provided to patient, fails to correct inaccurate information). • Disregards the privacy of patient information (e.g., discusses patients' situations in public, does not de-identify sensitive patient data in reporting, etc.). • Displays obvious signs of substance abuse (e.g., binge drinking, misuse of prescription drugs, etc.). • Wastes, mismanages, or abuses organizational resources (e.g., takes supplies, tools, scrubs home without permission, produces inaccurate expense reports).

Your score for Integrity is 61. Here are some developmental activities related to the Integrity dimension.

Recommended developmental opportunities

- Practice sharing difficult and sensitive information in a role-play session with co-residents and faculty facilitators.
- Consider you are a patient – List information you would NOT like to be shared publicly. Make sure you do not do it with patient information.
- Get 360 evaluations of your everyday personal conduct. Do not disregard feedback; consider it a realistic reflection of how you are perceived by others. Adjust behaviors accordingly.
- Avoid gossip or other subversive behavior. Aim to "talk TO people, not about people."
- Imagine one of your patients is one of your family members. Consider if your treatment would be different. If it would be, create a plan to alter your treatment accordingly.

Dimension 4: Accountability

Accountability is defined as accepting responsibility for individual and group performance; accepting the consequences of one's behavior; admitting mistakes and attempting to learn from mistakes.

Behaviors demonstrated by high scorers	Behaviors demonstrated by low scorers
• Informs those who need to know about errors that have been made. • Welcomes constructive criticism. • Requests to debrief bad outcomes. • Readily acknowledges limitations in clinical skill and/or knowledge (e.g., asks for supervision and/or assistance when it is desirable/required).	• Fails to take responsibility for decisions, or does not admit to mistakes (e.g., blames others when errors occur as a result of one's work). • Fails to address personal, psychological, and/or physical limitations that may affect professional performance (e.g., fatigue, substance abuse, burnout). • Fails to acts on feedback provided. • Does not attempt to learn from mistakes.

Your score for Accountability is 71. Here are some developmental activities related to the Accountability dimension.

Recommended developmental opportunities

- Make a list of 3 strengths and weaknesses and provide actions you will take to improve your weaknesses. Plan for follow up.
- Identify one thing you really enjoy outside of work and assign a specific time in a day/week to do the activity.
- Make a list of times you HAVE and you HAVE NOT taken responsibility for your own actions each week (for work and non work-related events). Provide a description how you felt when you have taken responsibility and how you felt when you have not taken responsibility.
- Identify a task that is typically performed by a more senior person. Ask to be responsible for that task.
- Identify a situation where the team did not perform as anticipated. Meet with team members and discuss how the team could perform better next time and what improved contributions individuals could make.
- Time how long it takes you to return pages. Monitor your performance week to week.

Dimension 5: Teamwork

Teamwork is defined as collaborating and coordinating with others to achieve work goals; showing concern for and providing assistance and support to others; interacting respectfully with others; creating a desire for team accomplishment.

Behaviors demonstrated by high scorers	Behaviors demonstrated by low scorers
• Helps coworkers learn new skills (e.g., willingly shares knowledge and expertise). • Provides help when asked to do so. • Shares credit with coworkers for team accomplishments. • Encourages other coworkers to talk about their ideas in team situations.	• Demonstrates lack of respect towards coworkers (e.g., criticizes coworkers in public in a non-respectful manner, spreads rumors, ignores coworker input, attempts to make coworkers look bad). • Demonstrates abusive behavior towards coworkers (e.g., verbally abuses coworkers, threatens coworkers, sexually harasses coworkers). • Discriminates against or shows favoritism towards coworkers. • Acts without appropriate inclusion of others (e.g., does not include interprofessional team members in patient care).

Your score for Teamwork is 63. Here are some developmental activities related to the Teamwork dimension.

Recommended developmental opportunities

- Create a list of times you have volunteered or offered help to others. Review the list weekly.
- When you disagree with someone about something, write down the event and the topic of disagreement and all the possible solutions you can think of, including the one proposed by a person with whom you disagree. Collectively consider the positive and negative implications of all options.
- In disagreements, try to walk in the other person's shoes. Assume best intentions. Ask yourself: "Why would a reasonable person do this?"
- When possible, ask all present for their opinion. Have everyone weigh all options and discuss the merits of each option.
- Find an opportunity to say something positive about the actions of individual team members. Be sincere. Be specific about what you observed and its positive impact on the team.
- Celebrate a team success. Do something non-work related with the team.
- Help your peers and don't be afraid to ask them to help you accomplish what needs to be done.
- Get up in the morning, think about something nice you can do for someone, and do it.

Dimension 6: Patient-Centered Care

Patient-Centered Care is defined as understanding patients' needs and feelings and treating them with respect; focusing one's efforts on discovering and meeting patients' needs; handling challenging patient solutions effectively; promoting and striving to create a workforce and environment that represents and values diversity of people and ideas.

Behaviors demonstrated by high scorers	Behaviors demonstrated by low scorers
• Provides opportunity for patients to ask questions. • Forthrightly admits lack of knowledge to patients when circumstances call for it. • Advocates on behalf of patient or family member. • Pays attention to how patient is responding and changes approach if necessary.	• Demonstrates lack of respect or abusive behavior towards patients (e.g., verbally abuses patients, uses vulgar or inappropriate language in front of patients, does not listen to patient concerns, ignores patients' concerns or criticism). • Fails to keep patients up-to-date about condition or decisions that affect them as new information becomes available. • Puts own needs above needs of patient. • Does not employ safe patient care transitions (e.g., ineffective or absent hand-offs).

Your score for Patient-Centered Care is 68. Here are some developmental activities related to the Patient-Centered Care dimension.

Recommended developmental opportunities

- Sit in a quiet room and put yourself in the position of the patient you are caring for or the family. Analyze how you would feel in their situation. Write down the feelings you may feel, such as fear, pain, etc.
- Ask a faculty member or senior resident to evaluate your interaction with patients or families, specifically as it relates to listening, clear communication, respect, and body language.
- Do an Internet search of culture and ethnicity-specific habits of the different groups of people you encounter in your practice. Create a presentation about it.
- Review the last challenging patient with whom you interacted. Identify your emotions and assumptions, and what you can do to be more effective next time.
- Identify someone you are working with who handles patient interactions well. Reflect on how they do it. Ask them for feedback on your patient interactions. Ask them to tell you about one of their difficult patient interactions and what they learned.

Dimension 7: Stress Tolerance

Stress Tolerance is defined as effectively handling stressful situations and interactions, even when under time pressure; making effective decisions under time pressure.

Behaviors demonstrated by high scorers	Behaviors demonstrated by low scorers
• Maintains composure and keeps emotions in check during difficult situations. • Remains polite, civil, and respectful to people when under stress. • Deals calmly and effectively with coworkers who are having difficulty. • Demonstrates tact and self-control when faced with interpersonal conflict.	• Displays faulty thinking and/or poor-quality decision making when under pressure (e.g., does not prioritize appropriately in emergency or high-pressure situations). • Becomes flustered when working on procedures requiring high attention to detail. • Panics in emergency or high-pressure situations. • Lashes out when confronted with a frustrating patient.

Your score for Stress Tolerance is 68. Here are some developmental activities related to the Stress Tolerance dimension.

Recommended developmental opportunities

- Create scenarios of stressful situations you encounter more or less frequently and create an algorithm, which you would use in such situations.
- Listen to yourself.
- Pause, take a breath, and mentally reset before returning to your work.
- Take three long deep breaths every hour.
- Consider whether there are certain types of people with whom it is difficult for you to get along. Create a strategy for how you will interact successfully with these people and implement it.
- In a stressful situation use the sentence: "What can I do for you in this moment?"
- Identify signs of stress in yourself and others. Ask others to describe to you when they know you are stressed. Be conscious of when you are acting in a manner that shows you are stressed.
- Make a list of situations that predictably cause you stress. Strategize (alone or with a peer) about how to mitigate that stress the next time it occurs.

Scenario-Level Report

For each of the 15 scenarios in the developmental exercise, the report below compares your effectiveness ratings to those of faculty members and other respondents.

The report also indicates the action you indicated you would take in each scenario.

As you review your responses, keep in mind that there are no "right" answers to these scenarios, only more effective and less effective ways of responding.

Use these comparisons to reflect on the best ways to approach these types of situations in the future.

- Where your effectiveness ratings are very different from those of faculty or other respondents, consider why this might be so.
- If the action you would take in a situation was judged by you to be less effective than other responses, consider why this might be so. For instance, did you say you would perform an action that was less optimal in your eyes due to a specific situational constraint at your institution (e.g., you know the attending at your institution would not be responsive to a suggestion you viewed to be effective)?

The purpose of this section is to provoke thought, reflection, and discussion. Ultimately, the goal is to get you thinking about effective ways to handle these and similar simulations when they arise in the future.

Scenario 1

Mariam: Do you remember the 28-year old male who came in last week with hip dysplasia? He is getting surgery today and he will be in the hospital for a while. I was on-call that night so I checked him in and we chatted while I took his history. The next day he asked for my phone number. I told him I could not give it to him, but he just friended me on Facebook. I am still on his case and do not want to be rude by rejecting his request when I will be seeing him for the next few weeks. What should I do?

What you said you WOULD DO:

C. Advise Mariam to reject the request and feign ignorance if the patient asks about it.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Mariam to switch patients with another resident to avoid potentially misleading the patient.	Accountability	1.0	4.5	3.0	**2.0**
B. Advise Mariam to tell the patient that hospital policy states she cannot become Facebook friends with patients.	Accountability	2.0	3.8	4.0	**2.0**
C. Advise Mariam to reject the request and feign ignorance if the patient asks about it.	Accountability	2.0	5.0	2.0	**0.0**
D. Advise Mariam to tell the patient she has a boyfriend so she is not misleading the patient.	Accountability	3.0	2.6	2.0	**1.0**
E. Advise Mariam to close her Facebook account.	Accountability	3.0	2.4	1.0	**2.0**
F. Advise Mariam to discuss with the patient that she is not comfortable with a social relationship with any of her patients on Facebook, but that she is happy to be the patient's doctor.	Accountability	1.0	2.3	6.0	**5.0**

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
G. Advise Mariam to explain to the patient that they have a professional patient-provider relationship and that she will decline his social media request to be able to care for him.	Accountability	2.0	2.3	6.0	4.0

Scenario 2

Suzuki: I just met with our program director. Apparently some faculty members think I'm underperforming. One commented that I'm at the level of a fourth year medical student. Another commented that I hand off too many patient care decisions to the attending and faculty. I don't agree with these comments. I hand off important patient care decisions to the attending because it is her job to supervise us and make sure we don't make mistakes. What do you think I should do?

What you said you WOULD DO:

G. Advise Suzuki to seek constructive feedback from her peers and faculty with the intention of developing herself.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Suzuki to write a formal response to these faculty stating why she disagrees with their opinions.	Aspiring to Excellence	1.0	4.9	1.5	0.5
B. Advise Suzuki to reflect on why she received this feedback.	Aspiring to Excellence	2.0	3.3	6.0	4.0
C. Advise Suzuki to meet with the chief and ask for more feedback and guidance.	Aspiring to Excellence	1.0	5.0	6.0	5.0
D. Advise Suzuki to seek more support from trusted colleagues.	Aspiring to Excellence	2.0	5.5	4.0	2.0
E. Advise Suzuki to try to take more ownership of decisions.	Accountability	1.0	4.8	5.0	4.0
F. Advise Suzuki to ask a trusted colleague to observe her and provide feedback.	Aspiring to Excellence	1.0	2.4	6.0	5.0
G. Advise Suzuki to seek constructive feedback from her peers and faculty with the intention of developing herself.	Aspiring to Excellence	2.0	4.1	6.0	4.0

Scenario 3

Jamie: I met with the patient and his wife to get consent for his cholecystectomy tomorrow. Prior to our meeting, he and his wife told the nurse that they would not need interpreter services because their adult daughter helps translate for them. They plan to speak with her later tonight and review our conversation. During the meeting, they did not talk very much. However, they nodded along during the discussion and when I asked questions. He then signed all of the consent forms for his procedure. How should I handle this?

What you said you WOULD DO:

A. Advise Jamie to proceed with the cholecystectomy as scheduled because, legally, the patient provided consent by signing the consent forms.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Jamie to proceed with the cholecystectomy as scheduled because, legally, the patient provided consent by signing the consent forms.	Conscientiousness	1.0	2.3	1.0	0.0
B. Advise Jamie to obtain the patient's consent a second time with someone from interpreter services present.	Conscientiousness	2.0	4.4	7.0	5.0
C. Advise Jamie to have another resident obtain consent for the patient's cholecystectomy using different and simpler language.	Patient-Centered Care	1.0	5.8	1.0	0.0
D. Advise Jamie to give the patient a brochure about his cholecystectomy in his native language and let him review it.	Patient-Centered Care	2.0	2.2	4.0	2.0
E. Advise Jamie to wait until the daughter visits later this evening and then elicit her help in translating to obtain the patient's consent for his procedure.	Conscientiousness	1.0	4.0	3.0	2.0

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
F. Advise Jamie to go back with the consent form and ask the patient whether he is sure he understands and has any questions.	Conscientiousness	1.0	3.1	2.0	1.0
G. Advise Jamie to explain the procedure to an interpreter over the phone and ask the interpreter to obtain consent.	Patient-Centered Care	2.0	3.1	3.5	1.5

Scenario 4

Damon: Hey, you know Julia Fields, that news anchor on TV? I just helped with the delivery of her baby girl! She's going to name her Jessica.

What you said you WOULD DO:

G. Pull Damon aside to remind him that his duty is to protect patient privacy and that the elevator is a poor location for such a story.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Immediately tell Damon he should not discuss patients in public places, before he can share any more details.	Integrity	2.0	5.6	6.0	4.0
B. Wait until you are alone with Damon, so you do not embarrass him, and tell him not to discuss patients loudly in public places in the future.	Integrity	2.0	4.0	5.5	3.5
C. Ask for some more details about the story.	Integrity	3.0	1.8	1.0	2.0
D. Remind Damon of the importance of protecting patient privacy and advise him not to share such information in the future.	Integrity	2.0	2.2	6.0	4.0
E. Pretend you don't know the celebrity so that he will stop talking about it.	Integrity	3.0	5.4	1.0	2.0
F. Report the break in confidentiality to the patient and the program director.	Integrity	2.0	2.3	3.0	1.0
G. Pull Damon aside to remind him that his duty is to protect patient privacy and that the elevator is a poor location for such a story.	Integrity	1.0	3.6	6.5	5.5

Scenario 5

Shannon: I told you two hours ago your patient in 217 is getting worse and should be transferred to the ICU immediately.

Suzuki: Yes, I know you told me that but I disagree. She is stable and does not need to be transferred.

Shannon: I think if you examined the patient again you would feel differently.

Suzuki: I did examine her again and I still don't think she needs to be transferred (nurse leaves).

Suzuki (turning to you): I give up. What do you think I should do?

What you said you WOULD DO:

F. Advise Suzuki to explain to Shannon the conditions that patients must meet to be transferred to ICU so that Shannon understands why Suzuki does not think the patient needs to be transferred.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Suzuki to tell Shannon she has made her decision and it is final in the absence of new information.	Teamwork	5.0	2.7	2.0	**3.0**
B. Advise Suzuki to re-examine the patient with the nurse in order to respond directly to Shannon's concerns.	Teamwork	6.0	5.2	6.0	**0.0**
C. Advise Suzuki to tell Shannon she is overwhelmed and that the patient needs to be assigned to a different nurse.	Teamwork	6.0	2.4	2.0	**4.0**
D. Advise Suzuki to call the attending physician for advice.	Teamwork	6.0	3.9	4.0	**2.0**
E. Advise Suzuki to set definite criteria for transfer (such as oxygen saturation below 88%).	Teamwork	6.0	4.2	4.0	**2.0**

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
F. Advise Suzuki to explain to Shannon the conditions that patients must meet to be transferred to ICU so that Shannon understands why Suzuki does not think the patient needs to be transferred.	Teamwork	4.0	5.0	5.0	1.0
G. Advise Suzuki to transfer the patient to ICU, since this would not harm the patient, and Shannon may be right.	Teamwork	5.0	2.6	2.0	3.0

Scenario 6

Mariam: I was just rounding on a patient with Dr. Jones, who asked me if I knew how to change a patient's dressing. I told him of course I do. On the way out the door he said "How do you people maintain proper hygiene for patients when you wear those headscarves?" What should I do about this?

What you said you WOULD DO:

G. Advise Mariam to ask the program to take Dr. Jones off the teaching service until he undergoes sensitivity training and has coaching sessions.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Mariam to tell the chief resident she feels discriminated against and ask for help educating the group.	Teamwork	1.0	4.1	4.0	**3.0**
B. Advise Mariam to arrange a meeting with Dr. Jones and a representative from the office for diversity to defend herself.	Teamwork	2.0	2.0	3.5	**1.5**
C. Advise Mariam to ignore this and just do the best job she can.	Teamwork	3.0	3.1	1.0	**2.0**
D. Advise Mariam to contact the program director about the interaction and ask for advice.	Teamwork	3.0	2.4	7.0	**4.0**
E. Advise Mariam not to approach Dr. Jones, but include this interaction in the end of rotation evaluation and give him a low rating.	Teamwork	4.0	4.8	2.0	**2.0**
F. Advise Mariam to discreetly but directly inform Dr. Jones that his statement may be perceived as prejudicial.	Teamwork	3.0	2.4	5.0	**2.0**

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
G. Advise Mariam to ask the program to take Dr. Jones off the teaching service until he undergoes sensitivity training and has coaching sessions.	Teamwork	3.0	3.9	2.0	1.0

Scenario 7

Jamie: Yesterday an ID consultant recommended stopping medication for one of our patients. Our primary care team disagreed. We thought this patient should be kept on the same medication but at a reduced dose. We spoke to the fellow on the ID service and she agreed the best path was to reduce the medication. We reduced the medication but did not communicate our decision to the initial ID consultant. Today the consultant returned and was furious that the medication was not stopped. He said "if you're aren't going to follow our recommendation, then don't ask for our recommendation." How should I handle this?

What you said you WOULD DO:

C. Advise Jamie to tell his attending what happened, and ask for her advice.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Jamie to tell the consultant that he did talk with an ID fellow who agreed to the plan.	Teamwork	2.0	3.2	5.0	**3.0**
B. Advise Jamie to thank the consultant for the recommendation, but explain that he knows the patient better because he's on the primary team.	Teamwork	3.0	2.6	2.0	**1.0**
C. Advise Jamie to tell his attending what happened, and ask for her advice.	Teamwork	2.0	2.3	6.0	**4.0**
D. Advise Jamie to ask the ID fellow to tell the consultant why the team decided to keep the patient on the lower dose rather than discontinue the medication.	Teamwork	2.0	4.2	4.0	**2.0**
E. Advise Jamie to call his program director to have the angry consultant removed from the teaching service.	Teamwork	3.0	3.8	2.0	**1.0**

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
F. Advise Jamie to affirm the expertise of the consultant while explaining the rationale for reducing the medication.	Teamwork	4.0	2.2	6.0	**2.0**
G. Advise Jamie to contact the primary team attending to discuss the conflict and ask the attending to "smooth things over" with the consultant.	Teamwork	3.0	4.0	4.5	1.5

Scenario 8

Jackie: In conclusion, the patient's care is complicated because I've never seen this condition before. Dr. Smith, do you have any advice?

Dr. Smith: In this institution, I have noticed that we almost always treat this condition with the medications the patient is already on. I have a hypothesis as to why, but I don't know the full evidence behind it. What did you find in the literature?

Jackie: When I looked, I did not see anything on UpToDate that addressed the treatment of patients with this condition. I guess we'll just continue the current treatment.

Jackie (turning to you): Do you have any other ideas?

What you said you WOULD DO:

D. Recommend that Jackie call in a consult from a specialty that is likely to have more insight into this phenomenon.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Recommend that Jackie follow the procedure typically used by your institution.	Aspiring to Excellence	4.0	3.1	2.0	2.0
B. Recommend that Jackie look for advice in discipline-specific journals.	Aspiring to Excellence	5.0	4.8	6.0	1.0
C. Recommend that Jackie publish a case report on this phenomenon so that you can begin a national dialogue about it.	Aspiring to Excellence	6.0	3.4	2.0	4.0
D. Recommend that Jackie call in a consult from a specialty that is likely to have more insight into this phenomenon.	Aspiring to Excellence	5.0	3.5	5.0	0.0
E. Recommend that Jackie contact the health sciences librarian to help with a more exhaustive search of the literature.	Aspiring to Excellence	5.0	4.8	5.0	0.0

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
F. Recommend that Jackie consult additional sources besides UpToDate.	Aspiring to Excellence	3.0	4.3	4.0	1.0
G. Recommend that Jackie start a discussion with this attending and other doctors about how to approach a medical condition that does not present itself frequently.	Aspiring to Excellence	4.0	4.0	7.0	3.0

Scenario 9

Emily: I was just with a patient who needed a central line inserted in her internal jugular vein. During my anesthesiology rotation, I learned that the new standard of care requires providers to use an ultrasound while placing the line. However, the surgery attending, who was aware of this new guidance, instructed me not to use an ultrasound. He said the old-fashioned way is just as good. How should I handle this situation in the future?

What you said you WOULD DO:

D. Advise Emily to place the central line without the ultrasound guidance because residents should defer to the attending's expertise.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Emily to let it go - this attending is "old-school" and will be retiring soon anyway.	Integrity	1.0	2.8	2.0	1.0
B. Advise Emily to send a formal email of complaint to the director of the unit.	Integrity	2.0	2.1	3.0	1.0
C. Tell Emily that next time, she should put in the central line with the ultrasound before the attending sees her.	Integrity	1.0	2.3	2.0	1.0
D. Advise Emily to place the central line without the ultrasound guidance because residents should defer to the attending's expertise.	Integrity	2.0	2.7	2.0	0.0
E. Advise Emily to call a "hard stop" and see if others are uncomfortable with it.	Integrity	3.0	3.3	6.0	3.0
F. Advise Emily to speak to the director of the unit and ask for education/clarification about central line policy.	Aspiring to Excellence	1.0	2.6	6.0	5.0
G. Advise Emily to inform the attending that she is uncomfortable proceeding with his recommendation and ask for guidance.	Integrity	2.0	3.1	7.0	5.0

Scenario 10

Danielle: I just tried to conduct a physical examination on an older white male who came to the ER complaining of abdominal pain. He told me there was no way he was going to be examined by a female resident. He said he wanted to see a male doctor. What should I do?

What you said you WOULD DO:

A. Advise Danielle to respect the patient's wishes and notify a male colleague that he's waiting.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Danielle to respect the patient's wishes and notify a male colleague that he's waiting.	Patient-Centered Care	1.0	3.7	5.0	4.0
B. Advise Danielle to explain that she is a doctor and proceed with the history.	Patient-Centered Care	2.0	3.3	2.0	0.0
C. Advise Danielle to have her attending introduce her as a doctor and request that she be allowed to perform the initial history and examination.	Patient-Centered Care	2.0	3.7	5.0	3.0
D. Tell Danielle to let the patient know she respects his wishes, and she will do her best to find someone quickly who can examine him.	Patient-Centered Care	1.0	3.4	6.0	5.0
E. Advise Danielle to ask a male faculty member to see the patient instead.	Patient-Centered Care	2.0	3.5	4.0	2.0
F. Advise Danielle to offer to have a male nurse accompany her while she does the exam.	Patient-Centered Care	2.0	3.2	5.0	3.0

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
G. Advise Danielle to inform the patient that a male physician is not immediately available, and to ask if he would consent to her examining him if a male nurse accompanied her for the examination.	Patient-Centered Care	3.0	3.8	6.0	**3.0**

Scenario 11

Lola: Lately Peter has been late for many of his shifts. I have been covering for him but he is showing up later and later. Not only is he late, but his work seems to be slipping too. I don't know why he is acting this way. I know other residents have noticed these issues too. However, I don't think any of them will speak to the chief resident about the issue. How should I handle this?

What you said you WOULD DO:

D. Remind Lola that residents are entitled to their privacy and she should allow Peter some more time before taking action.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Lola to talk to the chief resident on behalf of all the residents so that the chief resident can address the situation.	Integrity	1.0	4.2	6.0	5.0
B. Tell Lola you will speak to the other residents to see what they have observed so that you can help her plan a course of action.	Integrity	2.0	3.3	3.0	1.0
C. Advise Lola to offer to help Peter with some of the tasks with which he is struggling.	Integrity	1.0	3.5	2.0	1.0
D. Remind Lola that residents are entitled to their privacy and she should allow Peter some more time before taking action.	Integrity	2.0	2.2	2.0	0.0
E. Suggest that Lola send Peter an email relating her observations and offering to meet with him because she can't keep covering for him.	Integrity	1.0	2.8	3.0	2.0

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
F. Advise Lola to have the chief resident approach Peter and ask him if anything has been bothering him lately.	Integrity	1.0	2.1	5.0	4.0
G. Offer to go with Lola to meet with Peter to ask if he is ok.	Integrity	3.0	2.2	5.0	2.0

Scenario 12

Jackie: One of my patients has been struggling with pain control. On three occasions I've gone to see him and made recommendations to the nurse. Up until now the night shift nurses felt the situation was under control. Now a new nurse has come on duty and is telling me the patient is in pain even with the current pain medication and wants me to evaluate him right away. I have many things to do before my shift is over. What do you think I should do?

What you said you WOULD DO:

D. Recommend to Jackie that she ask the current nurse to review the notes from the previous nursing shift, then to notify you of the difference and make adjustments in pain medications accordingly.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Jackie to tell the nurse she has already dealt with this, and that there is nothing more she can do at the moment.	Stress Tolerance	1.0	2.2	2.0	1.0
B. Advise Jackie to explain to the nurse that the night nursing staff felt the pain control was adequate, and that she will get there as soon as she can, but it won't be anytime soon.	Stress Tolerance	2.0	3.1	3.0	1.0
C. Recommend to Jackie that at the first available opportunity she visit the patient with the nurse to see why her assessment is different than that of the night shift nurses.	Stress Tolerance	3.0	4.3	6.0	3.0
D. Recommend to Jackie that she ask the current nurse to review the notes from the previous nursing shift, then to notify you of the difference and make adjustments in pain medications accordingly.	Stress Tolerance	2.0	3.4	4.0	2.0

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
E. Recommend to Jackie that she tell the nurse to increase the pain medication a little bit without evaluating him because she already knows his symptoms.	Stress Tolerance	3.0	2.7	3.0	0.0
F. Recommend to Jackie that she ask the nurse to explain the nature of the patient's pain, and if anything is different from the previous nurse's assessment re-examine the patient immediately.	Stress Tolerance	1.0	4.1	5.5	4.5
G. Recommend to Jackie that she assure the nurse that the patient was already assessed for pain and to allow the day team physicians to make their own assessment.	Stress Tolerance	2.0	2.6	3.0	1.0

Scenario 13

Jamie: Earlier today I consented an elderly patient for an operation. In an effort to be truthful, I described the procedure in some detail but my attending just told me I upset and frightened the patient by being so explicit. Apparently the patient felt unable to talk to me about her concerns. What should I do?

What you said you WOULD DO:

C. Advise Jamie that most residents need further guidance about informed consent procedures and suggest that he obtain further practice with standardized patients.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Jamie to tell the attending that he gave the appropriate information to the patient to enable informed consent and that anything less would have been ethically inappropriate.	Accountability	4.0	3.1	3.0	1.0
B. Advise Jamie to tell the attending what he remembers saying to the patient and ask how he could have done better.	Accountability	5.0	4.5	6.0	1.0
C. Advise Jamie that most residents need further guidance about informed consent procedures and suggest that he obtain further practice with standardized patients.	Accountability	4.0	3.9	5.0	1.0
D. Advise Jamie to offer to meet with the patient and the attending to address the patient's concerns.	Accountability	5.0	3.6	6.0	1.0
E. Suggest to Jamie that he seek out an attending known for having good patient rapport, explain the encounter, and ask for advice.	Accountability	6.0	2.7	5.5	0.5

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
F. Advise Jamie to limit the amount of detail for patients going forward, and only provide it if asked.	Accountability	4.0	3.9	2.0	**2.0**
G. Counsel Jamie that all patients are different, and he should reflect on the encounter and chalk it up to a "learning experience."	Accountability	5.0	3.5	3.5	**1.5**

Scenario 14

Damon: I'm having a really busy night. I have three new patients waiting to be seen and a patient who has suddenly developed shortness of breath. There are notes to be written and I haven't had anything to drink for six hours. Finally, the ward nurse just called to tell me the patient I admitted a few hours ago with back pain has increasing pain and is asking for more medication. What do you think I should I tell the nurse?

What you said you WOULD DO:

E. Advise Damon to ask for the patient's vital signs to ensure he's hemodynamically stable and see him within an hour, after checking on his other patients.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Advise Damon to tell the nurse he is busy and will come as soon as he can.	Stress Tolerance	5.0	3.2	3.5	1.5
B. Advise Damon to tell the nurse he is currently dealing with an emergency and that it will be at least 30 minutes before he can reassess this patient.	Stress Tolerance	6.0	3.1	4.5	1.5
C. Advise Damon to tell the nurse he will not be able to see the patient for some time so the nurse can call the chief resident for immediate advice.	Stress Tolerance	5.0	2.9	3.0	2.0
D. Advise Damon to tell the nurse that he will call and ask the chief resident to see the patient.	Stress Tolerance	6.0	2.6	5.0	1.0
E. Advise Damon to ask for the patient's vital signs to ensure he's hemodynamically stable and see him within an hour, after checking on his other patients.	Stress Tolerance	5.0	2.8	6.0	1.0

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
F. Advise Damon to call another resident to ask for help. He can see the patient with shortness of breath, and the other resident can assess the patient's back pain.	Stress Tolerance	1.0	4.1	6.0	5.0
G. Advise Damon to take 5-10 minutes to get something to drink, and just take a break. The patients can wait, and he needs to take care of himself.	Stress Tolerance	2.0	3.9	4.0	2.0

Scenario 15

Danielle: It's been an extremely busy night and I can barely keep my eyes open. I have four hours to go until the end of my shift but I'm worried about my ability to think straight and make good decisions. What should I do?

What you said you WOULD DO:

F. Suggest that she keep working through her shift, but put off documentation until she is better rested.

Response	Professionalism Dimension	Your Effectiveness Rating	Average Effectiveness Rating	Faculty Effectiveness Rating	Difference Between Your Rating and Faculty Rating
A. Recommend that she just power through the final four hours of her shift.	Conscientiousness	1.0	2.6	2.0	1.0
B. Offer to cover her pager for a few hours while she naps.	Teamwork	2.0	4.2	5.0	3.0
C. Recommend a cup of coffee.	Conscientiousness	3.0	3.8	2.0	1.0
D. Recommend that she take a nap in the on-call room while keeping her pager on loud in case of an emergency.	Conscientiousness	4.0	3.4	3.0	1.0
E. Suggest that she speak to the attending and inform her she is too tired to work.	Conscientiousness	7.0	3.8	6.0	1.0
F. Suggest that she keep working through her shift, but put off documentation until she is better rested.	Conscientiousness	7.0	3.6	2.0	5.0
G. Suggest that she approach the chief resident to learn about resources available to support a fatigued resident.	Conscientiousness	5.0	2.8	6.0	1.0

Appendix H
Facilitators Guide

University of Minnesota Professionalism and Interpersonal Skill Self-Development Exercise Debriefing Session

Facilitator Guide

Section 1: Introduction and Overview

Please record the names of all residents/fellows in attendance and send this list to Brittany Marcus-Blank (marcu093@umn.edu)

General Introduction (5 minutes)

- Welcome trainees to debriefing session
- Confirm trainees have completed the developmental exercise and have their feedback reports with them
- Remind trainees their scores are confidential. You don't have their scores and won't be asking for them. The online exercise and today's debriefing are solely for their own professional development.
- State the training objectives and the purpose of this training

Today we will be discussing your reactions to the scenarios in the professionalism and interpersonal skill self-development exercise.

There are three key objectives for this debriefing:

1. Develop an understanding of the Professionalism Competency Model.
   To do this we will:
   a. Discuss the key behaviors of high and low scorers on dimensions
   b. Review developmental exercises to enhance standing on dimensions

2. Develop a mental model for how to deal with key Professionalism situations.
   To do this we will discuss:
   a. Your effectiveness ratings for the scenarios
   b. How they compare to those of faculty
   c. The actions you said you would do in scenarios

3. Set a goal for improving specific behaviors in the next 3 months
   a. Pick Professionalism dimension you would like to enhance
   b. Choose 2-3 behaviors from list of developmental exercises
   c. Set specific goal for improvement using goal setting handout

Feel free to jump in with questions of your own- this session is about your development and should be as resident-driven as possible.

Development Report Review (5 minutes)

Brief review of feedback report.

- On the third page of your feedback report you can see Professionalism is broken into seven dimensions and various sub-dimensions:
    - Conscientiousness
    - Aspiring to Excellence
    - Integrity
    - Accountability
    - Teamwork
    - Patient-Centered Care
    - Stress Tolerance
- All of the scenarios and response options in the exercise are linked to one of these seven dimensions
- On the fourth page you can find your dimension score for each of these seven dimensions
- On pages 5 through 11 each professionalism dimension is defined, behaviors of high and low scorers are listed, and there are detailed development opportunities.
- The final pages restate all 15 scenarios you encountered in the developmental exercise and your responses.

  Pay particular attention to the column titled "Difference between your rating and faculty" rating
    a. You want the box to be green, indicating you rated the effectiveness of the response option similarly to how faculty rated it.
    b. Red boxes indicate you rated the effectiveness of the response option more than 2 points differently than how faculty rated it.

Above the response options for each scenario you will see the action you said you **would take in that scenario**. Take a few minutes now to note if there are any scenarios for which the response you said you **would take** was NOT the response option you rated as most effective.

Section 2: Group Discussion

Objective 1: Understanding Competency Model

We'll start by reviewing the competency model.

Below is a list of questions you can ask to spur the discussion. This session should be as resident-driven as possible, so use these only as a guide.

- As you look through the seven Professionalism dimensions, which ones seem most important to your success as a resident/fellow? As an independent physician?
- Review your scores. Did any surprise you?
- Look at the behaviors of the high scorers on these dimensions. Which behaviors are most important for success as an independent physician?
- Which behaviors of low scorers do you see frequently?
- Which developmental behaviors seem appealing to you? How can you integrate development of these behaviors with your schedule/current routine?
- Are there other tips for improving these dimensions that are not included in the feedback report?

Objective 2: Develop Mental Model for Dealing with Professionalism Scenarios

Now let's review the scenarios themselves.

Here are some possible questions to spur the discussion:

- Were the scenarios realistic? Why or why not?
- Have you experienced situations similar to those in the exercise? Is anyone comfortable sharing those experiences? What were the key challenges?
- Which scenarios were you most in alignment with faculty on? Which were you not?
- Were there any response options where the faculty effectiveness rating surprised you?
- For responses where your scores were quite different from those of faculty, can you explain your thought process?
- Were there any scenarios where what you said you "would do" was not your most effective response? Can you explain your thinking?
- Are there constraints in our clinical environment that make it difficult to pursue the most effective options? What are they? What would it take to overcome them?
- Are there certain experiences that younger trainees have not had yet that might affect their responses?
- How could the information in this feedback report be used to make behavioral changes (i.e., identifying developmental opportunities, setting goals, making a plan)?

Scenario Specific (if there is time)

- How might someone in a different specialty handle this situation? At a different hospital?
- Is there an alternative way to respond that you would have preferred (i.e. a missing/better response option)?

Section 3: Goal Setting Exercise

Objective 3: Set a Specific Developmental Goal

The best way to make changes in behavior is to set a specific goal to change it.

Take a moment to select a professionalism dimension you would like to improve. It should be a dimension on which you scored low but it doesn't need to be your lowest scoring dimension.

Next, turn to the description of that dimension you selected in your report and go to the section "Recommended Developmental Opportunities".

Take a moment now to select 2-3 behaviors you would like to work on from the set of developmental opportunities.

Using the goal setting handout, write down a specific goal for how you will work on each behavior in the next few months. Note:

1) specifically what you will do
2) when you will do it
3) what you will do when you encounter obstacles

You should complete this goal setting handout and send it to me within one week of today's session. You should be prepared to discuss your progress on these behaviors at your next semiannual performance evaluation.

Closing

- Was this discussion useful? Do you feel like you have learned anything?
- What is one tangible way you can use the information from this exercise and discussion to improve your professionalism today? This week? This rotation?

Appendix I
Goal Setting Handout

Professionalism and Interpersonal Skill Self-Development Exercise Debriefing Session Goal Setting Handout	
Resident/Fellow name:	Date of Session:
Targeted Professionalism dimension:	
Write down 2-3 behaviors you would like to work on from the set of developmental opportunities for this dimension. **You should aim to discuss progress during your next semi-annual review.** 1. 2. 3.	
Specifically, what will you do, and when? 1. 2. 3.	What obstacles to progress might you encounter, and what will you do when you encounter them? 1. 2. 3.
Comments (e.g., what help will you need to meet your goals, which specific people can help, how will you measure success?):	

Appendix J
BFI

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which **you agree or disagree with that statement.**

1 Disagree Strongly	2 Disagree a little	3 Neither agree nor disagree	4 Agree a little	5 Agree strongly

I am someone who…

1. _____ Is talkative
2. _____ Tends to find fault with others
3. _____ Does a thorough job
4. _____ Is depressed, blue
5. _____ Is original, comes up with new ideas
6. _____ Is reserved
7. _____ Is helpful and unselfish with others
8. _____ Can be somewhat careless
9. _____ Is relaxed, handles stress well.
10. _____ Is curious about many different things
11. _____ Is full of energy
12. _____ Starts quarrels with others
13. _____ Is a reliable worker
14. _____ Can be tense
15. _____ Is ingenious, a deep thinker
16. _____ Generates a lot of enthusiasm
17. _____ Has a forgiving nature
18. _____ Tends to be disorganized
19. _____ Worries a lot
20. _____ Has an active imagination
21. _____ Tends to be quiet
22. _____ Is generally trusting
23. _____ Tends to be lazy
24. _____ Is emotionally stable, not easily upset
25. _____ Is inventive
26. _____ Has an assertive personality
27. _____ Can be cold and aloof
28. _____ Perseveres until the task is finished
29. _____ Can be moody
30. _____ Values artistic, aesthetic experiences
31. _____ Is sometimes shy, inhibited
32. _____ Is considerate and kind to almost everyone
33. _____ Does things efficiently

34. _____ Remains calm in tense situations

35. _____ Prefers work that is routine

36. _____ Is outgoing, sociable

37. _____ Is sometimes rude to others

38. _____ Makes plans and follows through with them

39. _____ Gets nervous easily

40. _____ Likes to reflect, play with ideas

41. _____ Has few artistic interests

42. _____ Likes to cooperate with others

43. _____ Is easily distracted

44. _____ Is sophisticated in art, music, or literature

Appendix K
Pre and Post Training Measures

Instructions

Please rate the extent to which you agree with the following statements on a 1 (Strongly Disagree) to 7 (Strongly Agree) scale

Pre-training Professionalism self-efficacy

1. I can meet the challenge of maintaining professional behavior in everyday situations.
2. I am confident in my understanding of effective professionalism behaviors.
3. I can demonstrate effective professional behaviors without reminders from others.
4. I am confident in my ability to maintain a professional relationship with patients and colleagues in almost any situation.
5. I believe I can demonstrate professional behavior even when the situation is complex.
6. I believe I can demonstrate professional behavior even when interacting with a patient or colleague that is difficult to work with.

Pre-training desire to learn professionalism behavior

1. I am motivated to improve my professionalism and interpersonal skills.
2. I will try and learn as much as I can from the training.
3. I am interested in learning the training material.
4. I want to improve my professionalism and interpersonal skills.
5. I am willing to exert considerable effort to improve my professionalism and interpersonal skills in this training program.

Post-training Professionalism self-efficacy

1. I can meet the challenge of maintaining professional behavior in everyday situations.
2. I am confident in my understanding of effective professionalism behaviors.
3. I can demonstrate effective professional behaviors without reminders from others.
4. I am confident in my ability to maintain a professional relationship with patients and colleagues in almost any situation.
5. I believe I can demonstrate professional behavior even when the situation is complex.
6. I believe I can demonstrate professional behavior even when interacting with a patient or colleague that is difficult to work with.

Post-training desire to apply professionalism skills

1. I am motivated by my personal interest in professionalism to use the skills emphasized in this training.
2. I am interested in applying the training material in upcoming complicated situations.
3. I want to try and use my professionalism skills.

Appendix L
SJT Knowledge Tests

SJT Knowledge Test A

Below you will read 5 different scenarios that depict situations residents or fellows may encounter during their training. After reading these scenarios, you will be asked for your advice about how to handle a situation another resident or fellow has encountered.

For the purpose of these scenarios, you should assume that, unless otherwise specified, you are not involved in the care of patients discussed in the scenarios and that all of your conversations are HIPAA-compliant. Similarly, you should assume that each scenario is completely independent of the others. In other words, you should consider each scenario as it stands on its own.

Response Ratings: Each scenario is followed by several possible responses. After each response is a scale for you to provide a rating of how effective that response would be. Record a rating from 1 to 7 for each response. Rate how effective each response would be to the scenario. Each rating should be made independently of the others. Therefore, it is possible to have several 1s, 3s or 7s (for instance) for each scenario.

Effectiveness rating scale:
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

Please answer these questions honestly. Your performance on this exercise will have absolutely no consequences for you personally in your residency or fellowship program, or in the future.

Scene Set-Up: Sasha, a resident in your class, approaches you in the hallway.

Sasha: I was just approached by Jacob, a third year medical student who started rotating on our service last week. He is interested in our specialty and wants to collect "the numbers" before rounding. I like his initiative, however, last rotation one of his classmates reported lab values to me at a critical point that were three days old and could have altered patient care in a negative manner. What should I do?

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Advise Sasha to tell Jacob she can handle the extra work and do the pre-rounding herself.	○	○	○	○	○	○	○
B. Advise Sasha to allow Jacob to collect the lab values but double check them before any clinical decisions are made.	○	○	○	○	○	○	○
C. Advise Sasha to allow Jacob to collect the data after providing Jacob with clear expectations about the data he collects, and continue to review the data with Jacob as part of rounds to double check his accuracy.	○	○	○	○	○	○	○
D. Advise Sasha to let Jacob collect the lab values, and if any data is missed/incorrect let the attending know that Jacob collected the data.	○	○	○	○	○	○	○
E. Advise Sasha not to let Jacob do anything important.	○	○	○	○	○	○	○
F. Advise Sasha to let Jacob collect the pre-values but to insist that Jacob always present them to her so that she can double check before presenting to others.	○	○	○	○	○	○	○
G. Advise Sasha to give Jacob graded responsibility based on performance.	○	○	○	○	○	○	○

Scene Set-Up: You are a resident in clinic seeing patients and you observe a middle-aged male patient of another provider interacting with a receptionist in an ambulatory clinic.

Patient (shouting): I've been waiting for more than an hour to meet with my doctor. Start doing your job and get me a doctor right now!
Receptionist (looking frightened): It shouldn't be long now. Please just have a seat and the doctor will be with you shortly. Patient: (continuing to stand, but lowering voice): This is the third time in a row I've waited more than an hour to be seen. What's wrong with you people?

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Escort the patient directly to an examining room and start the visit.	○	○	○	○	○	○	○
B. Tell the patient to calm down.	○	○	○	○	○	○	○
C. Apologize to the patient and tell him that you'll figure out what's causing the delay.	○	○	○	○	○	○	○
D. Call security and go see your next patient because you don't want to end up running behind too.	○	○	○	○	○	○	○
E. Explain to the patient that clinic often runs late and that if he wants to be seen more expeditiously he could choose a different clinic.	○	○	○	○	○	○	○
F. Later, talk to this patient's doctor about why her clinic runs late and offer suggestions for running a more efficient clinic.	○	○	○	○	○	○	○
G. Bring the patient a glass of water and acknowledge that the long wait time is pretty unprofessional.	○	○	○	○	○	○	○

Scene Set-up: Michelle, a resident in your class, approaches you in the cafeteria.

Michelle: I just went to the on-call room and found Dave hiding out and looking upset. When I asked him what he was doing there he just replied that he shouldn't be a doctor and the program made a mistake accepting him. I told him he was a great doctor and should stop hiding in the on-call room. Then his pager went off and he just looked at it and ignored it. I'm worried about him. What do you think I should do?

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Advise Michelle to tell Dave he needs to take responsibility for his patients regardless of his personal issues.	○	○	○	○	○	○	○
B. Advise Michelle to warn Dave that if she sees him ignore his pager again she will have to tell the attending because he is compromising patient care.	○	○	○	○	○	○	○
C. Advise Michelle to tell Dave she is worried about him and ask if there is anything she can do to help.	○	○	○	○	○	○	○
D. Advise Michelle to tell Dave, whether or not it is true, that he has been doing a great job managing patients over the last two weeks in order to boost his self-esteem.	○	○	○	○	○	○	○
E. Advise Michelle to approach Dave and ask him to contact the program director.	○	○	○	○	○	○	○
F. Advise Michelle to express her concerns to the chief resident and program director.	○	○	○	○	○	○	○
G. Advise Michelle to offer to return the page for Dave to allow him to have some space to rest.	○	○	○	○	○	○	○

Scene Set-Up: You and the attending (Dr. Gardner) are in a patient's room with the patient, Samantha, in bed.

Attending: Samantha, if you have any other questions my resident can answer them for you.
Attending leaves the room.
Samantha (talking to you): Is Dr. Gardner always so cold? He treats me like I am just a name on a list to be checked off; I don't think he would know my name if he was not staring at my chart. I don't want him to be operating on me; there will be too much negative energy in the operating room. Can you do my surgery? I would feel much more comfortable if I knew someone who actually cares about me as a person is the one operating.

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Advise Samantha that Dr. Gardner should do the surgery because he has more experience.	○	○	○	○	○	○	○
B. Remind Samantha that Dr. Gardner will be in the operating room even if you operate so she is better off sticking with the more experienced surgeon.	○	○	○	○	○	○	○
C. Tell Samantha you will ask Dr. Gardner if you can proceed with the procedure yourself.	○	○	○	○	○	○	○
D. Offer to find a different physician to perform Samantha's procedure.	○	○	○	○	○	○	○
E. Explain to Samantha that the whole team works together to provide her care and that Dr. Gardner has the expertise to make sure the surgery goes successfully.	○	○	○	○	○	○	○
F. Explain that Dr. Gardner's presence and expertise is required to perform the operation, but that you will continue to be a key part of the care team.	○	○	○	○	○	○	○
G. Offer to ask Dr. Gardner to come back to go over some of Samantha's concerns directly so that Samantha can get a better sense of her attending physician and gain trust.	○	○	○	○	○	○	○

Scene Set-Up: You have just finished a 28 hour shift and are heading out of the hospital. Damon, your intern, approaches you in the call room.

Damon: I need your advice. I just got a text from Orlando, the resident who is due to replace me in 10 minutes. He said he will be a half an hour late due to a family crisis. I have to pick up my own son from daycare shortly and will need to leave on time myself. What should I do?

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Advise Damon to leave on time but to write a list of all the patient issues and leave it with a nurse to give to Orlando.	○	○	○	○	○	○	○
B. Advise Damon to call daycare to explain he will be late, and when Orlando arrives, hand over the list of issues and leave.	○	○	○	○	○	○	○
C. Advise Damon to get another resident to agree to cover his patients and sign out to him/her before picking up his child.	○	○	○	○	○	○	○
D. Advise Damon to call daycare to explain he will be late, and when Orlando arrives, go through all the patients with him before leaving.	○	○	○	○	○	○	○
E. Advise Damon to remain in the hospital until Orlando arrives, and personally offer to pick up Damon's son if able.	○	○	○	○	○	○	○
F. Advise Damon to sign out to Orlando over the telephone while picking up his child.	○	○	○	○	○	○	○
G. Advise Damon to utilize the "backup resident" policy to make sure someone is covering the service at all times.	○	○	○	○	○	○	○

SJT Knowledge Test B

Scene Set-Up: Jamie, a resident in your class, is speaking with you in the cafeteria.

Jamie: Earlier today a 35-year old male was admitted for alcohol detoxification. This was his third admittance for this reason this year. Following treatment, we recommended that he undergo residential chemical dependency treatment at a treatment center. He declined, stating that he would rather attend Alcoholics Anonymous because it is cheaper. His wife and mother really want him to undergo the chemical dependency treatment. They say he has been to Alcohol Anonymous many times but that it has never really helped. At the moment, there is no medical evidence supporting a petition for civil commitment, which would compel him to undergo treatment at this center. What should I do?

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Advise Jamie to ask for a consult and expert advice from a chemical dependence specialist to explore alternative chemical dependence treatment options.	○	○	○	○	○	○	○
B. Advise Jamie to explore options to avoid co-pay, since that is the patient's main argument against the proposed treatment.	○	○	○	○	○	○	○
C. Advise Jamie to proclaim the patient as incompetent to make his own decisions and admit him against his will.	○	○	○	○	○	○	○
D. Advise Jamie to discharge the patient with brochures about treatment programs, in case he changes his mind.	○	○	○	○	○	○	○
E. Advise Jamie to arrange for a meeting with chemical dependency consultants and to ask his family members to be present to help encourage him to go into treatment.	○	○	○	○	○	○	○
F. Advise Jamie to talk to family members to collect any evidence that could be used to commit the patient.	○	○	○	○	○	○	○
G. Advise Jamie to continue dialogue with the patient about the concerns expressed by the family members as well as his own and see if the patient would be willing to explore residential treatment.	○	○	○	○	○	○	○

Scene Set-up: Damon, an intern, approaches you in the hallway.

Damon: I need your help with something. I just did a full physical exam on a patient, and noticed that the attending's physical exam and mine differed. I noted a very concerning finding that the attending did not note in the patient's chart. I redid my exam and made the same observations. I don't want to offend the attending by contradicting him. What should I do?

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Tell Damon to note the finding in the patient's chart. There is no need to communicate with the attending about the discrepancy at this point.	○	○	○	○	○	○	○
B. Tell Damon to note the finding in the patient's chart and inform the attending that they have both recorded different findings.	○	○	○	○	○	○	○
C. Offer to examine the patient with Damon, and if the finding is confirmed, help him to approach the attending about it.	○	○	○	○	○	○	○
D. Tell Damon he must be mistaken because the attending did an exam and did not note anything concerning.	○	○	○	○	○	○	○
E. Tell Damon you should both go find the attending immediately and discuss this discrepancy.	○	○	○	○	○	○	○
F. Thank Damon for catching the error and contact the attending immediately to see how the treatment plan should be altered in light of this.	○	○	○	○	○	○	○
G. Encourage Damon to ask the attending to repeat the exam with him and point out his question about the concerning finding.	○	○	○	○	○	○	○

Scene Set-Up: Tom, a resident in your class, is speaking to you in the hallway of a hospital ward.

Tom: You know, I've been here for a while now and I thought I would get more efficient as time goes on. Instead, I never seem to finish all of my patient care tasks in the 24 + 4 duty hour work restriction. It always takes me at least 24 + 6. I've been doing the extra work and writing 24 + 4 on all my duty hour reports but I don't know if this is what I should be doing. What advice can you give me?

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Advise Tom that that seems like a reasonable approach.	○	○	○	○	○	○	○
B. Explain to Tom that he should enter the full number of hours worked whether or not it violates the duty hour requirements.	○	○	○	○	○	○	○
C. Encourage Tom to meet with his program director (PD) to see whether the PD can offer institutional support or advice about working more efficiently.	○	○	○	○	○	○	○
D. Advise Tom to work only the number of hours he is allowed to work, since he is risking burnout and increased medical errors if he works more hours than the duty hour allotment.	○	○	○	○	○	○	○
E. Ask Tom to describe his specific struggles to see if there is a way for him to work more efficiently and still meet his requirements.	○	○	○	○	○	○	○
F. Advise Tom to work whatever hours are required for him to maintain top standards of patient care, but notify his attending immediately that this will necessitate him exceeding his duty hours.	○	○	○	○	○	○	○
G. Tell Tom it will get better as time goes on.	○	○	○	○	○	○	○

Scene Set-Up: Emily, a resident in your class, is speaking to the patient's father.

Emily: I know I told you that we thought Thalia would be all right because her MRI did not show any obvious brain damage associated with the motorcycle crash. However, we just found out that the fracture in her leg that we knew about developed into a more serious problem. I'm afraid we missed that originally. She will need to have a below-the-knee amputation.

Father (shouting): Are you out of your mind? You told us she would be all right and now you come in here telling us she needs an amputation? What the hell is wrong with you? I'm going to sue every single one of you incompetent idiots!
Emily (looking at you): I could use your help here!

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Apologize sincerely to the father, without interrupting him, explaining how this situation evolved and your recommended management plan.	○	○	○	○	○	○	○
B. Once the father stops screaming, calmly explain the management plan to him.	○	○	○	○	○	○	○
C. Wait for the father to take a breath and resume discussing the necessity of treating the patient's compartment syndrome.	○	○	○	○	○	○	○
D. After allowing the father to vent his frustration to the fullest extent explain that you will seek the daughter's consent alone.	○	○	○	○	○	○	○
E. Remind the father of the urgency of his daughter's situation and that arguing will only delay care.	○	○	○	○	○	○	○
F. Empathize with the father, but reiterate the necessity to move forward with the treatment plan to provide the best treatment for the daughter.	○	○	○	○	○	○	○
G. Try to appease the father, but do not apologize because it may invite a lawsuit.	○	○	○	○	○	○	○

Scene Set-up: Lola, a resident in your class, approaches you in the call room.

Lola: Jake is late again today. I heard he was out last night and was drinking. You know Jake has really been in a tough spot ever since Suzie left him. I can cover some of his patients, can you take some of his too? Oh, and make sure not to mention anything to our attending.

Please rate the effectiveness of each of the following response options.
1= Very ineffective
2= Quite ineffective
3= Somewhat ineffective
4= Neither effective nor ineffective
5= Somewhat effective
6= Quite effective
7= Very effective

	1	2	3	4	5	6	7
A. Agree to take some of Jake's case load and not say anything to your attending.	○	○	○	○	○	○	○
B. Call Jake and tell him you will cover for him this time, but the next time he is late you will report him to your attending.	○	○	○	○	○	○	○
C. Make sure Jake's patients are provided appropriate medical care and inform the chief resident and program director about your concern with Jake.	○	○	○	○	○	○	○
D. Make sure Jake's patients are provided appropriate medical care and approach Jake once he comes in to explain you are concerned about him and want him to seek professional help.	○	○	○	○	○	○	○
E. Page Jake and tell him to come to work immediately.	○	○	○	○	○	○	○
F. Don't agree to take some of Jake's case load and report Jake to the state medical board for substance abuse.	○	○	○	○	○	○	○
G. Agree to cover for Jake's patients today, but make sure he is aware this is the last time you will be willing to cover.	○	○	○	○	○	○	○

Appendix M
Professionalism 360 Degree Feedback Questionnaire

Instructions:

You have been identified as someone who can provide performance feedback about one or more residents on a set of seven Professionalism dimensions for the purpose of a research study. Please be completely honest in your assessment of this resident- the resident will not see your ratings.

On the next page, you will rate how frequently the resident displays behaviors associated with each Professionalism dimension. To rate the resident on the dimensions:

1. Read the definition of the dimension to ensure you understand what is important to effectively perform that dimension.
2. Click the radio button that best exemplifies how often the resident/fellow displays behaviors representative of this dimension. Please restrict your ratings to what you have observed in the last three months only, as this will permit an examination of whether performance has changed over time.

When rating a resident on the behaviors:

1. Be honest.
2. Consider each dimension separately when making ratings.
3. Consider performance over the past three months, not just on one or two occasions.

Conscientiousness:
Demonstrating a high degree of reliability by following through on commitments approaching work in a methodical manner, and completing work task thoroughly and systematically, displaying high standards of attendance, punctuality, enthusiasm, and vitality in approaching and completing tasks.

How frequently does this resident exhibit behaviors demonstrating high Conscientiousness?

Almost Never	Infrequently	Sometimes	Frequently	Almost Always	Cannot Rate
O	O	O	O	O	O

Aspiring to Excellence:
Exerting a high level of effort and perseverance toward goal attainment; working hard to become excellent at doing tasks by setting high standards; setting goals for personal improvement; striving to continuously learn and share the products of that learning with others.

How frequently does this resident exhibit behaviors demonstrating high Aspiring to Excellence?

Almost Never	Infrequently	Sometimes	Frequently	Almost Always	Cannot Rate
O	O	O	O	O	O

Integrity:
Showing consistency between principles and values, and behavior: choosing an ethical course of action and doing the right thing; being truthful and direct; maintaining confidentiality; remaining free from substance abuse; avoiding conflicts of interest; obeying health system and regulatory policies.

How frequently does this resident exhibit behaviors demonstrating high Integrity?

Almost Never	Infrequently	Sometimes	Frequently	Almost Always	Cannot Rate
O	O	O	O	O	O

Accountability:
Accepting responsibility for individual and group performance; accepting the consequences of one's behavior; admitting mistakes and attempting to learning from mistakes.

How frequently does this resident exhibit behaviors demonstrating high Accountability?

Almost Never	Infrequently	Sometimes	Frequently	Almost Always	Cannot Rate
O	O	O	O	O	O

Teamwork:
Collaborating and coordinating with others to achieve work goals; showing concern for and providing assistance and support to others; interacting respectfully with others; creating a desire for team accomplishment.

How frequently does this resident exhibit behaviors demonstrating high Teamwork?

Almost Never	Infrequently	Sometimes	Frequently	Almost Always	Cannot Rate
O	O	O	O	O	O

Patient-Centered Care:
Understanding patients' needs and feelings and treating them with respect; focusing one's efforts on discovering and meeting patients' needs; handling challenging patient solutions effectively; promoting and striving to create a workforce and environment that represents and values diversity of people and ideas.

How frequently does this resident exhibit behaviors demonstrating high Patient-Centered Care?

Almost Never	Infrequently	Sometimes	Frequently	Almost Always	Cannot Rate
O	O	O	O	O	O

Stress Tolerance:
Effectively handling stressful situations and interactions, even when under time pressure; making effective decisions under time pressure.

How frequently does this resident exhibit behaviors demonstrating high Stress Tolerance?

Almost Never	Infrequently	Sometimes	Frequently	Almost Always	Cannot Rate
O	O	O	O	O	O

Appendix N
Professionalism Negative Behaviors

Instructions: Please indicate whether you have ever observed this resident engage in the behaviors listed below. For the purpose of this research study, only report behaviors that you personally observed; do not count behaviors reported to you by others.

	Observed	**Not Observed**
Displayed obvious signs of substance abuse (e.g., binge drinking, misuse of prescription drugs, etc.).		
Discriminated against or showed favoritism towards coworkers or patients.		
Failed to interact truthfully with patients, families, or other health care professionals (e.g., misrepresented facts, or did not always present facts impartially, distorted content of patient communications).		
Demonstrated lack of respect or abusive behavior towards patients (e.g., verbally abused patients, used vulgar or inappropriate language in front of patients, did not listen to patient concerns, ignored their comments or criticism).		
Demonstrated lack of respect towards coworkers (e.g., criticized coworkers in public in a non-respectful manner, spread rumors, ignored coworker input, attempted to make coworkers look bad).		
Demonstrated abusive behavior towards coworkers (e.g., verbally abused coworkers, threatened coworkers, sexually harassed coworkers).		
Failed to uphold ethical expectations of research and scholarly activity (e.g., misrepresented research data, failed to protect human subjects, plagiarized, etc.).		
Failed to take responsibility for decisions or did not admit to personal mistakes (e.g., blamed others when errors occurred as a result of one's work).		

Knowingly included erroneous information in the electronic medical record (e.g., misrepresented which services were provided to patient, failed to correct inaccurate information).		
Knowingly disregarded policies and procedures.		
Put own needs above needs of patient.		
Let major errors in work go uncorrected or unaddressed.		
Disregarded the privacy of patient information (e.g., discussed patients' situations in public, did not de-identify sensitive patient data in reporting, etc.).		
Showed inappropriate responses to stressful situations (e.g., panicked in emergency or high-pressure situations, became argumentative or uncivil to coworkers, subordinates, or supervisors when under stress).		
Wasted, mismanaged or abused organizational resources (e.g., took supplies, tools, scrubs home without permission, produced inaccurate expense reports).		
Put self in situations that constitute conflict of interest, or used status as doctor for personal gain (e.g., had inappropriate relationship with drug and device representatives, referred to self-owned facilities, accepted gifts from patients and/or vendors, etc.).		
Demonstrated lack of empathy towards patients (e.g., demonstrated lack of desire to understand patient needs).		
Did not employ safe patient care transitions (e.g., ineffective or absent hand-offs).		
Acted without appropriate inclusion of others (e.g., did not include interprofessional team members in patient care).		

Appendix O
Professionalism Self-Identity Questionnaire for the Health and Social Care Professions

Please indicate (by circling the appropriate number) how you feel *at present* if you were undertaking the following activities. If you feel an activity does not apply to you please circle N/A.

1. When I am working with other health and social care professionals I feel like a

1st day student				Qualified Resident/Fellow		
1	2	3	4	5	6	N/A

2.When I am communicating with patients or clients I feel like a

1st day student				Qualified Resident/Fellow		
1	2	3	4	5	6	N/A

3.When assessing a patients or clients I feel like a

1st day student				Qualified Resident/Fellow		
1	2	3	4	5	6	N/A

4.When engaging with others in a culturally diverse health care environment I feel like a

1st day student				Qualified Resident/Fellow		
1	2	3	4	5	6	N/A

5.When I am considering ethical or moral issues I feel like a

1st day student				Qualified Resident/Fellow		
1	2	3	4	5	6	N/A

6.When consulting/using patient or client records I feel like a

1st day student				Qualified Resident/Fellow		
1	2	3	4	5	6	N/A

7.When I find myself in an emergency involving a patient or client I feel like a

1st day student				Qualified Resident/Fellow		
1	2	3	4	5	6	N/A

8.When reflecting on my practice (experiences) to identify my learning needs I feel like a

1st day student				Qualified Resident/Fellow		
1	2	3	4	5	6	N/A

9.When teaching others I feel like a

1st day student				Qualified Resident/Fellow		

1 2 3 4 5 6 N/A

Appendix P
Post Training Feedback Questionnaire

1) Did you complete the online situational judgment exercise?
   - o Yes
   - o No
   - o I'm not sure

If answer "No" above skip to question 5

2) Were the scenarios in the exercise realistic?
   - o Yes
   - o No
   - o I don't remember

3) Did you review your developmental feedback report before the group debriefing session?
   - o Yes
   - o No

4) Considering the developmental feedback report, please rate the extent to which you agree with the following statements on a Strongly Disagree to Strongly Agree scale.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The feedback I received was an accurate evaluation of my performance.	☐	☐	☐	☐	☐	☐	☐
It is hard to take the feedback seriously.	☐	☐	☐	☐	☐	☐	☐
I do not agree with the feedback provided.	☐	☐	☐	☐	☐	☐	☐
The feedback I received influenced my effort on the tasks that followed.	☐	☐	☐	☐	☐	☐	☐

5) Did you attend your program's group debriefing session of the online situational judgment exercise?
   - o Yes
   - o No
   - o I don't remember

6) Did you complete the goal setting handout during/after the group debriefing session?
   - o Yes
   - o No
   - o I don't remember

If answer "No" above skip to question 9

7) Which professionalism dimension did you target when completing the goal setting handout?
   - o Conscientiousness
   - o Aspiring to Excellence
   - o Integrity
   - o Accountability
   - o Teamwork
   - o Patient-Centered Care
   - o Stress Tolerance
   - o I don't remember

8) To what extent have you attempted to improve this dimension by targeting specific behaviors for improvement?
   - o To a great extent
   - o A great extent
   - o Some extent
   - o A little extent
   - o No extent

9) Considering the training intervention as a whole (the online situational exercise, the developmental feedback report, and the group debriefing session), to what extent did this training improve the following criteria?

	No Extent	A Little Extent	Some Extent	A Great Extent	A Very Great Extent
My knowledge of professionalism	☐	☐	☐	☐	☐
My professionalism skills	☐	☐	☐	☐	☐
My professionalism attitudes	☐	☐	☐	☐	☐

10) If desired, please share any feedback you have about this training intervention (e.g., comments about the content of the scenarios, suggestions for improving the developmental feedback report).