

The West Point Talent-Based Branching Program

Predictors of Performance at FABOLC—Results and Recommendations

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Abstract

West Point adopted a talent-based branching system using data on officer strengths and branch requirements to inform branching decisions. This study initiates an investigation into how the talent-based branching system affects overall officer attrition. It focuses on how the system's inputs can predict performance at the Field Artillery Basic Officer Leader Course (FABOLC) as a first measure of branch fit. Previous research demonstrated that the traits measured in the talent-based system served as predictors of academic performance among cadets while still at West Point. This study serves as a follow-on investigation for the next phase of these new officers' careers by also including measures of person/job fit present in the FA Branch Commandant Scores and Cadet FA Preference Scores. While the previous study showed that the talent-based traits were effective predictors of West Point academic performance, in this study, cadet GPAs were more predictive of artillery school performance than were the measures of field artillery specific talents and traits used in the branching system. Also, the FA Branch Commandant Scores and Cadet FA Preference Scores demonstrated some explanation of variance in FABOLC outcomes. The findings provide a potential predictive

model for artillery school performance with a weighted balance between cognitive and noncognitive measurements.

The Problem of Officer Attrition

The ability to fill mid- and senior-level leadership positions depends on retaining junior officers in the years following commissioning as the early departure of junior officers diminishes the future pool of mid- and senior-level officers (Russell et al., 2017; Wardynski et al., 2009).

Early departure is defined as officers who attrit in the years between the satisfaction of their initial required term of service (usually five years beyond graduation for West Point cadets) and before their 10-year service mark (Tyson, 2008). Wardynski et al. (2010a) noted that officers who serve 10 years are 80% more likely to complete 20 years of service. This corresponds with the fact that it takes 10 years of service in the Army to attain the rank of major, a key operational mid-level position (Tyson, 2008; U.S. Government Accounting Office, 2019). The Army cannot fill these mid- or senior-level leader shortages by direct hiring or poaching from other firms in the same industry as the private sector does (Asch & Warner, 2001). Therefore, it is imperative that junior officers are retained at sufficient levels to meet the need for future captains, majors, and beyond (Inskeep, 2007; Paullin et al., 2014; Russell et al., 2017; Wardynski et al., 2009).

To address the issue of officer attrition, West Point leaders and researchers posited that a human-resource-capital-and-trait theory approach would better match cadets to a career branch, resulting in greater job satisfaction, increased sense of personal agency, and decreased attrition (Colarusso et al., 2016; Salley, 2008; Zimmerman, 2008). In 2013, West Point initiated the Talent Based Branching (TBB) program to align cadet traits with branch job requirements (Colarusso et al., 2016). As part of the TBB program, West Point developed the Talent Assessment Battery (TAB) test. This test provides cadets and branches feedback on the presence and strength of 20 traits and talents each cadet demonstrates. The TAB has been an effective tool in predicting a cadet's academic performance by domain in the U.S. Military Academy curriculum (Mayer & Skimmyhorn, 2017). Surveys indicate that cadets take their TAB data into consideration when ranking their branch preferences, as do branch leaders when assigning branch preference scores (Colarusso et al., 2016). However, there is little research on how TAB scores predict branch performance. Mayer and Skimmyhorn (2017) established that the TAB traits aligned to thing-focused and person-focused applications of intelligence positively correlated to thing-focused and person-focused academic courses. Because the Field Artillery Basic Officer Leader Course (FABOLC) presents similar thing-centered and person-centered academic domains in the form of the gunnery and fire support



academic courses, this study examined TBB inputs as potential predictors of performance at FABOLC as a follow-on to the 2017 Mayer and Skimmyhorn study. Additionally, recent surveys show that new FA officers demonstrated high levels of dissatisfaction with the branch, as well as high first-time failure rates at FABOLC (Allen et al., 2010; Crawley, 2010; Oliver et al., 2011), making FABOLC a logical choice for our inquiry as officer attitudes like these were among the reasons that West Point leaders developed the TBB program (Wardynski et al., 2010b). Understanding how the decisions based on the TAB predicts branch fit/performance in domains of FABOLC and if it is a better predictor than other measures (e.g., GPAs, branch selection scores) may help Army leaders understand if the TAB is effective tool in postcommissioning branch decisions, which is critical as branch fit and performance may ultimately lead to retention. Examining FABOLC performance as an initial measure of branch fit will be a first step in determining how branch fit connects to improved retention.

The TAB incorporates several existing instruments with strong established research supporting their ability to accurately measure General Mental Ability (GMA), multiple intelligences, personality attributes, and grit (Caruso et al., 2019; Chamorro-Premuzic & Furnham, 2003; Duckworth & Seligman, 2005; Duckworth et al., 2007; Mayer et al., 2012; McIlroy et al., 2017; Palisoc et al., 2017; Poropat, 2009; Zimmerman, 2008). This review will examine how cognitive and noncogni-

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tive traits can serve as predictors of performance in academic settings and contribute to person/job fit and career longevity.

GMA is widely recognized as a strong predictor of success in numerous areas, from academics to career attainment and job satisfaction (Deary, 2012; Gottfredson, 2002; Judge et al., 2010; Klieger et al., 2014; Mayer & Skimmyhorn, 2017; Schmidt & Hunter, 2004). Beyond GMA, however, more specific cognitive abilities and the multifaceted nature of intelligence also contribute to predicting performance in academic settings and specific occupational fields (Coyle et al., 2015; Kovacs & Conway, 2019; Lang & Kell, 2019; Scheidt et al., 2018; Schneider & Newman, 2015). Sylva et al. (2019) explained the logical progression of person/job fit as beginning with the combination of personal knowledge and competency in job requirements leading individuals to select a field to which they are best suited. The resulting career advancement and longevity stemming from strong person-job fit are crucial outcomes directly linked to enhanced career performance (Kristof-Brown et al., 2005; Oh et al., 2014). The concept that the TBB system results in a stronger person/job fit than the previous West Point branching system is grounded in the assumption that within this new system, the branches have a reliable basis for selecting and sharing with the cadets the TBB traits they wish to see in their new officers. However, the branches' trait selection processes were not based on quantified performance data of officers within the branch (Colarusso et al., 2016). Consequently, little is known about how a branch's TBB system talent demands may predict officer performance within the branches.

Hypotheses and Methodology

As this study exists as a preliminary effort to investigate how the TBB affects officer retention, we began by investigating if the TBB system can predict FABOLC performance. We investigated the following hypotheses and research questions:

RQ1: How do West Point performance measures of ACADEMIC GPA, MILITARY GPA, PHYSICAL GPA, and FA BRANCH TAB scores predict FABOLC Fire Support Grades?

H1A: ACADEMIC GPA, MILITARY GPA, PHYSICAL GPA, and FA BRANCH TAB scores are statistically significant predictors of FABOLC Fire Support Grades with FA BRANCH TAB scores adding statistically significant variance in FABOLC Fire Support Grades over and above West Point measures.

RQ2: How do West Point performance measures of ACADEMIC GPA, MILITARY GPA, PHYSICAL GPA, and FA BRANCH TAB scores predict FABOLC Gunnery Grades?



H2A: ACADEMIC GPA, MILITARY GPA, PHYSICAL GPA, and FA BRANCH TAB scores are statistically significant predictors of FABOLC Gunnery Grades, with FA BRANCH TAB scores adding statistically significant variance in FABOLC Gunnery Grades over and above West Point measures.

RQ3: How do West Point performance measures of ACADEMIC GPA, MILITARY GPA, PHYSICAL GPA, and FA BRANCH TAB scores predict FABOLC Final Course Rank?

H3A: ACADEMIC GPA, MILITARY GPA, PHYSICAL GPA, and FA BRANCH TAB scores are statistically significant predictors of FABOLC Final Course Rank, with FA BRANCH TAB scores adding statistically significant variance in FABOLC Final Course Rank over and above West Point measures.

RQ4: How do FA Branch Commandant Scores and Cadet FA Preference Scores predict FABOLC Fire Support Grades?

H4A: FA Branch Commandant Scores and Cadet FA Preference Scores are statistically significant predictors of FABOLC Fire Support Grades.

RQ5: How do FA Branch Commandant Scores and Cadet FA Preference Scores predict FABOLC Gunnery Grades?

H5A: FA Branch Commandant Scores and Cadet FA Preference Scores are statistically significant predictors of FABOLC Gunnery Grades.

RQ6: How do FA Branch Commandant Scores and Cadet FA Preference Scores predict FABOLC Final Course Rank?

H6A: FA Branch Commandant Scores and Cadet FA Preference Scores are statistically significant predictors of FABOLC Final Course Rank.

Participants

The study population consisted of West Point graduates who participated in the TBB system, commissioned as second lieutenants in the Field Artillery branch, and attended the FABOLC between 2014 and 2017. Data were available for all 527 graduates who branched FA as cadets in these years. Given the total population of 4,088 West Point graduates during these years, this sample is considered representative. The sample includes cadets from each quartile of the final West Point academic Order of Merit List and exhibits a demographic distribution comparable to the overall West Point population during the same period. This ensures the inclusion of cadets



with strong, moderate, and weaker academic performance. All participants in the study sample successfully graduated from West Point prior to attending FABOLC.

Variables

Independent Variables

There were six independent variables: ACADEMIC GPA, MILITARY GPA, PHYSICAL GPA, FA BRANCH TAB¹, FA Branch Commandant Score, and Cadet FA Preference Score.²

ACADEMIC GPA. ACADEMIC GPA is an average of cadet academic performance with scores ranging from 0.0 to 4.0. Higher values indicate better performance than lower scores.

MILITARY GPA. MILITARY GPA is an average of cadet military performance with scores ranging from 0.0 to 4.0. Higher values indicate better performance than lower scores. The military course of instruction includes courses on military doctrine, ethics, and leadership, as well as performance in various cadet leadership positions held at the academy.

PHYSICAL GPA. PHYSICAL GPA is an average of cadet physical performance with scores ranging from 0.0 to 4.0. Higher values indicate better performance than lower scores. The physical course of instruction includes both kinesiology-based classroom instruction and physical performance in many athletic tasks.

FA BRANCH TAB. The FA BRANCH TAB score is determined by averaging the scores in each of the field artillery published branch traits. For the years of the study, those traits were mentally tough, physically fit, interdisciplinary, process disciplined, multitasker, and spatially intelligent. The value of these scores is from 0.0 to 3.0, with higher numbers indicating that a cadet has a strong presence of this trait than their peers within his or her cohort. Ostensibly, a high FA BRANCH TAB score would indicate that a cadet is a stronger fit for the branch than a cadet with a lower FA BRANCH TAB score.

FA Branch Commandant Score. The FA Branch Commandant Score is a value given by the FA branch to each cadet and indicates the branch's desire for a given cadet to join that career field. For 2016, this was a binary value, with a score of 0 indicating no desire from the branch for that cadet to join the branch, and a score of 1 indicating a desire for that cadet to join the branch. Beginning with the 2017

¹ The variables of ACADEMIC, MILITARY, and PHYSICAL GPA as well as FA BRANCH TAB are for the cohort groups 2014 through 2017

² The variables of FA Branch Commandant Score and Cadet FA Preference Score are for cohort years 2016 and 2017 only.



cohort group, the score was an ordinal level variable with a value of 1, 2, 3, 4 or 5. A score of 5 indicates the strongest desire for a specific cadet to branch field artillery, 4 indicates a strong desire for the cadet, 3 indicates a moderate desire for the cadet, 2 indicates a low desire for the cadet, and a score of 1 indicates that the branch did not feel the cadet was a good fit for the branch.

Cadet FA Preference Score. Cadet FA Preference Score is an ordinal-level variable representing how each cadet ranks FABOLC as their preference for their officer branch assignment. There were 16 officer branches available to cadets in these years, and scores range from 1 to 16. Lower scores indicate higher preference for a given branch. Thus, a cadet that ranks FA as first prefers FA over all other branches. A cadet that ranks FA sixteenth indicates that FA is their least preferred branch to join.

Dependent Variables

There were three dependent variables in this study, each an academic outcome of FABOLC: FABOLC Fire Support Grade, FABOLC Gunnery Grade, and FABOLC Final Course Rank.

FABOLC Fire Support Grade. FABOLC Fire Support Grade is the grade earned in the fire support course in FABOLC. It is an ordinal level-dependent variable with scores ranging from 1 to 100, with higher scores indicating better course performance. The final FABOLC Fire Support Grade is the average of all the fire support coursework consisting of multiple written exams, homework assignments, simulated field exercises using computer simulators as direct analogs to live firing platforms, practical field exercises where live rounds are directed by the students onto a target that the firing unit cannot see, and a fires planning exercise. This course teaches the duties, responsibilities, and tactics employed by company fire support officers; a position all new FA officers are expected to hold at some point in their careers. While the fire support course introduces some technical capacities, the course is primarily focused on the art of leadership in mission planning and then communicating those plans effectively to others.

FABOLC Gunnery Grade. FABOLC Gunnery grade variable is the percentage score earned in the gunnery course. It is an ordinal level variable. Scores range from 0 to 100 with higher scores indicating stronger course performance. The final FABOLC Gunnery Grade is the average of all the gunnery coursework consisting of multiple written exams, homework assignments, practical exercises both in the classroom and in a field environment where live artillery rounds are fired based on calculations made by the students. This course teaches the duties, responsibilities, and tactics employed by battery fire direction officers; a position all new FA officers are expected to hold at some point in their careers.

FABOLC Final Course Rank. FABOLC Final Course Rank is the final standing of the cadet in his or her specific FABOLC course based on their standing



compared to the total number of students in that iteration of the course. It is an ordinal level variable with low values indicative of stronger academic performance as compared to their peers, and high values indicating poorer academic performance. Both Fire Support and Gunnery Grades are indirectly represented in this variable, as are two other measures of FABOLC performance, the Combined Arms and the Platoon Leader blocks of the course. These were not included since these blocks of instruction do not contribute to passing or failing the overall course, nor significant discriminators in placement on the FABOLC course rank list. This is due to the limited number of points available in those blocks, a combined 19% of total course points, as compared to the fire support and gunnery courses (81% of total course points).

Regression Models

The study employed a hierarchical regression model consisting of the three West Point GPAs (PHYSICAL, MILITARY, and ACADEMIC GPA) and the FA BRANCH TAB score for each cadet who branched FA from 2014 to 2017. The GPAs were entered into the model as independent variables in order based on the overall percentage they represent of a cadet's overall GPA, smallest to largest. PHYSICAL GPA (15% of overall GPA) was entered first, followed by MILITARY GPA (30%), and then ACADEMIC GPA (55%). The last independent variable to enter the model was the FA BRANCH TAB score. For each cohort year, the dependent variables were examined separately.

A multiple regression model with the independent variables of FA Branch Commandant Scores and Cadet FA Preference Scores for the 2016–2017 cohort. The first variable entered was the FA Branch Commandant Score followed by the Cadet FA Preference Score. These were compared against each of the dependent variables separately and by cohort.

Results

RQ1. For all years, the independent variables PHYSICAL GPA, MILITARY GPA and ACADEMIC GPA were statistically significant predictors of Fire Support Grades. As shown in Table 1, when FA BRANCH TAB was entered into the model, it was not a statistically significant predictor and did not add any statistically significant variance to the model. These findings did not support the hypothesis that FA BRANCH TAB would be a significant predictor of Fire Support Grades over and above West Point GPAs.

RQ2. Similarly, for all years, the independent variables PHYSICAL GPA, MILITARY GPA and ACADEMIC GPA were statistically significant predictors of Gunnery Grades. As shown in Table 2, when FA BRANCH TAB was entered into



Table 1*Predictors of Fire Support Grades*

Cohort Years	Variables	R^2	p	Adj. R^2
2014	PHYSICAL/MILITARY/ACADEMIC GPA	0.455	* < 0.001	0.443
2014	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.461	0.222	0.445
2015	PHYSICAL/MILITARY/ACADEMIC GPA	0.440	* 0.000	0.427
2015	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.446	0.286	0.427
2016	PHYSICAL/MILITARY/ACADEMIC GPA	0.448	* 0.000	0.436
2016	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.451	0.475	0.434
2017	PHYSICAL/MILITARY/ACADEMIC GPA	0.262	* 0.000	0.243
2017	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.266	0.402	0.241

Table 2*Predictors of Gunnery Grades*

Cohort Years	Variables	R^2	p	Adj. R^2
2014	PHYSICAL/MILITARY/ACADEMIC GPA	0.235	* < 0.001	0.218
2014	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.244	0.219	0.221
2015	PHYSICAL/MILITARY/ACADEMIC GPA	0.418	* 0.000	0.403
2015	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.424	0.233	0.405
2016	PHYSICAL/MILITARY/ACADEMIC GPA	0.384	* 0.000	0.371
2016	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.385	0.615	0.367
2017	PHYSICAL/MILITARY/ACADEMIC GPA	0.174	* 0.000	0.153
2017	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.175	0.676	0.147

the model, it was not a statistically significant predictor of Gunnery Grades and did not add any statistically significant variance to the model. These findings did not



Table 3
Predictors of Final Course Rank

Cohort Years	Variables	R^2	p	Adj. R^2
2014	PHYSICAL/MILITARY/ACADEMIC GPA	0.377	* < 0.001	0.363
2014	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.378	0.675	0.359
2015	PHYSICAL/MILITARY/ACADEMIC GPA	0.525	* 0.000	0.513
2015	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.527	0.517	0.510
2016	PHYSICAL/MILITARY/ACADEMIC GPA	0.348	* 0.000	0.333
2016	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.348	0.787	0.329
2017	PHYSICAL/MILITARY/ACADEMIC GPA	0.233	* 0.000	0.214
2017	PHYSICAL/MILITARY/ACADEMIC GPA + FA BRANCH TAB	0.242	0.243	0.216

support the hypothesis that FA BRANCH TAB would be a significant predictor of Gunnery Grades over and above West Point GPAs.

RQ3. A similar pattern emerges for all years as the independent variables PHYSICAL GPA, MILITARY GPA and ACADEMIC GPA were statistically significant predictors of FABOLC Course Rank. As shown in Table 3, when FA BRANCH TAB was entered into the model, it was not a statistically significant predictor of FABOLC Course Rank and did not add any statistically significant variance to the model. These findings did not support the hypothesis that FA BRANCH TAB would be a significant predictor of FABOLC Course Rank over and above West Point GPAs.

RQs 4, 5, and 6. Finally, for 2016 and 2017, FA Branch Commandant Scores and Cadet FA Preference Scores are statistically significant predictors of all indicators of FABOLC performance, including Gunnery Support, Fire Support, and FABOLC Final Course Rank (see Tables 4, 5, and 6). Results also point to more variance explained in Fire Support Grades over Gunnery Grades.

Discussion of the Results

The amount of variance left unexplained by the regression models was as high as 59%. For example, in the 2017 cohort, GPAs accounted for only 24% of the variance, Cadet FA Preference Scores accounted for 5%, and FA Branch Comman-



Table 4*Predictors of Fire Support Grades*

Cohort Years	Variables	R^2	p	Adj. R^2
2016	FA Branch Commandant + Cadet FA Preference Scores	0.092	*0.001	0.078
2017	FA Branch Commandant + Cadet FA Preference Scores	0.164	*0.000	0.150

Table 5*Predictors of Gunnery Grades*

Cohort Years	Variables	R^2	p	Adj. R^2
2016	FA Branch Commandant + Cadet FA Preference Scores	0.041	0.060	0.027
2017	FA Branch Commandant + Cadet FA Preference Scores	0.065	*0.017	0.050

Table 6*Predictors of Final Course Rank*

Cohort Years	Variables	R^2	p	Adj. R^2
2016	FA Branch Commandant + Cadet FA Preference Scores	0.051	*0.030	0.037
2017	FA Branch Commandant + Cadet FA Preference Scores	0.130	*0.000	0.116

dant Scores accounted for 12%. This accounts for 41% of the variance explained by PHYSICAL, MILITARY, and ACADEMIC GPAs combined with Cadet FA Preference Scores and FA Branch Commandant Scores.

It was surprising that the variable FA BRANCH TAB was not a statistically significant predictor of FABOLC outcomes such as Gunnery or Fire Support Grades or FABOLC Course Rank. Past research found that the most consistent predictor of successful completion at West Point was a cadet's grit score (Duckworth & Quinn, 2009). Based on these previous studies, it is possible that other noncognitive factors could contribute to predicting FABOLC performance. More research is required



to investigate this possibility. As previous studies demonstrate, other individual factors can serve as predictors of performance. The Mayer and Skimmyhorn (2017) study included personality traits from the Big Five (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) (McCrae & Costa, 1989) as influencers of academic performance at West Point. Multiple studies show the influence of grit on successfully completion of various West Point requirements (Duckworth et al., 2007; Duckworth & Quinn, 2009; Palisoc et al., 2017). However, while aspects of personality and grit are nested in the TAB test, these data are not provided to either cadets or branch leaders. Thus, the isolated influence of personality and grit may assist in providing further clarity in a predictive model. The lack of variance explained by adding FA BRANCH TAB to the hierarchical regression model rather than repudiating noncognitive factors as valid predictors instead could indicate that the averaging of trait scores diminishes the averaged branch TAB scores' predictive potential.

The results of research questions whose dependent variables serve as measures of potential person/job fit (FA Branch Commandant Scores and Cadet FA Preference Scores) are also supported by existing theories of person/job fit. Effective matching between job demands and an individual's abilities strongly predicts career longevity, aligning with the social psychology concept that behavior is a function of person-environment fit (Lewin, 1951). A strong person/job fit, where an individual's abilities match job demands, increases job satisfaction and organizational commitment, while a poor fit can lead to employee attrition (Hoppock, 1935; Kristof, 1996). This concept is further supported by the attraction-selection-attrition framework (Schneider, 1987), suggesting that attrition results from a mismatch between an individual's traits and the organization's characteristics.

Given that FA Branch Commandant Scores influence Cadet FA Preference Scores, and those scores serve as a measure of the cadet's individual concept of desire for the branch and proxy for person/job fit (Colarusso et al., 2016), the 2017 cohort demonstrated a trend that suggests that both parties' concept of person/job fit influences FABOLC outcomes. Specifically, the 2017 model seemed to predict Fire Support and Gunnery Grades based on both parties' concepts of person/job fit. Also, the averages for both FABOLC grade variables decline in relation to lower FA Branch Commandant Scores. Also observable in the 2017 cohort, cadets who scored FA in the top five of their Cadet FA Preference Score earned on average two points higher in both Fire Support Grades and Gunnery Grades, as well as averaging 18 positions better on the Final Course Rank than those who ranked FA from sixth to sixteenth on their Cadet FA Preference Score. The 2017 regression model showed that the combination of these two independent variables explained as much as 16% of the variance in FABOLC academic domain outcomes. The data in the 2016 model could seem to contradict the person/job fit theory. The 2016 model was statistically significant for both Fire Support Grades and FABOLC Final



Course Rank, even if it only explained a low amount of variance. However, only 16 of the 139 lieutenants in this cohort received a preferred FA Commandant Branch Score. At first glance, this could seem that even though most of the officers in this cohort were seen as a poor fit for the branch by the branch leaders, the multiple regression model of Cadet FA Preference Score and FA Branch Commandant Score still positively predicted FABOLC outcomes. However, it is likely that most of the variance in this model could be explained by the Cadet FA Preference Score. A simple regression model run with only the 2016 FA Branch Commandant Score against each FABOLC outcome variable yielded no significant results while the 2016 Cadet FA Preference score was significant.

Recommendations

A limitation of this study is that while many correlations and explanations of variance were found in the hierarchical and multiple regression models, these correlations do not implicitly indicate causation. This study did not take into consideration any variables other than those which are measurable in the West Point academic and branching programs. As such, cadets and branch leaders should view the recommendations and conclusions as qualitative explanations of the quantitative inputs in the branching system.

Understanding how the talent-based system predicts performance at the branch school can serve as a first measurement of person/job fit and inform leaders about the likelihood of officer attrition. While cognitive measures explained much of the variance in FABOLC grades, more than half of the variance was not explained by GPAs. As there is no established relationship showing how FA BRANCH TAB scores predict measures of FABOLC success, branch leaders and cadets have little empirical evidence to base their decisions on this score. West Point provides other TBB inputs to branch leaders as potential measures of person/job fit beyond cadet academic performance and TAB scores. Cadets can request interviews with branch leaders, solicit letters of recommendation from officers to send to the branch commandants, and provide personal statements of their desire to join the branch. Accordingly, FA leaders should not rely solely on West Point academic performance in assigning FA Branch Commandant Scores with the assumption that they, alone, can predict who will be a good fit for the branch. Similarly, branch leaders should recognize the influence of their commandant scores due to the influence FA Branch Commandant Scores appear to exert on Cadet FA Preference Scores, and the fact that both these variables serve as a proxy for a cadet's sense of job fit, which in turn can motivate performance.

Based on these findings we make the following recommendations:

1. While West Point has recently implemented an abbreviated TAB test, cadets and branch leaders should consider separating their branch desired traits into



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two separate scores—one that groups the TAB’s cognitive measures and a second that groups the TAB’s noncognitive measures—and averaging those scores accordingly and providing individual TAB trait scores to branch leaders as well as cadets. This is based on the finding that the averaging of trait scores potentially diminishes the TAB scores’ predictive potential.

2. Provide a disclaimer statement to branch leaders that all measures of cadet potential (TAB scores, branch TAB averages, GPAs, letters of recommendation, and cadet interviews) should be given equal consideration prior to assigning Branch Commandant Scores.
3. West Point should consider providing stand-alone grit scores and/or Big Five personality scores for branch leaders.
4. Continue to implement the Likert Scale form of the FA Branch Commandant Scores. The analysis supports the modified FA Branch Commandant Scores instituted in 2017 with its more refined scaling (1 through 5 scores) as a more reliable predictor than the original binary model (0 or 1 score) used in 2016. Ensure branch leaders are aware of the impact their commandant scores have on cadets as surveys show that cadets will alter their branch preference score based on the branch commandant scores they receive.

Recommendations for Future Research

These outcomes largely aligned with existing literature on academic predictors of performance in postgraduate studies, as well as potentially aligning with existing studies on West Point cadets and effective predictors of performance. The academic measures of performance were the strongest predictors of FABOLC academic performance. In other existing studies, noncognitive factors demonstrate strong predictive capacity among West Point cadets (Duckworth, 2016; Mayer & Skimmyhorn, 2017). As discussed in the literature review, grit is a major contributor to successful performance in this population. Duckworth and Quinn (2009) showed that among West Point cadets, grit was the strongest personal trait that predicted retention and completion of the four-year academy. A subsequent study determined that while grit did not necessarily predict academic performance, it was validated as a strong predictor of retention (Maddi et al., 2017). The specific inclusion of a cadet’s grit score could assist a theorized model of FABOLC performance and potentially account for more of the missing variance in FABOLC grades.

The regression models suggest that the combined GPAs explain as much as 50% of FABOLC performance as measured by Final Course Rank (in the 2015 cohort). The regression models also suggest that FA Branch Commandant and Cadet FA Preference Scores account for as much as 13% of the variance in Final Course Rank (in the 2017 cohort). This leaves around 37% of the variance unexplained. Future research should focus on finding the variables that contribute to the unexplained



variance. This would provide the percentage each variable exerts over FABOLC performance and allow both branch leaders and cadets more information on the potential for a stronger person/job fit.

Beyond FABOLC, future research is required to determine how the variables in this study predict performance when these officers join their respective units. Metrics should be studied such as yearly evaluation rankings, selection for nominative positions (such as aide-de-camp). To this end, we make the following recommendations for future study. This knowledge would allow more refinement on the TBB system to better align skills, knowledge, and abilities to match person/job fit.

1. We recommend that future research includes cognitive/academic markers (e.g., GPA), preferences (e.g., FA Branch Commandant Score and Cadet FA Preference Scores), and noncognitive factors (e.g., the cadet's grit scale score, and individual TAB traits) as independent variables.
2. We recommend that the independent variables in this study be tested against other metrics of officer performance such as officer evaluation reports, selections for nominative positions, selection for and performance in advanced military schooling (such as Ranger school, Special Forces selection, or other special operations functions), and promotion rates to first lieutenant and captain, and academic performance and the Field Artillery Captains Career Course. Beyond these metrics, it is essential to study how many in these cohorts continued service beyond five and 10 years and how many continued to serve in the key mid-career positions of major and lieutenant colonel. It is possible that the FA BRANCH TAB could be a predictor of performance within the branch itself, even if it was not a significant predictor of FABOLC academic performance.
3. Finally, research is needed to investigate how the predictor variables relate to officer attrition by cohort group each year between the five- and 10-year service marks. This research could provide clarity on how the concept of person/branch fit advocated by the TBB system has affected early officer attrition. 

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