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# Personality Characteristics of Successful Industrial and Organizational Psychology Graduate Students

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**Personality Characteristics of Successful Industrial and Organizational  
Psychology Graduate Students**

by

Lindsey Knights

A Thesis

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

Master of Science in

Industrial/Organizational Psychology

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### **Abstract**

This study sought to ascertain if there are specific, agreed upon personality characteristics that are perceived to contribute to the success of an Industrial and Organizational Psychology graduate student, and if Frame of Reference training has an impact on the reliability of the responses. For the purpose of this study, a successful graduate student has been defined as one who meets or exceeds program requirements with regards to satisfactory performance in coursework, research participation, colleague and advisor collaboration, and graduates from the program in good academic standing within the typically-allotted timeframe. Participants were recruited from I/O Psychology graduate programs across the United States of America, and were asked to respond to the Personality-Related Position Requirements Form through an electronic inventory management system known as Qualtrics. Approximately half the participants were asked to complete FOR training prior to responding to the PPRF. Results indicated that there were no significant agreements across any of the Big Five personality variables, but that Frame of Reference training did result in stronger reliability of responses than did the non-Frame of Reference training responses.

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## Chapter 1: Introduction

Feeling the effects of the global recession of 2007, since 2010, academic institutions providing graduate education have reported receiving increasing numbers of applications as more young adults choose pursuing post-secondary education in lieu of directly entering the full-time workforce (Darolia, Potochnick, & Menifield, 2014; Graduate Management Admission Council, 2013; Ruiz, 2010). From the perspective of universities, every program acceptance represents a potential investment in terms of any credit-waivers, stipends, or other funding awarded to students. In light of this investment as well as reputation established by alumni success, it is expected that graduate programs are driven to accept only students with high likelihood of succeeding in their studies.

For example: St Cloud State University offers a limited number of full and part-time graduate assistantships. A full-time assistantship offers up to 8 credits of tuition remission in addition to a \$5,000 stipend per semester in exchange for 20 hours weekly of work. At a rate of \$405.26 per credit (based on residential off-campus student tuition), a full-time assistantship represents an \$8,242.08 investment per student awarded an assistantship per semester (St. Cloud State University, n.d.). Considering that St. Cloud State University is a public university with below-average rates of tuition for the United States (Finno, Wicherski, & Kohout, 2010), many schools invest even more than this for each student accepted and offered funding. The investment factor is even more important when one considers that while partial or no academic funding is the norm for Master's-level programs, doctoral-level programs are known for being more likely to provide their students with full academic



funding in addition to stipends that are often comparable to entry-level full-time salaries (Judson Independent School District, n.d.; Sargent & Usrey, 2013).

### **Current Selection Procedures**

The admission process status quo involves evaluating candidates primarily on cognitively-based predictors of performance such as the Graduate Record Examination (GRE), a standardized test which assesses verbal, quantitative, and analytical reasoning and ability, and undergraduate GPA (uGPA), with the addition of personal letters of intent (also commonly referred to as personal statements, personal interests letters, etc.), and letters of recommendation from former supervisors or academic advisors (Darolia et al., 2014; Sampson & Boyer, 2001).

Although a study published by researchers at the University of Minnesota provided evidence that the GRE consistently predicted success factors including “1st-year graduate grade point average (GPA), comprehensive examination scores, publication citation counts, and faculty ratings” (Kuncel, Hezlett, & Ones, 2001, p. 162), some remain dubious about its ubiquity and utility in the selection of graduate students. Additionally, in a 2010 article aimed at deterring rumor that standardized measures (including GRE) are not truly useful for prediction, those researchers also asserted that other characteristics, such as personality, are valuable for prediction as well (Kuncel & Hezlett, 2010). As early as 1969, Ewen proposed that rather than measuring true ability, the GRE may be measuring the test taker’s motivation to study and familiarize themselves with the test material. Ewen argues that this motivation is integral to the success of a graduate student, but would not require the use of the GRE to assess it. Additional concern has been raised that the GRE may systematically negatively

impact the access that minority applicants have to graduate admission, although more recent research asserts that this bias does not in fact exist (Kuncel & Hezlett, 2010; Sampson & Boyer, 2001).

Even the use of uGPA has been called into question, as some believe there are unavoidable differential grading standards across institutions that make uGPA less useful than it has historically been treated (Sampson & Boyer, 2001).

Beyond the aforementioned quantified measures of performance prediction used, there has been raised certain speculation regarding the true utility of subjective criteria such as letters of recommendation. Several researchers have provided evidence that through likely-subconscious differential use of language, letters recommending males and females are systematically perceived differently, often favoring male applicants (Madera, Hebl, & Martin, 2009; Trix & Psenka, 2003).

Additionally, Aamodt, Bryan, and Whitcomb (1993) presented compelling evidence that without thorough and deliberate content analysis to quantify qualitative judgements presented in letters of recommendation, these letters are “poor predictors of future performance, in part because characteristics of the letter writer and letter reader interfere with the objective analysis of the content of the letter.” Other research asserts they may be potentially less useful as selection tools based on providing a biased and exceptionally-positive which fail to recognize applicant weaknesses (Stedman, Hatch, & Schoenfeld, 2009). There has even been research that asserts that analyses of letters revealed patterns of nondiscriminative and nondifferentiating content, meaning that the letters did not contain enough difference between candidates to add much at all to the selection process (Baxter,

Brock, Hill, & Rozelle, 1981). Note that while the aforementioned research examined analysis of letters for non-academic selection, for the purposes of this literature review, this study assumes reasonable transference of results to the realm of academic selection.

Thus, with standard current admission practice, there continues to be considerable weight given to criteria that have been brought into question by academics. This indicates that there is an opportunity to supplement with other non-cognitive measures that may contribute to success prediction above and beyond what is currently used.

### **Personality as a Selection Criterion**

The use of personality measures for organizational selection purposes has been a point of debate among Industrial/Organizational psychologists for some time now. While there are respected members of the field who make arguments against their usage (Morgeson et al., 2007), there is substantial evidence that personality characteristics do in fact correlate with work performance, and therefore provide useful predictive information to employers (Furnham & Fudge, 2008; Goffin et al., 2011; Sackett & Walmsley, 2014; Thoresen, Bradley, Bliese, & Thoresen, 2004). Additionally, while general mental ability (GMA), (for which uGPA and GRE scores have typically been considered proxy measures) has been established as the foremost in valid performance predictors, in their 1998 study, Schmidt and Hunter (1998) provided evidence that personality traits—especially conscientiousness—can add additional value in predicting job performance ( $R^2 = .09$ ). Above and beyond the value of selecting individuals who are more likely to perform more strongly on the job, ensuring job-relatedness of all measured variables goes a long way for legal defensibility should an organization's decisions be questioned legally.

Although fewer studies seem to have been conducted with this population than with working adults, there has been research conducted evaluating the role that personality characteristics play in contributing to post-secondary student success (Chamorro-Premuzic & Furnham, 2003; Kappe & van der Flier, 2012).

With the field of I/O Psychology gaining recent recognition in popular media as the number-one fastest growing occupation in America (Farnham, 2014), it is plausible to predict that graduate programs will experience an increase in candidate applications in the coming years. This increase in applications from similarly-cognitively-capable candidates justify the investigation of predictors of success that may supplement these cognitive-ability proxy metrics providing incremental validity to these selection procedures. Utilizing personality as a supplement to more traditional cognitively-based selection criteria may function to add this necessary variability, allowing for increased differentiation among candidates with otherwise similar application profiles. In light of this predicted growth, this proposed study is designed to measure which personality characteristics are considered contributors to success in an I/O Psychology graduate programs specifically.

This current study proposes that there is potential benefit to gaining consensus of what personality characteristics contribute to the success of an I/O Psychology graduate student. As previously elaborated on, there is currently heavy consideration of cognitive ability (demonstrated by uGPA and GRE scores) on their selection. This primarily functions to predict who is most capable of processing the massive influx of extremely complicated material experienced in graduate school, but lends minimal opportunity to investigate other individualized factors that may influence one's success outside of their cognitive ability.

Graduate school is a unique environment and experience in that it combines the high-pressure and challenging atmosphere of constant knowledge and skill expansion, as well as the responsibilities of a job in the case of graduate assistantships or outside employment. Also considering the expansive variety of roles a graduate student will have to fulfill during school (ex. Subordinate on faculty-led research projects, leader on group class projects, etc.), the exact requirements and helpful attributes that would contribute to one's success as a graduate student could be considered difficult to determine and potentially vague. It is argued by Aguinis, Mazurkiewicz, and Heggstad that "cross-functional and difficult-to-define" jobs, such as that of a graduate student, that may particularly benefit from utilizing personality-based job analysis techniques when the job "cannot be described in terms of simple tasks or knowledge, skills, and abilities" that would yield from a traditional task-based job analysis (2009, p. 408).

### **Assessing Required Personality Characteristics of a Job**

For personality to be a viable supplementary selection method, it must first be ascertained which characteristics are most important for the target position. Job analysis; defined by Brannick and Levine (2002, p. 7) as "a systematic process whereby one discovers the nature of a job" is an industry-favored approach to collect quantifiable data to provide links between a particular job or position and individual personality characteristics required to perform that job. These job analyses can be approached from either a job/task work orientation or a worker-orientation (Foster, Gaddis, & Hogan, 2012). A job-oriented job analysis will focus on tasks, duties, and other requirements of a job or position. A worker-

oriented job analysis will focus rather on the characteristics of an individual who is likely to be successful in the position being analyzed.

To determine what these worker-oriented position requirements are, a personality-based job analysis can be conducted. Intended to serve as a job analysis form based off of the Big Five personality traits to be used to identify personality-based predictors of job performance, the Personality-Related Position Requirements Form (PPRF) was developed by Raymark, Schmit, and Guion, and published in 1997. This measure systematically links behavioral requirements of a job to personality characteristics that match with those behaviors. For example: if a behavioral requirement of a job is to give presentations in front of large groups of people, it would be determined that extraversion is important for that position. Since its distribution, the PPRF has successfully been used to establish profiles of important personality characteristics across a variety of positions, including Turkish military officers (Sumer, Sumer, & Demirutku, 1999), correctional facility staff in California and Ohio (Stickrath & Sheppard Jr., 2004) and even volunteers in the tourism industry (Atkins, 2012). The Turkish military study utilized the PPRF to determine that the most strongly-relevant personality factor to the position of military officers was Conscientiousness. It was hypothesized that Conscientiousness emerged so strongly (accounting for 37% of variance) due to the nature of the job being analyzed, considering that across military functions, there are many different tasks assigned to an officer, and the majority of those tasks would be influenced by one's Conscientiousness.

## **Personality Characteristics of Industrial/Organizational Psychologists**

I/O Psychology is a growing field that is applicable to many organizational functions. I/O Psychologists can be found working spanning across vocational assessment centers, to test publishers, external management consultants, research scientists, and staff analysts. Within those capacities, tasks can include designing assessments, analyzing and interpreting data, developing training courses, and many more ([www.SIOP.org](http://www.SIOP.org)). According to the Occupational Network (O\*Net), I/O Psychologists are most likely to work in conditions that require valuing, establishing, and maintaining relationships, being willing to take on leadership roles, persisting in one's task ro assignment, demonstrating initiative, being adaptive and flexible, being dependable, and maintaining a strong attention to detail (Industrial and Organizational Psychologists, n.d.).

With consideration to the tasks, abilities, and work activities an I/O Psychologist must be proficient in, and being knowledgable in linking those requirements to potentially-useful personality characteristics allows one to produce a theory-based hypothesis regarding expected outcomes. Because of the emphasis on interpersonal relationships (including interpreting meaning of information from others, delivering technical information, providing consultation and advice to others, and more), it is expected that respondents will agree that Extraversion is "helpful" for a successful I/O Psychology graduate student. Considering the specification of cooperation and team-orientation (including conducting individual assessments, focus on customer and personal service, active listening skills), it is expected that Agreeableness will reported as "helpful" for success as an I/O Psychology graduate student. The next personality dimension, Conscientiousness, is expected to be reported as

“essential” when taking things such as project organization and prioritization, work integrity (due to the high degree of freedom and low levels of supervision and structure I/O Psycholgists reported to O\*Net) into account. Due to the importance of adaptability and flexibility reported, Emotional Stability is expected to be reported as “helpful” for the success of an I/O Psychology graduate student. Finally, Openness to Experience is expected to be reported as “essential” considering the vitality of thinking problems through, attention to nuanced problems, and general critical thinking involved. Note that hypothesized relationships are based on available responses “not required”, “helpful”, and “essential” to items on the PPRF.

*Hypothesis 1: Respondents will report that Extraversion is “helpful”, Agreeableness will be reported as “helpful”, Conscientiousness will be reported as “essential”, Emotional Stability will be reported as “helpful”, and Openness to Experience will be reported as “essential”.*

### **Frame-of-Reference Training**

Current research provides evidence that the benefits of putting raters through frame-of-reference (FOR) training outweigh the negatives associated with increased time and money dedicated to generating and completing such training (Aguinis & Kraiger, 2009). FOR training best practices suggest that to reap the maximum advantage of such training, an organization should offer training based on what “kind of information the organization is seeking about the job, and how to fill out the questionnaire correctly” (Aguinis et al., 2009, p. 413). It is believed that by providing raters with operationalized definitons of rating dimensions, defining scale anchors, describing behaviors predictive of dimensions, allowing



raters to practice their skills, and providing feedback on performance, benefits of including such training can include lessening the effects of response biases, and is one of the most effective ways to increase rater accuracy (Dierdorff, Surface, & Brown, 2010; Aguinis & Kraiger, 2009; Aguinis et al., 2009). Aguinis et al. (2009) discussed the lack of a gold standard operationalized definition of rater accuracy and applied an inference-based approach based on theory-based expectations of scores.

The general goal of FOR training is to provide respondents with a common contextualization and understanding of exactly what is being presented to them and how they are being asked to respond to minimize rater biases. It is believed that by preparing participants in this way, there will be fewer instances of systematic error in the responses due to misunderstanding the context of the items, not consciously avoiding self-promoting or socially-desirable responses, thereby increasing the reliability of the responses (Aguinis & Kraiger, 2009; Aguinis et al., 2009). Additionally in support of FOR training for survey response, Aguinis et al. (2009) has put forth evidence that FOR training is one of the best methods to increase rater accuracy, and therefore reliability of responses. In a 2011 study exploring rating accuracy, Huang found that raters who had undergone FOR training produced more accurate responses than those who had not undergone training. It was also found that this training decreased the occurrence of halo effect biases (wherein a respondent's overall feelings toward a target influences their responses) (Huang, 2011).

This study will aim to increase rater accuracy and agreement through the use of web-based FOR training designed by the researcher following current FOR training guidelines. In order to more clearly observe the impact of FOR training on the rater responses, this study

will administer FOR training to approximately half of participants, and compare responses of raters who underwent FOR training and those who did not.

*Hypothesis 2: There will be a greater degree of interrater reliability among the responses from raters who have undergone FOR training than there will be among responses from raters who have not.*

### **Rater Differences**

The differences between the requirements of successfully completing a masters-level vs those of a doctoral-level graduate program are accompanied by an abundance of anecdotal, “common knowledge”, and otherwise nonacademic opinions. It has been said that doctoral-level programs require increased independence while conducting independent research over masters-level programs. Additionally, considering the goal of contributing novel research to their field of study, a doctoral student should be equipped with the ability to think critically and independently (Rekik, 2012). Because of this increased independence and necessity of critical thinking, it is plausible that those raters who are affiliated with a doctoral-level program would consider both extroversion and agreeableness less important than those who are affiliated with masters-level programs. Because of the lack of available academic or otherwise peer-reviewed literature regarding the differences between doctoral- and masters-level study, this paper will employ exploratory research to investigate differences in personality requirements among rater type.

*H<sub>3</sub>: Raters associated with doctoral-level study will rate extroversion and agreeableness as significantly less important than will those associated with masters-level study.*

## **Chapter II: Method**

An inventory designed to analyze person-based job requirements (based off of a Big 5 factor model including Conscientiousness, Agreeableness, Neuroticism/Emotional Stability, Openness to Experience, and Extraversion) of a specific job position has been distributed to current students and faculty of I/O Psychology graduate degree programs. Additionally, approximately half of participants were asked to complete a brief frame-of-reference training that has been designed by the researcher according to current guidelines and best-practices (Aguinis et al., 2009). There were two separate inventories generated and distributed; one for each condition (FOR training and no FOR training). Both were distributed through the electronic database Qualtrics. An informed consent form was included at the beginning of each distributed survey.

### **Participants**

Participants were solicited via email through the listed faculty contact on the directory of programs compiled by the Society for Industrial Organizational Psychology (SIOP). Programs were selected for recruitment based on the following criteria: the program must award a graduate-level (M.S., M.A, Ph.D.) degree in I/O Psychology within the 50 states of the United States of America. Because of the decreased interpersonal interaction experienced with online-only degree programs, only “brick and mortar” institutions were considered. As of March 2015, there were 102 qualifying programs that were contacted (Society for Industrial and Organizational Psychology, 2014).

Participants were assigned to condition A (FOR training required) or condition B (no FOR training required) using semi-random assignment within participant groups. Participants

were separated into five groups: faculty of doctoral-level programs, faculty of masters-level programs, faculty of terminal masters- and doctoral-level programs, students of doctoral-level programs, and students of masters-level programs. This is a precaution in an attempt to ensure no groups are over- or under-represented in condition A or B. Participants were sorted into appropriate groups, and assigned to a condition using within group odd/even assignment.

Preliminary data analysis included investigation of rater type frequencies, shown in Table 1, displaying that over 60% of respondents to this research study identified themselves as students in a terminal masters-level program. The next most populous group were self-identified doctoral-level students comprising approximately 15% of the sample, followed by faculty identified as associated with a terminal masters-level program or both a terminal masters-level and doctoral-level programs, both making up around 4% of the sample. Finally, doctoral-level program faculty made up only 1% of the current sample.

Table 1

*Rater Type Frequencies*

	Rater type	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Faculty of a terminal Master's-level graduate program	3	4.2	4.8	4.8
	Faculty of a doctoral-level graduate program	1	1.4	1.6	6.5
	Faculty of both Master's- and doctoral-level programs	3	4.2	4.8	11.3
	Student in a terminal Master's-level graduate program	44	61.1	71	82.3
	Student in a doctoral-level graduate program	11	15.3	17.7	100.0
Missing	Total System	10	13.9		
Total		72	100.0		

**Materials and Procedure**

This study included one demographic question for all participants. This single item was used to assess which group the participant belongs in, and asked the participant to identify themselves as a current faculty of a doctoral-level program, current faculty of a masters-level program, current student of a doctoral-level program, or current students of masters-level program. There was also an option to choose “none of the above apply to me” which triggered Qualtrics’ skip-logic function to end the session if in the unlikely event that a non-eligible participant gained access to the survey.

## Personality Requirements Assessment

To assess participants' perceptions of which personality characteristics contribute to success as an I/O Psychology graduate student, the Personality-related Position Requirement Form (PPRF) was used (Raymark et al., 1997). This is a 107-item inventory with items separated into 12 distinct sets of items; each representing a dimension that represented predictors of a "Big Five" personality characteristic. Originally designed for job analysis intended for use in personnel selection, the PPRF is broken down in the following way: sets 1 ( $\alpha = .85$ ), 2 ( $\alpha = .84$ ), and 3 ( $\alpha = .83$ ) include items predictive of Surgency (alternatively labeled as Extraversion); sets 4 ( $\alpha = .72$ ), 5 ( $\alpha = .76$ ), and 6 ( $\alpha = .78$ ) include items predictive of Agreeableness; sets 7 ( $\alpha = .72$ ), 8 ( $\alpha = .60$ ), and 9 ( $\alpha = .92$ ) include items predictive of Conscientiousness; items in set 10 ( $\alpha = .78$ ) predict Emotional Instability; and sets 11 ( $\alpha = .90$ ) and 12 ( $\alpha = .88$ ) consist of items predictive of Openness to Experience. The sets of items were further defined as follows:

- Dimension I-A (Set 1, 9 items): **General Leadership** A pattern of visibility and dominance relative to others; the tendency to initiate action, to take charge of situations or groups, to influence or motivate behavior or thinking of other persons or groups of people to bring about or maintain work effectiveness.
  - Sample item: Effective performance in this position requires this person to take control in group situations.
- Dimension I-B (Set 2, 11 items): **Interest in Negotiation** An interest in bringing together contesting parties through mediation or arbitration of disputes or differences in view or as a contesting party, deal or bargain with others to reach agreement, synthesis, or compromise; a style of leadership characterized by an ability and willingness to see and understand differing points of view; having a sense of when making peace and achieving workable levels of harmony is appropriate and when a more assertive approach is needed.
  - Sample item: Effective performance in this position requires this person to mediate conflict situations without taking sides.
- Dimension I-C (Set 3, 8 items): **Ambition** A strong ambition and desire to achieve; in competition with others, a desire to win and a continuing tendency to exert effort and energy to win or to do better than others; in competition with one's

self, a desire to exert effort to advance, to do better than one's own prior achievement in specific activities; a tendency to try to excel relative to others or to a personal standard; to go beyond what is expected and required in an attempt to become the "best" not to accept "satisfactory" or good enough" but to strive for "excellent."

- Sample item: Effective performance in this position requires this person to work to excel rather than work to perform assigned tasks.
- Dimension II-A (Set 4, 7 items): **Friendly Disposition** A tendency to be outgoing in association with other people, to seek and enjoy the company of others; to be gregarious, to interact easily and well with others, to be likeable and warmly approachable.
  - Sample item: Effective performance in this position requires this person to arrange and host work-related social activities.
- Dimension II-B (Set 5, 8 items): **Sensitivity to Others** A tendency to be a caring person in relation to other people, to be considerate, understanding, and even empathic and to have genuine concern for others and their well-being.
  - Sample item: Effective performance in this position requires this person to give constructive criticisms tactfully.
- Dimension II-C (Set 6, 9 items): **Cooperative or Collaborative Work Tendency** A desire or willingness to work with others to achieve a common purpose and to be part of a group, a willingness and interest in assisting clients and customers as a regular function of the person's work, or assisting coworkers as needed to meet deadlines or achieve work goals.
  - Sample item: Effective performance in this position requires this person to work as part of an interacting work group.
- Dimension III-A (Set 7, 10 items): **General Trustworthiness** A pattern of behavior that leads one to be trusted by other people with property, money, or confidential information; a pattern of honoring the property rights of others and general concepts of honesty, truthfulness, and fairness; a deserved reputation for following through on promises, commitments, or other agreements—in short, a pattern of behavior that leads people to say approvingly, "This person can be counted on."
  - Sample item: Effective performance in this position requires this person to make commitments and follow through on them.
- Dimension III-B (Set 8, 9 items): **Adherence to a Work Ethic** A generalized tendency to work hard and to be loyal, to give a full day's work each day and to do one's best to perform well—following instructions and accepting company goals, policies, and rules—even with little or no supervision, an approach to work

characterized by industriousness, purposiveness, persistence, consistency, and punctuality.

- Sample item: Effective performance in this position requires this person to meet specified deadlines.
- Dimension III-C (Set 9, 10 items): **Thoroughness and Attentiveness to Detail** A tendency to carry out tasks with attention to every aspect, including attention to details that others might overlook or perform perfunctorily; a meticulous approach to one's own task performance or the work of others, including careful inspection or analysis of objects, printed material, proposals, or plans.
  - Sample item: Effective performance in this position requires this person to remain attentive to details over extended periods of time.
- Dimension IV (set 10, 9 items): **Emotional Stability** A calm, relaxed approach to situations, events, or people; emotionally controlled responses to changes in the work environment or to emergency situations; an emotionally mature approach to potentially stressful situations with tolerance, optimism, and a general sense of challenge rather than of crisis, maturity in considering advice or criticism from others.
  - Sample item: Effective performance in this position requires this person to keep cool when confronted with conflicts.
- Dimension V-A (Set 11, 10 items): **Desire to Generate Ideas** A preference for situations in which one can develop new things, ideas, or solutions to problems through creativity or insight, or try new or innovative approaches to tasks or situations; to prefer original or unique ways of thinking about things.
  - Sample item: Effective performance in this position requires this person to develop new ideas.
- Dimension V-B (Set 12, 7 items): **Tendency to Think Things Through** A habit of thinking, of mentally going through procedures or a sequence of probable events before actually taking actions; a tendency to seek information, to evaluate it, and to consider the consequences or effects of alternative courses of action.
  - Sample item: Effective performance in this position requires this person to identify and evaluate options before taking action.

Each item on the PPRF must be responded to on a 0 to 2 Likert-type scale; 0

representing an item perceived as “Not Required”, 1 representing “Helpful”, and 2

representing “Essential”.



### **Frame of Reference Training**

The FOR training that utilized for this study is a document developed to include all aspects of training currently recommended by experts in the field (Aguinis et al., 2009; Dierdorff et al., 2010). Included was an introduction to the task (responding to the PPRF through the lens of a successful I/O Psychology graduate student), an operationalization of what is considered a “successful student”, a description of the PPRF and its form, how to appropriately respond to the items, examples of items and appropriate responses, and an overview of rater response biases to avoid. Respondent biases and errors (including but not limited to socially-desirable responding, halo error, and “like me” biases) were discouraged by the inclusion of a section dedicated to reviewing commonly-seen biases and errors, and directly asking raters to avoid these behaviors.

Approximately half of respondents were asked to complete FOR training in an effort to reduce rater biases, and improve rater reliability and accuracy. In an attempt to control for individuals who may choose to scroll and click through the FOR training without truly engaging in the training, there was a one-question learning check that asked the respondent to select which of four response biases were reviewed in the FOR training. The FOR form in its entirety can be found in Appendix B.

## Chapter III: Results

### Analyses

All analyses were preceded by examining the obtained data and removing cases with five or more missing item responses. A total of 84 participants began taking the inventory. Of those 84, 62 were valid cases, leaving a total of 62 total valid responses. Of these individuals, 11 reported their affiliation as a doctoral-level student, 44 as a student in a terminal masters degree, 3 reported being faculty in programs that encompassed both doctoral- and terminal masters-level study, 1 reported being faculty in doctoral-level programs, and 3 reported being faculty in terminal masters-level programs.

Frequencies representing rater type are displayed in Table 1, and correlational relationships and reliabilities of the variables, analyzed on the “Big Five” level, are displayed in Table 2. Additionally, descriptive statistics for all rater types across all variables are displayed in Table 3, and descriptive statistics by rater type are displayed in Tables 4-8. Finally, an analysis of variance was conducted to determine if there was a significant difference in results according to rater type; these results are found in Table 9.

### Results

Following frequencies of rater type, correlations between and reliabilities of each of the five variables were calculated, as displayed below in Table 2.

Table 2

*Correlations and Reliabilities of Five Factors*

Measure	1	2	3	4	5
1. Stability	(.84)	--			
2. Extraversion	.55*	(.63)	--		
3. Agreeableness	.61*	.71*	(.75)	--	
4. Conscientiousness	.51*	.27*	.38*	(.46)	--
5. Openness	.48*	.40*	.61*	.44*	(.62)

\* $p < .05$ , two-tailed

Hypothesis 1 was tested by examining variable mean scores reported by respondents. All rater types are represented in Table 3. Classification of rater responses included determining if raters reported perceiving a personality variable as “not required” ( $M = 1.0-1.49$ ), “helpful”, ( $M = 1.5-2.49$ ), and “essential” ( $M = 2.5-3$ ). Hypothesis 1 predicted that respondents would report that for success as an I/O Psychology graduate student, Extraversion is “helpful”, Agreeableness would be reported as “helpful”, Conscientiousness would be reported as “essential”, Emotional Stability would be reported as “helpful”, and Openness to Experience would be reported as “helpful”. Analysis of this data indicated that Hypothesis 1 is partially supported, showing that Extraversion was reported as “helpful” ( $M = 1.64$ ,  $SD = 0.28$ ), Agreeableness was reported as “helpful” ( $M = 2.13$ ,  $SD = 0.32$ ), Conscientiousness was reported as “helpful” ( $M = 2.34$ ,  $SD = 0.21$ ) as opposed to the prediction of “essential”, Emotional Stability was reported as “helpful” ( $M = 2.09$ ,  $SD = 0.34$ ), and Openness to Experience was reported as “helpful” ( $M = 2.35$ ,  $SD = 0.30$ ).

Table 3

*Descriptive Statistics for All Rater Types*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
Stability	62	2.09	0.34
Extraversion	60	1.64	0.28
Agreeableness	62	2.13	0.32
Conscientiousness	62	2.34	0.21
Openness	62	2.35	0.30

Hypothesis 2, predicting that undergoing FOR training would result in stronger reliability than for those who had not undergone FOR training was supported. A Cronbach's alpha coefficient was utilized to interpret measure reliability for the overall sample (all rater conditions), the measure reliability for individuals who had undergone FOR training, and for those who had not. The Cronbach's alpha reliability for the overall sample was calculated at  $\alpha = .832$ . For those who had undergone FOR training, the Cronbach's alpha reliability was calculated at  $\alpha = .845$ , or slightly improved over the overall sample. For those who had not undergone FOR training, the Cronbach's alpha reliability was calculated to be  $\alpha = .775$ , or lower than the alpha calculated for those who had undergone FOR training, therefore supporting the hypothesis. See Table 4 for visual representation.

Table 4

*Reliabilities Across Conditions*

Condition	<i>n</i>	$\alpha$
FOR	32	0.845
Non-FOR	28	0.775

Finally, the third hypothesis; that raters associated with doctoral-level programs would rate Extraversion and Agreeableness as less important than those associated with terminal

masters-level programs was not supported. Means were compared across groups (see Tables 4-8), and while simple means reflected some support for hypothesis 3 (for example, Ph.D. students rated Extraversion and Agreeableness as  $M = 1.42$  and  $M = 1.91$  respectively, while MS/MA students rated Extraversion and Agreeableness as  $M = 1.71$  and  $M = 2.18$ , respectively), an analysis of variance (see Table 8) revealed that there were no significant differences in ratings of variables across groups.

Table 5

*Descriptive Statistics for MS/MA Faculty*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
Stability	3	1.78	0.19
Extraversion	3	1.56	0.05
Agreeableness	3	2.07	0.17
Conscientiousness	3	2.07	0.12
Openness	3	2.20	0.24

Table 6

*Descriptive Statistics for MS/MA/PhD Faculty*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
Stability	3	1.96	0.23
Extraversion	3	1.59	0.28
Agreeableness	3	2.15	0.24
Conscientiousness	3	2.33	0.28
Openness	3	2.17	0.38

Table 7

*Descriptive Statistics for PhD Faculty*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
Stability	1	1.56	--
Extraversion	1	1.35	--
Agreeableness	1	1.93	--
Conscientiousness	1	2.42	--
Openness	1	2.35	--

Table 8

*Descriptive Statistics for MS/MA Students*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
Stability	44	2.16	0.34
Extraversion	44	1.71	0.27
Agreeableness	44	2.18	0.32
Conscientiousness	44	2.36	0.21
Openness	44	2.36	0.28

Table 9

*Descriptive Statistics for PhD Students*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
Stability	11	1.95	0.32
Extraversion	11	1.42	0.21
Agreeableness	11	1.91	0.3
Conscientiousness	11	2.33	0.21
Openness	11	2.42	0.42

Table 10

*ANOVA by Rater Type*

	<i>MS/MA Faculty</i>	<i>PhD Faculty</i>	<i>MS/MA/PhD Faculty</i>	<i>MS/MA Student</i>	<i>PhD Student</i>	<i>df</i>	<i>F</i>	$\eta^2$	<i>p</i>
Openness	2.20	2.35	2.17	2.36	2.42	4	0.596	0.04	.667
Extraversion	1.56	1.35	1.59	1.71	1.42	4	3.213	0.189	.190
Conscientiousness	2.07	2.42	2.33	2.36	2.33	4	1.43	0.091	.234
Agreeableness	2.07	1.93	2.15	2.18	1.91	4	1.834	0.114	.135
Stability	1.78	1.56	1.96	2.16	1.95	4	2.515	0.15	.051

*Note:* Values under rater type heading represent means.

## Chapter IV: Discussion

This study attempted to identify which personality characteristics contribute to success for an Industrial/Organizational Psychology graduate student, and was conducted by relying on subject matter expert responses from individuals who currently enrolled in or are faculty for I/O Psychology graduate programs across the United States. This study aimed to further the research in the area of concurrently validating personality predictors of performance, and the utility of FOR training for raters of similar inventories.

It was anticipated that this proposed study would prove a practical and applicable resource for faculty who serve on admissions committees for I/O Psychology graduate programs should they desire to expand their acceptance criteria beyond cognitive predictors. Additionally, this research was intended to be in the position to provide potential graduate students a reliable guideline to reference when determining if a master's- or doctoral-level graduate program is a good fit for them as a person. Finally, the proposed study was intended to add to psychometric literature regarding the utility of FOR training.

Considering only partial support for hypothesis 1, and no support for hypothesis 3, these anticipated results are overall not suitable for generalization. A report from the Center for Applied Psychological Type indicated that almost 55% of university faculty are introverts: it is expected that had greater number of faculty and doctoral-level students participated, hypothesis 3 may have been supported (Brightman, n.d.). The most promising result of this study lies in its ability to add to the literature regarding the psychometric advantages of employing Frame of Reference training to improve rater reliability.



In addition to adding to Frame of Reference training literature, the results of this study indicate that while personality may not be the best variable to examine when determining what characteristics contribute to an individual's success as an I/O student, it may be worthwhile to investigate other individual differences, including factors such as need for achievement, persistence, hardiness, or grit. Future research involving examining any of these or other individual differences as factors of success as an I/O graduate student may produce valuable insight above and beyond the focus on cognitive ability indicators to increase student retention and graduation rates.

Additionally, an ideal future research project would involve longitudinal design that tracks applicants' individual differences and their graduate school outcomes. Due to practical limitations (access to measures of students' differences and scholastic records, participant attrition, heavy time investment, etc.), longitudinal research is rarely conducted. Despite these limitations, a longitudinal study design involving actual applicant information has the potential to reveal very interesting results that concurrent validation studies are unable to. For example, a longitudinal design would provide the opportunity to more objectively determine, through statistical analyses, which factors are related to stronger or weaker likelihood of success rather than relying on subject matter expert opinion and interpretation to provide the framework for important factors. Beyond valuable implications for selection from the perspective of graduate admissions boards, this could provide highly valuable job-person fit information for individuals considering studying in this field.

## **Limitations**

The primary and most prominent limitation of this study lies in the inability to obtain a better sample size, and therefore the exceptionally low power available for these statistical analyses. While the researcher diligently invited individuals from over 100 graduate programs and reminded them twice of the opportunity to participate, she was unable to garner the sample size that was originally hoped for. Considering the overall sample size as well as highly disproportionate representation of rater type (recall only 1 single doctoral-level faculty member participated, while 44 masters-level students participated), this current study is not suitable for generalizability. The researcher would expect different results with a larger sample size- particularly in terms of finding significant differences across rater type.

Second, the original plan was to solicit participants via their email addresses and to sort them semi-randomly into FOR or non-FOR conditions. Very few program representatives were willing to release this information, and therefore the solicitation technique had to be altered. Instead of soliciting email addresses of potential participants, the researcher had no choice but to distribute access to the survey based on program. It was asked that program representatives randomize their email distribution list and send out access to each condition to approximately half of their students and faculty: the likelihood that this actually occurred is minimal. Overall, individual program requirements (according to culture, focus, etc.) likely crippled the ability to at least semi-randomly assign individuals and may have had an influence on responses.

Third, as the participants being solicited are SMEs in the field, it is possible that they have previous exposure to the personality measure, the PPRF. While inherently not a

negative, if a rater determines they are familiar with the measure, it may encourage them to respond less carefully, resulting in potentially less-reliable data collection. For users who underwent FOR training, the risk of this was hopefully minimized.

Fourth, as a 107-item inventory, the chance of rater fatigue is an inherent risk of using this measure, and because approximately half of the raters will be asked to undergo additional effort with the FOR training, the risk of fatigue is heightened for those raters. Rater fatigue has been seen to decrease response variability over time, decreasing differentiation and reliability (Israelski & Lenoble, 1982).

Finally, a limitation to the proposed study may be that with potential applicants exposed to personality items they believe are being utilized for selection into a graduate program, the results may be providing an information on what to attempt to fake when responding to personality inventories. Evidence has shown that in high-stakes situations, such as graduate school applications, respondents are more likely to manipulate their responses to match their perception of desirable results (Morgeson et al., 2007).

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## Appendix A

### PERSONALITY-RELATED POSITION REQUIREMENTS FORM: AN INVENTORY OF GENERAL POSITION REQUIREMENTS

Job or position: \_\_\_\_\_ Date: \_\_\_\_\_

Was this form completed by the incumbent whose position is described, by the incumbent's supervisor, or by a panel of incumbents? [check and give name(s)]:

(Supervisor) \_\_\_\_\_

(Incumbent) \_\_\_\_\_

(Panel) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

This inventory is a list of statements used to describe jobs or individual positions. It is intended to be a supplement to more detailed and specific job analysis. It is an inventory of "general" position requirements. These position requirements are general in that they are things most people can do; most of them can be done without special training or unique abilities. Even so, some of them are things that can, if done well, add to success or effectiveness in the position or job. Some of them may be things that should be left for others to do - not part of this position's requirements.

Each item in this inventory begins with the words, "Effective performance in this position requires the person in it to..." Each item is one way to finish the sentence. The finished sentences describe things some people, on some jobs, should do. An item may be true for the position or job being described, or it may not be.

There are 19 sets of items. The items included in a set are intended to describe somewhat similar position requirements.

For each item, decide which of these statements best describes the accuracy of the item for the position being analyzed:

Doing this is *not a requirement* for this position (Not Required)

Doing this *helps* one perform successfully in this position (Helpful)

Doing this is *essential* for successful performance in this position (Essential)

Show which of these describes the importance of the statement for your position by placing a check mark in the box under "Not Required," "Helpful," or "Essential."

		<b>Not Required</b>	<b>Helpful</b>	<b>Essential</b>
<b>Set 1</b>				
1.	lead group activities through exercise of power or authority.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	take control in group situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	initiate change within the person's work group or areas to enhance productivity or performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	motivate people to accept change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	motivate others to perform effectively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	persuade co-workers or subordinates to take actions (that at first they may not want to take) to maintain work effectiveness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	take charge in unusual or emergency situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	delegate to others the authority to get something done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	make decisions when needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Set 2</b>				
10.	negotiate on behalf of the work unit for a fair share of organizational resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	help people in work groups settle interpersonal conflicts that interfere with group functioning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	help settle work-related problems, complaints, or disputes among employees or organizational units.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	mediate and resolve disputed at individual, group, or organizational levels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- |     |  |                          |                          |                          |
|-----|--|--------------------------|--------------------------|--------------------------|
| 14. | negotiate with people within the organization to achieve a consensus on a proposed action.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. | mediate conflict situations without taking sides.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. | compromise to achieve organizational goals, even at a cost of personal or work unit advantage.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. | settle disputes among subordinates or coworkers through negotiations and compromise.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. | work with dissatisfied customers or clients to achieve a mutually agreeable solution.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. | negotiate with people outside the organization to gain something of value to the organization.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. | negotiate with people outside the organization to settle conflict on behalf of the organization through agreement, synthesis, or compromise. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Set 3**

- |     |   |                          |                          |                          |
|-----|---|--------------------------|--------------------------|--------------------------|
| 21. | work beyond established or ordinary work period to perfect services or products.                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. | work to excel rather than work to perform assigned tasks.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. | try always to do the best possible work, not settling for work that is merely "good enough"       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. | find ways to excel by improving the way work is done.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. | improve one's performance beyond that of the competition by analyzing prior mistakes or problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. | persevere in the pursuit of his or her own work goals even when unsuccessful.                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. | establish and meet challenging personal deadlines for reports or other work products.             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

28. seek challenging tasks.

**Set 4**

29. interact with others in social situations where the person is representing the organization.

30. represent and promote the organization in social contacts away from work.

31. arrange and host work-related social activities.

32. attract new clients or customers through friendly interactions.

33. interact with clients, customers, or other employees.

34. start conversations with strangers easily.

35. interact with others in a courteous, friendly manner.

**Set 5**

36. listen attentively to the work-related problems of others.

37. give constructive criticisms tactfully.

38. deal gently with the feelings of others

39. work with dissatisfied customers or clients.

40. help, advise, and encourage people who are new to the organization or to a particular position in it.

41. be considerate when duties lead to physical or emotional pain or discomfort of others (e.g., during physical therapy, giving shots, giving notice of termination, etc.).

42. listen attentively to the family or emotional problems of people seen in the course of one's work (e.g., clients, institutional residents, etc.).

43. take the time needed to provide tender loving care for children, nursing home residents, or others who cannot help themselves.

**Set 6**

44. work in pairs or small groups where each person's work is dependent on or influenced by the work of others.

45. work as part of an interacting work group.

46. work with one or more co-workers to complete assigned tasks.

47. collaborate with other employees to achieve goals as a group.

48. help co-workers solve work-related problems or reach common goals.

49. provide assistance to clients or customers throughout the work day.

50. assist others when needed, even when some personal sacrifice is involved.

51. help find solutions for the work-related problems of other employees or clients.

52. voluntarily assist co-workers with their work when the person's own workload permits.

**Set 7**

53. avoid temptations inherent in the job for behavior that breaches ethical standards of the organization and/or industry.

54. refuse to share or release confidential information.

55. make commitments and follow through on them.

56. keep one's word about doing things, even when it is inconvenient or unpleasant to do so.

- |     |  |                          |                          |                          |
|-----|--|--------------------------|--------------------------|--------------------------|
| 57. | have access to confidential information.                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 58. | deal honestly with customers, patients, clients, etc.            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 59. | inventory, store, or otherwise safeguard the property of others. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 60. | manage large sums of money on behalf of the organization.        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 61. | have access to merchandise in storeroom or warehouse.            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 62. | receive or disburse funds in cash or by check.                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Set 8**

- |     |   |                          |                          |                          |
|-----|---|--------------------------|--------------------------|--------------------------|
| 63. | see things that need to be done and do them without waiting for instructions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 64. | work until task is done rather than stopping at quitting time.                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 65. | meet specified deadlines.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 66. | arrive at appointment on time or ahead of time.                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 67. | work effectively and consistently, with little or no supervision.             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 68. | follow instructions or orders even when disagreeing with them.                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 69. | work in personal isolation for long periods of time.                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 70. | follow established work schedules and procedures.                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 71. | work under conditions that may be physically uncomfortable.                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Set 9**

- |     |  |                          |                          |                          |
|-----|--|--------------------------|--------------------------|--------------------------|
| 72. | examine all aspects of written reports to be sure that nothing has been omitted. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-----|--|--------------------------|--------------------------|--------------------------|

- |     |  |                          |                          |                          |
|-----|--|--------------------------|--------------------------|--------------------------|
| 73. | inspect his or her own work (or the work of coworkers or subordinates) carefully and in detail.                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 74. | be a stickler for detail in graphics, proofreading, planning, or other job activities.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 75. | remain attentive to details over extended periods of time.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 76. | attend to details in working, or in planning work, to minimize glitches.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 77. | study all detailed aspects of projects to understand them fully.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 78. | pay close attention to detailed specifications.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 79. | attend to all aspects of projects to be sure they are completed.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 80. | review all relevant information about previous projects to be sure that planning for new ones considers important prior experiences. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 81. | give close attention to every facet of duties of the position.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Set 10**

- |     |   |                          |                          |                          |
|-----|---|--------------------------|--------------------------|--------------------------|
| 82. | adapt easily to changes in work procedures.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 83. | keep cool when confronted with conflicts.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 84. | accept unplanned changes to work schedules or priorities.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 85. | work in potentially stressful situations without feeling stressed.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 86. | remain calm when questioned, criticized, or confronted by clients, customers, coworkers, or others in the organization. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 87. | work under conditions that are potentially emotionally stressful.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



- |     |   |                          |                          |                          |
|-----|---|--------------------------|--------------------------|--------------------------|
| 88. | stay cool in responding to potentially dangerous situations.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 89. | work in environments where people are capable of violence, when even violent deaths may be anticipated. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 90. | remain calm in a crisis situation.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Set 11**

- |      |  |                          |                          |                          |
|------|--|--------------------------|--------------------------|--------------------------|
| 91.  | present unconventional ways to do things that decrease costs or improve work effectiveness.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 92.  | help find solutions for the work problems of other employees or clients.                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 93.  | develop innovative approaches to old everyday problems.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 94.  | suggest alternative conclusions when presented with results that seem to suggest only one possible conclusion. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 95.  | develop unusual or unique approaches to working with others.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 96.  | develop new ideas.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 97.  | suggest new areas of expansion of the organization's products or services.                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 98.  | suggest new products, product lines, or new types of services.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 99.  | find new ways to improve the way work is done.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 100. | suggest creative or original ideas.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Set 12**

- |      |   |                          |                          |                          |
|------|---|--------------------------|--------------------------|--------------------------|
| 101. | solve complex problems one step at a time.              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102. | analyze past mistakes when faced with similar problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- |  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
| 103. critically evaluate information presented to support a proposed decision or course of action. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 104. identify and evaluate options before taking action.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 105. solicit and consider differing options or points of view before making a decision.            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 106. make decisions or take actions only after considering their long term implications.           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 107. base decisions on facts, logic, experience, and/or intuition.                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

#### Scoring Instructions for the PPRF

- Code “Not Required” = 0; “Helpful” = 1; “Essential” =2.
- For items 1, 2, 13, 14, 17, 22, 23, 25, 32, 34, 41, 43, 44, 46, 47, 50, 63, 64, 67, 68, 83, 85, 86, 88, 90, 91, 93, 94, 96, 98, 100, and 104 multiply the item code score by 2.
- Add scores within the 12 sets and divide by the number of items (counting double-weighted items as two items) in the set.
- Set a cut score of, say, anything greater than 1.0 as a way to include dimensions of importance in the selection content. Another approach might be to limit dimensions to those significantly greater than .99 or not significantly different from 2.0

## Appendix B

### Frame of Reference Training Form

#### Frame of Reference Training

Welcome raters; today you are going to be completing the Position-related Personality Requirements Form, or PPRF. This is an inventory used to determine which personality characteristics are perceived as important for success on a particular job. The position for which you are providing ratings is that of an Industrial/Organizational Psychology graduate student in general- not based on your individual experience. Please be sure to keep this position in mind when completing the form.

*For the purpose of this inventory, a successful student is defined as a student who meets or exceeds program requirements with regards to satisfactory performance in coursework, research participation, colleague and advisor collaboration, and who graduates from the program in good academic standing within the typically-allotted timeframe.*

**Please note: This inventory was originally designed with non-academic positions in mind. Please consider the items in terms of your experiences with academia (co-workers = classmates, etc.).**

The PPRF is a list of statements used to describe jobs or individual positions. It is an inventory of “general” position requirements. These requirements are things that are generally accepted to be possible for individuals to do without special training or without possessing unique abilities. Each item throughout this inventory begins with the phrase “Effective performance in this position requires a person to. . .” Each item is one way to finish that sentence. That sentence may be true for the position or job being described (I/O Psych grad student), or it might not. For each item, you are to choose which of these statements best describes the accuracy of the item for the position being analyzed:

- *Doing this is not a requirement for this position* (“Not Required”)
- *Doing this helps one to perform successfully in this position* (“Helpful”)
- *Doing this is essential for successful performance in this position* (“Essential”)

Indicate which of these describes the importance of the statement for your position by selecting a single response: “Not Required”, “Helpful,” or “Essential”. More details are provided below.

Selecting the response option “*Not Required*” indicates you perceive this behavior to be unnecessary for satisfactory performance in the target position. For example, assume the PPRF was being filled out for the position of an Industrial/Organizational graduate student. The item “take the time needed to provide tender loving care to children, nursing home

residents, or others who cannot help themselves” does not apply to this position: therefore, the response “*Not Required*” would be a good response.

Selecting the response option “*Helpful*” indicates you perceive this behavior is something that will drive, but is not completely necessary for satisfactory performance. For example, for an Industrial/Organizational graduate student, the item “try always to do the best possible work, not settling for work that is merely ‘good enough’” is describing something that is helpful, but is not entirely required. “*Helpful*” would be an appropriate response.

Selecting the response “*Essential*” indicates you perceive that someone cannot be successful in their performance without displaying this behavior. For the position of an Industrial/Organizational graduate student, the item “meet specified deadlines” would be necessary for satisfactory performance. “*Essential*” would be an appropriate response.

Additionally, please review below some common types of biases respondents tend to exhibit when completing questionnaires, and do your best to avoid them.

#### **Social Desirability Bias:**

This bias drives test takers to respond in a way they believe will make them look favorable to the experimenter or to society in general. This may result in "good" behavior being over reported.

Ex: I volunteer my free time with charities that benefit our society

Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
				X

I have never lied to a supervisor

Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
				X

I always get along well with my coworkers.

Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
				X

#### **Demand Characteristics:**

An experimental bias where participants form an interpretation of the experiment's purpose and unconsciously change their behavior to fit that interpretation.

#### **Extreme Response Bias:**

When a respondent only selects the most extreme answer.

Ex: On a scale of 1 to 7, the respondent would only choose answers on the extreme ends (1s and 7s)

**Acquiescence Bias:**

This bias may lead responders to agree with all items in a positive manner. Test takers may be particularly driven to this bias if they are in doubt about a response.