DISPOSITIONAL EMPLOYABILITY AND THE RELATIONSHIP TO CAREER SUCCESS: A META-ANALYSIS

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DISPOSITIONAL EMPLOYABILITY AND THE RELATIONSHIP TO CAREER SUCCESS: A META-ANALYSIS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Psychology:
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by
Alisha Michelle Jasmer

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ABSTRACT

This meta-analysis focuses on the willingness to work aspect of the RAW model of employability of Hogan et al. (2009), in relationship to career success. Willingness to work (W) can be defined as favorably disposed to work hard and take initiative at one's job. The variables I used to structure the W are proactive personality, conscientiousness, work ethic, job involvement, adaptability, and ambition.

I used the Hunter and Schmidt method to analyze the data applying a random effects model. All calculations were conducted in Excel. The overall sample consisted of 100 effect sizes (r) derived from 41 studies. The total sample size was 45,652. The individuals in these samples were from a wide range of backgrounds that included diverse samples of age, culture, and occupations.

The results indicated a small to medium effect size for all variables. This outcome supports my hypotheses, concluding that willingness to work correlates with both objective and subjective career success. Because of small sample sizes (i.e., relatively few studies with usable moderator data), a moderator analysis was not conducted. Once sufficient studies have been published in this domain, future researchers could look into the possibility of moderators.
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CHAPTER ONE
LITERATURE REVIEW

Introduction and Purpose

Employability has been a topic in research throughout Europe for a generation. Much of this literature has focused on individuals’ abilities and skills that are related to their specific jobs within the context of employability. Until recently, relatively few studies have examined the motivation that helps individuals to obtain and retain their jobs. To assess the relationship of this type of motivation to success, I conducted a meta-analysis on the willingness (W) aspect of Hogan et al., (2013)’s RAW model of employability. With this study, I synthesized results from all relevant studies to address:

1. If there was empirical support for a relationship between willingness to work, employability and career success
2. If relevant moderators existed between the relationship of employability and career success
3. An extension of Fuller’s 2009 proactive personality meta-analysis. This study will add to the current literature on proactive personality and will add other willingness to work dispositional traits that were not included in Fuller’s 2009 study
Conceptual and Theoretical Background

Most people want to be employed. Not only do most people need to have a job to finance shelter and to eat, many people find purpose and responsibility in their jobs. However, work, or more precisely, lack of work can be stressful, especially when one is looking for a job. Unemployment and the unemployed have been widely studied, predominantly from an economic perspective. Social scientists have examined unemployment further and have looked at the difficulties of the unemployed beyond financial needs.

There are many reasons for unemployment, whether it be structural or cyclical. Structural unemployment is the mismatch between qualifications that employers want and the skills available within the labor force. Cyclical unemployment happens because there is a decrease in the demand for goods and services, resulting in fewer jobs (Hogan, Chamorro-Premuzic, & Kaiser, 2013). Since the 1950s, industrial-organizational psychologists and other work researchers, mainly in European countries, have been focused on individuals’ contribution to employability and how one’s employability can be improved.

“Employability is the capacity and willingness of workers to remain attractive for the labor market by reacting to and anticipating changes in task and work environments” (De Grip, Van Loo, & Sanders, 2004, p. 10). Being employable means not only is an individual capable of developing a position in the labor market, but he or she is also willing to engage in activities that will keep him or her still attractive to employers. De Grip et al. (2004) suggest that
employability includes willingness to be mobile across jobs: changing locations, willingness to participate in training, investing time, money, and energy. These authors also discuss an individual’s willingness to be functionally flexible—performing multiple tasks or duties. Employability is important not only for employees but also the employers. Employers want to make sure that they are hiring individuals who are competent and motivated to provide a competitive advantage to the organization (Van der Heijden, 2002). Because of the importance for both employees and employers, it is imperative to recognize and research the elements that encourage employability.

Brief History of Employability

Employability dates back to the early 20th century. Employability was first conceptualized as dichotomic (or dichotomous), distinguishing the employable from the unemployable (i.e., those eligible for welfare benefits). The concept was seen more as an emergency distinction rather than a labor market policy tool (McQuaid & Lindsay, 2005) with the primary focus, economic (Forrier & Sels, 2003). By the 1960s, the concept was used by statisticians, social workers and labor market policy makers in terms of socio-medical employability and manpower policy employability. The focus of these concepts was identifying and measuring the distance between individual characteristics and the demands of work in the labor markets (McQuaid & Lindsay, 2005). By the 1970s, attention shifted from attitudes to the individual’s occupational knowledge and skills. Employability became
important to individuals because of recessions that made it harder to find and keep a job (De Grip, Van Loo, & Sanders, 2004). In the 1980s, attention was returned to the company level. Employability meant the functional flexibility of staff, in terms of achieving flexibility within organizations. It was seen, in an optimistic way, as a means to optimize the deployment of staff within organizations (Forrier & Sels, 2003).

These versions of employability gave way to the newly broadened concept that developed in the 1990s and focused not only on those who were unemployed, but the entire active, employable population (Forrier & Sels, 2003). The contemporary literature now focuses on employability as the individual’s ability to maintain a job in the internal or external labor markets. However, this broadened new concept brought differences in opinion on what employability actually means with the term being used in a diverse mix of literatures: labor economics, candidate attractiveness during interviews, public policy and employment, competencies, self-perceptions, and welfare policy (Fugate & Kinicki, 2008). Thus, researchers from different disciplines often have different definitions of employability.

RAW Model of Employability

As noted, different approaches to employability have been taken and applied within different contexts for those who work and are seeking work. However, most definitions overlap the core idea of any or all of the following:
individual occupational expertise, recruitment strategies, further learning, and employability skills (Harvey, 2001).

Employability, according to Fugate, Kinicki, and Ashford (2004), is a psycho-social construct. Fugate et al. posit that “individuals who have greater employability perceive more control over what happens to them and are likely to have greater satisfaction with their career outcomes and experience higher levels of well-being, even after experiencing a career disruption such as a job loss” (Gowan, 2012, p. 781).

Heijde and Van Der Heijden (2006) conceptualize employability on a competency basis with four dimensions of occupational expertise: anticipation and optimization, personal flexibility, corporate sense, and balance. They argued that these dimensions relate to job-related matters, as well as aspects of a broader career development.

Hogan et al. (2013), however, take a straightforward approach to employability and define employability as the capacity to gain and retain formal employment or find new employment, if necessary. Their model is similar to Fugate et al. (2004)’s model, but more parsimonious. RAW captures the perspective of the employer in terms of Rewarding--rewarding to deal with, Ability--capable of learning and performing the job, and Willing--driven and hard working. Consequently, employability is a function of social and interpersonal compatibility, expertise, know-how, ambition, work ethic, and drive (Hogan et al., 2013). They say “employability is an attribution employers
make about the probability that job candidates will make positive contributions to their organization" (p. 11). Hogan et al. (2013) argue that both career success and employability has depended on behaving in socially desirable ways when interacting with recruiters, employers, and managers. Supervisors like employees who are likeable, show good judgment, and seem to learn quickly. They also like employees who are compliant and obedient (Hogan et al., 2013).

According to Hogan et al. (2013) and using the RAW model, candidates who display all three areas should be high in career success. The model is essentially compensatory, meaning that candidates who are strong in two of the three should also have high levels of career success compared to those who are weak in two or all three.

The R (rewarding) and the A (able) variables in the RAW model have been researched more extensively than the W (willingness) aspect of the model. A meta-analysis by Ng, Eby, Sorensen, and Feldman (2005) found correlations between cognitive ability and career success. For example, Ng and Feldman (2014) comparably found that those employees who have limited social networks and few professional relationships tended to have lower subjective career success. On the other hand, willingness to work is comparatively new to the employability literature, although the concept has clear overlap with the work motivation literature. I focused on this W aspect of the RAW model for this study.
Willingness to work is a broad construct that includes attitudes, behaviors, and individual traits. To operationally define my definition of willingness, I will focus on willingness as a disposition, meaning an inherent quality of an individual’s character. An individual high in W is willing to work hard, no matter the situation. Willingness to work, for my research, can then be defined as favorably disposed to work hard and take initiative at one’s job. These individuals have ambition, are driven, and have a strong work ethic.

The model upon which I am basing my thesis is by Hogan et al. (2013). I decided to use this model because of its parsimony. The model is also relatively new, thus a meta-analysis could serve as a good foundation for one aspect of the model. Further, I thought the willingness to work dimension would encompass the dispositional traits likely to be related to successful career outcomes. I now turn to discuss these traits.

Career Success

An important outcome of employability is career success. Career success is defined as the “accumulated positive work and psychological outcomes resulting from one’s work experiences” (Seibert, Crant & Kraimer, 1999, p. 417). Career success is a concern of both the individual and organization, in that the success of an individual can ultimately contribute to the organization’s success (Judge, Higgins, Thoresen, & Barrick, 1999). Employability is seen as a critical condition for career success (Fugate et al., 2004). Those individuals who are able to obtain and maintain a job are going
to be more likely to have greater career success than someone who cannot hold a job.

Career success can be operationalized as either objective or subjective. Objective or extrinsic career success is readily measurable and includes salary, promotion history, performance, and quality of work. According to Heslin (2005), salary, salary growth, and promotions are the most widely used indicators of career success. Researchers tend to focus on objective career success because it is more easily measured and, thus, efficient to collect data from readily available records.

Subjective or intrinsic career success is an individual’s perceptual evaluations of, and affective reactions to, their careers (Ng & Feldman, 2014). Van Maanen (1977) defines subjective career success as “the individual’s internal apprehension and evaluation of his or her career, across any dimensions that are important to the individual” (p. 9). These subjective outcomes include work-life balance, sense of meaning, purpose, and transcendences from their work (Heslin, 2005). Unlike objective success, subjective success is more difficult to measure and not readily available from personnel records. However, employees tend to describe their career success in terms of subjective career success (i.e. satisfaction) rather than in terms of objective career success (i.e. salary, promotions). (Ng, Eby, Sorensen, & Feldman, 2005). Subjective career success is commonly operationalized as job or career satisfaction (Heslin, 2005). Hillage and Pollard (1998) suggest
that employable people obtain work which they find satisfactory; that they are employable makes them valuable to the labor market and enables them to choose and negotiate conditions at work.

Objective and subjective career success do not always go hand in hand. Some individuals do not feel their success originates from receiving high pay and promotions; in fact, if the work is not satisfying, depressive reactions for work, personal alienation, and reports of low subjective perceptions of success could result (Burke, 1999; Heslin, 2005; Korman, Wittig-Berman, & Lang, 1981). Most researchers focus on either objective or subjective career success and little research has examined both types of career success simultaneously (Judge et al., 1995). Thus, subjective success is not always a function of objective success and highlights the importance of learning more about the nature of the relationships between the different career outcomes. In my thesis, I analyzed the relationships of W with both objective and subjective career success.

Components of Willingness to Work

From reading and analyzing the literature on employability, I found willingness to work to be comprised of multiple variables. After discussing willingness with peers and dissecting the Hogan et al. (2009) article, I believe willingness to work consists of the following variables: proactive personality, adaptable, personal initiative, conscientiousness, career resilience, work ethic, ambition, career engagement, and job involvement. Please refer to Appendix
A, Table 1, for a list of variables and definitions. Below I describe each and justify why each belongs in the employability constellation.

**Proactive Personality**

People with proactive personality (PP) are characterized as seeking out opportunities, showing initiative, and persevering to bring about meaningful change. PP captures a behavioral tendency toward enacting, or changing, one's environment. People high in PP are relatively unconstrained by situational forces that affect environmental change (Bate & Crant, 1993). Proactive people transform their organizations' missions, find and solve problems, and take it on themselves to have an impact on the world around, unlike individuals who are less proactive. These less proactive people are passive and reactive and adapt to circumstances rather than change them (Seibert, Crant, & Kraimer, 1999).

Studies have suggested that proactive personality is not only related to success at work but also to success across one's career (Fuller & Marler, 2009). These individuals tend to select, create, and influence work situations to increase the likelihood of career success outcomes (Erdogan & Bauer, 2005). Unlike less proactive people, they are more likely to seek further education or skills needed for promotions and engage in career management activities (Seibert et al., 1999). Proactive people also tend to select and create work environments that match their vocational needs and values. They will also have a sense of self-determination in their work, thus producing job
satisfaction (Seibert et al., 1999). Researchers have found that proactive personality relates positively to both objective and subjective career success; however, in a meta-analysis by Ng, Eby, Sorensen, and Feldman (2005), PP was shown to more strongly be related to career satisfaction than salary and promotions.

Proactive Personality is a multi-dimensional construct. Individuals who have proactive personalities are likely to be adaptable and take personal initiative. For this research, I examined both adaptability and personal initiative as a subset of PP, but for the purposes of this meta-analysis, each variable also as an individual component of willingness to work.

Adaptability

Adaptability is a construct that is often defined as a component of proactive personality. Adaptability has been defined differently throughout various studies and has been labeled role flexibility, adaptive performance, and competence to manage learning experiences (Karaevli & Hall, 2006). Savickas and Porfeli (2012) termed dispositional adaptability as adaptivity. They describe adaptivity as the personality component that shapes the development and use of career adaptability resources. An adaptive personality indicates readiness to change, as well as willingness to negotiate career uncertainties with fitting responses. According to Ployhart and Bliese (2006), adaptability is an individual’s dispositional tendency to make active attempts to adjust him or herself to fit new tasks and new environments. Adaptable
individuals are able and willing to modify personal characteristics to meet the
demands of the situation (Ashford & Taylor, 1990). These adaptable
individuals have a high tolerance for uncertainty and ambiguity and are
comfortable in new situations and across organizational boundaries
(O’Connell, McNeely, & Hall, 2008). O’Connell et al. (2008) also suggest that
adaptability may be linked to a person’s sense of confidence and marketability,
in turn, further encouraging him or her to pursue re-employment if needed.

Adaptability has been incorporated into the Fugate et al. (2004) model
of employability and includes attributes such as optimism, propensity to learn,
openness, internal locus on control, and generalized self-efficacy. Adaptability
has also been found to be related to proactive personality, thus adaptability
should also predict career success.

**Personal Initiative**

Personal initiative refers to “an individual taking an active and
self-starting approach to work and going beyond what is formally required in a
given job” (Speier & Frese, 1997, p.171). Initiative has been shown to
correlate with orientations towards action, achievement, control, responsibility,
and change, and to individuals’ job qualifications and abilities, and is
correlated with conscientiousness (Warr & Fay, 2001). Personal initiative
behavior is characterized by five components: behavior consistent with the
organizational mission, long term focus, action-orientation and goal direction,
persistence in the face of obstacles, and self-starting and proactive (Crant,
People with personal initiative are active in improving their work situation. Personal initiative also plays a key role in professional development and identifying employment opportunities (Fugate et al., 2004).

Many studies have linked initiative to proactive personality; thus, personal initiative should be related positively to career success. Gamboa, Gracia, Ripoll, and Perio (2009) hypothesized that the more initiative a worker has, the greater his or her extrinsic and intrinsic job satisfaction. This hypothesis was supported in their research. Personal initiative allows people to find a range of work opportunities and to select the most suitable in terms of negotiating employment conditions. Therefore, once the job is obtained, these individuals can make changes at work to make it more satisfactory (Frese et al., 1996).

**Conscientiousness**

Conscientiousness has been a trait seen in much of the career success literature. Conscientiousness indicates the individual’s degree of organization, persistence and motivation in goal-directed behavior (Bateman & Crant, 1993). Conscientious individuals are achievement-oriented (hardworking and persistent), dependable (responsible and careful), and orderly (planful and organized) (Judge et al., 1999).

A meta-analysis by Ng et al. (2005) found that the stable trait of conscientiousness was positively related to career success, largely predicated on the consistent relationship between conscientiousness and job
performance (Barrick & Mount, 1991). “Individuals who score higher on conscientiousness should be more likely to advance in their careers because of superior job performance and favorable performance evaluations in the jobs they undertake. In addition, those who score high on conscientiousness should be more likely to set challenging career goals and to persevere to accomplishment” (Bozionelos, 2004, p. 407). A study by Smithikrai (2007) found that conscientiousness was the only personality trait amongst the Big 5 that consistently predicted job success of persons across occupations. Further, it was also the only Big 5 trait that predicted subjective career success (Judge et al, 1999). A study by Lounsbury, Sundstrom, Loveland, and Gibson (2003) found conscientiousness to be significantly related to career satisfaction. Contrary to other findings, Siebert and Kraimer (2001) failed to achieve statistical significance between the relationships of conscientiousness and log salary or promotions. However, in their study, the researchers controlled for career related variables such as job performance, which may have eliminated the effect. In any event, conscientiousness should be related to career success across studies.

Career Resiliency

Career resiliency is the ability to adapt to changing circumstances, even when circumstances are discouraging or disruptive. It involves belief of one’s self, willingness to take risks, and a need for achievement (Day & Allen, 2004). It is the capacity to deal with career disruptions within an uncertain
environment and can positively contribute to an individual's employability (Clarke, 2008). It has been theorized as being a component of career motivation and has been found to relate positively to objective (i.e., salary, performance) and subjective career success (Day & Allen, 2004). According to London (1983), having career resilience means a person is able to cope more effectively with a negative work situation. These people are more likely to take risks, be independent of others, create their own structure, and thrive on situations in which outcomes are dependent on their behavior. These people are values driven; they know the skills, interests, and style that bring them satisfaction in their work (Collard, Epperheimer, & Saign, 1996). Emotional resilience (overall level of adjustment in the face of job stress and pressure) was found to have significant relationships with career satisfaction (Lounsbury et al., 2003). Therefore, resilience is likely to be related to both objective and subjective career success.

**Work Ethic**

Work ethic (sometimes referred to as protestant work ethic) represents an enduring motivation to expend time and effort to finish projects, meet deadlines, be productive, and achieve success. Lounsbury et al. (2003) termed this concept as work drive meaning disposition to work long hours (including overtime) and an irregular schedule; greater investment of one’s time and energy into job and career, and being motivated to extend oneself if necessary, to finish projects, meet deadlines, be productive, and achieve job
success. These authors found that work drive was one of three traits that explained significant variance of career satisfaction. Childs and Klimoski (1986) also found work ethic to be related to career success.

Rooted in the protestant work ethic, work centrality is defined as individuals’ beliefs regarding the degree of importance that work plays in their lives (Paullay, Alliger, & Stone-Romero, 1994). England and Whitely (1990) found that individuals who had the highest work centrality also had the highest net incomes. Judge et al. (1994) found that executives whose work was a central part of their lives earned more than other executives. A meta-analysis on career success by Ng (2005) found work centrality to be related positively to both objective and subjective career success.

Ambition

Ambition is the persistent and generalized striving for success, attainment, and accomplishment (Judge & Kammeyer-Mueller, 2012). Ambition is typically explained in terms of desire for an elevated rank, which can be achieved by attaining a job with high status attached to it (Judge & Kammeyer-Mueller, 2012). Thus, individuals who are high in ambition are more likely to turn their intentions to perform, into practice (Rhodes, Courneya, & Jones, 2005). Judge and Kammeyer-Mueller (2012) also have noted that a core feature of ambition is a desire to achieve financial success; because wealth is one of the most significant indicators of objective career success, achieving personal wealth can be a visible signal for those who are ambitious.
that they have attained success. In their 2012 study, Judge and Kemmeyer-Mueller related ambition to both income and occupational prestige. In contrast to Judge and Kemmeyer (2012), Nabi (1999) looked at British academics and college personnel and found that ambition was negatively related to salary level. That is, those employees who were educated but lacked ambition to progress to high job levels earned higher salaries. Nabi suggested that these results might be because those who lack ambition may have already reached the highest position (salary) that they could achieve, and consequently, were not ambitious about their career progression. Nabi also found that ambition was negatively related to subjective career success. Judge, Cable, Boudreau, and Bretz (1994) also found this negative relationship, using a sample of high-level executives. Ambitious employees felt less successful because they set unrealistically high career aspirations and in turn, felt less successful in their current position (Judge et al., 1994). These conflicting results suggest the need to investigate occupational position as a potential moderator in this meta-analysis.

**Career Engagement**

Career engagement is the degree to which somebody is proactively exhibiting career behaviors that enhance his or her career development (Hirschi & Fruend, 2012). Kahn (1990) defined engagement as “the simultaneous employment and expression of a person’s preferred self in task behaviors that promote connections to work and to others, personal presence
and active, full performances” (p. 700). It can be described as a multidimensional motivational concept that reflects the simultaneous investment of an individuals’ physical, cognitive, and emotional energy in active, full work performance (Rich, Lepine, & Crawford, 2010). Maslach, Schaufelli, and Leiter (2010) argued, “job engagement is associated with a sustainable workload, feelings of choice and control, appropriate recognition and reward, a supportive work community, fairness and justice, and meaningful and valued work” (p. 417). Kahn (1990) found that employees who receive greater amounts of rewards and recognition for their role performance are more likely to engage themselves at work. Other researchers have also found that engagement leads to positive experiences at work, which are likely to result in positive work outcomes (Sonnetage, 2003). Thus, employees who display more engagement at work are expected to have greater objective and subjective career success.

**Job Involvement**

This concept is different from career engagement in that career engagement is focused on a state of mind, identity, readiness, or attitudes. Job involvement as defined by Lodahl and Kejner (1965) as the degree of daily absorption a worker experiences in work activity and identifies psychologically with his or her work or the importance of work to his or her total self-image. According to Lodahl and Kejner (1965), job involvement operationalizes the protestant work ethic and because it is a result of the
introjection of certain values about work into the self, it is resistant to changes in the person due to the nature of a particular job. The definition implies that the job-involved person is one for whom work is a very important part of life, and as one who is affected very personally by his or her whole job situation (Lodahl & Kejner, 1965). Managers, for example, who have higher levels of work involvement also felt more satisfied with their jobs (Burke & MacDermind, 1999). A meta-analysis done by Brown (1996) also found job involvement had a strong relationship with general job satisfaction. Thus, job involvement is expected to relate positively to career success.

Additional Variables

Other variables were considered for the proposed meta-analysis, but were ultimately not included. Please refer to Table 2 in Appendix A for a list of the constructs and definitions of these variables that did not fit with the defined willingness construct.

Moderators

Throughout the career success literature, there have been numerous research studies conducted to test for moderator relationships. In particular, time of study and gender were included in the Ng et al. (2005) career success meta-analysis. However, Ng et al. looked only at moderators in the relationships of human capital and career success, and not employability. The authors only found partial to weak support for evidence of a stronger
relationship between hours worked and salary and also education and career satisfaction. Some of their hypotheses (i.e. gender differences in the relationship strength of organizational sponsorship and objective career success) could not be conducted due to insufficient studies.

An article by Judge and Kammeyer-Mueller (2007) explained how trait activation (Tett & Burnett, 2003) has been used as a moderator in the relationship between willingness to work and career success. The concept of trait activation indicates that different situations provide different opportunities for traits to express themselves (Judge & Kammeyer-Mueller, 2007). Thus, different types of situations allow certain traits to appear salient. Conversely, when doing my article search, I did not come across any studies that had looked at specific environmental aspects used as moderators. Because some dispositional variables (i.e., age) and different situations might have an impact on the relationship between willingness to work and career success, I planned to use age, industry, and occupational position as moderators in my meta-analysis. Ultimately, I proposed age as a hypothesis. Workers in various stages of their career are likely to define both subjective and objective career success differently (Wang, Olson, & Shultz, 2013). As employees age, they become more experienced and have more organizational savvy (Ng et al., 2005) thus, leading to high career success.
Hypotheses

I proposed the following variables relationships between employability and career success:

(1) Proactive personality, as a construct of employability will be related positively to both objective and subjective career success

(2) Conscientiousness, as a construct of employability will be related positively to both objective and subjective career success

(3) Adaptability, as a construct of employability will be related positively to both objective and subjective career success

(4) Resilience, as a construct of employability will be related positively to subjective career success

(5) Work ethic, as a construct of employability will be related positively to both objective and subjective career success

(6) Ambition, as a construct of employability will be related positively to objective career success and negatively related to subjective career success

(7) Personal initiative, as a construct of employability will be related positively to subjective career success

(8) Work engagement, as a construct of employability will be related positively to both objective and subjective career success

(9) Job involvement, as a construct of employability will be related positively to subjective career success.
(10) Age is expected to moderate the relationships positively between
    the above employability constructs and objective career success

(11) W employability constructs will intercorrelate positively (e.g.
    conscientiousness will correlate positively with work ethic)
CHAPTER TWO

METHODS

The research design of the study followed the steps for research synthesis and meta-analysis outlined by Cooper (2010):

(a) Define the variables and (b) relationships of interest: I searched the employability and career success literature to find variables and relationships of interest between employability, specific willingness to work, and career success. I also defined all the relevant variables and constructs to be examined in my meta-analysis (see Table 1 in Appendix A).

(c) Identity sources and (d) terms used to search for relevant research: I searched all appropriate article databases using all relevant key terms for information to use in my literature review and to use as part of the meta-analytical results (Appendix A). I also searched for unpublished “file drawer” articles.

(e) Collect relevant information about studies in a systematic manner: I sorted all relevant articles by variables and exacted the sample size and effect size from each of the articles (Appendix A).

(f) Identify and apply criteria that separate studies conducted in ways that correspond with the research question from studies that do not: I determined specific criteria and rules for their use to apply to each article. Those articles that failed to meet the required criteria were removed from the
completed set of articles that were included in the analysis. I discuss my plan for criteria in the following section.

(g) Identify and apply procedures for combing results across studies and testing for differences in results between studies: I used an Excel spreadsheet to combine the results from quantitative data from the original research article. I also checked those results with a SPSS macro provided by Field and Gillett (2010).

(h) Summarize the cumulative research evidence with regard to its strength, generality, and limitations. Please see Chapter 4: Discussion.

And

(i) Determine the aspects of methods and results that readers of the report need to know. Please see Chapter 3: Results.

Preliminary Procedure

Electronic Databases

To locate the necessary articles for the meta-analysis, I used California State University, San Bernardino and Minnesota State University, Mankato library databases. The journal databases that were used were: ABI/INFORM Complete, PsychINFO, ERIC, ProQuest Databases, Academic Search Premier, Business Abstracts with Full Text (H.W. Wilson), Business Source Premier, PsychARTICLES, Social Sciences Full Text (H.W. Wilson). Along with the campus libraries, I also conducted article searches with Google Scholar. Please see list of search terms in Appendix A, Table 3. The articles
were derived from many different journals. The most prevalent journal sources were *Journal of Vocational Behavior*, *the Journal of Applied Psychology*, and *Journal of Occupational and Organizational Psychology*.

**File Drawer**

I constructed a letter to be sent to various listservs asking for research studies (published and unpublished) that would be used in the meta-analysis (see Appendix B). My plan was to send the request to several listservs including SIOP, EFAP, IAAP Central, EAWOP, and Academy of Management. Unfortunately, for me to post my request to many of these listservs, I needed to become a member. One request was sent by my thesis advisor to SIOP.org. At this time, I have not received any unpublished data. Thus, I did not add any unpublished studies to my analysis.

To conduct my meta-analysis, articles that I used in the analysis were to be quantitative. The articles must have also contained effect sizes (i.e., $r$ or Cohen’s $d$) or correlations between one of the variables listed in Table 1 and either objective or subjective career success. A total of 121 articles were reviewed. Of these articles, 81 were excluded based on one or more of the following criteria: not being a quantitative study, not having the sought after constructs or having different definitions of the constructs. After the preliminary examination of articles, I was left with 41 (please see Appendix A, Tables 4 and 5). A list of references for articles that did not make the cut in the analysis are listed in Appendix H.
Coding

After collecting articles, the next step was to code each article. I coded the articles for variables that could be of interest during the statistical analysis. I first coded the name of the articles and the author(s) to use for categorizing. I then coded for the following: country from which the sample originated, the year of publication, the journal within which the article was published, sample size, composition of the sample (e.g. students, doctors, managers), which independent variable (IV) construct was used, type of effect, the effect size, the effect size between IVs, moderators, effect size between the moderators, the depended variable used (i.e. salary, satisfaction), the scales used to assess career success and the IVs, and the alpha reliability coefficients for all scales. After I had coded all the articles, I had six peers code between five and seven articles each for inter-rater reliability. These raters were provided with an example article and detailed instructions on how to code. I have added the instruction guide to Appendix C. I compared my codes to those of my peers. In the initial reliability analysis, I found an 80 percent inter-rater reliability. If there was any disagreement between coders, I had another rater confirm the correct code of that item. Only a few reversions needed to be done after the initial coding of items. The final inter-rater reliability was 100%.

Analysis

I used the Hunter and Schmidt method for calculating random effects. I used this model because it is one of the most commonly used in
Another reason to use the random effect model is that the effect sizes may be considered heterogeneous because the populations they come from may have varying, average effect sizes (Field & Gillbett, 2010). Hunter and Schmidt emphasize using a random effects model, which should be used in preference to a fixed effects model when using organizational data (Hunter & Schmidt, 2000).

I conducted my statistical analysis using Excel. Many programs and Excel add-ins that I considered using are not compatible for Mac or IOS operating systems. Those that would work on my Mac (MetaWin and Comprehensive Metanalysis) are costly. Further, I believed Excel would be beneficial for me to run the analysis needed to finish my study as Excel permitted me to control explicitly the calculations needed to accurately analyze my data using the Schmidt and Hunter meta-analysis model. After completing the meta-analysis, I discovered a macro that worked with SPSS (Meta_Basic_r.sps, Field and Gillett, 2010) and checked my calculations against that macro output. The output from the SPSS macro was comparable to my Excel results.

Statistics

I followed the step-by-step meta-analysis analysis instructions from Neyloff, Fuchs, and Moreria (2012). The statistics that I utilized in my results were the following: number of studies, the pooled sample size, the unweighted-average effect size, the sample weighted-average effect size, the
corrected sample weighted-average effect size, variance, confidence intervals, and credibility intervals. I used the random effect model because I estimated that the studies used in the meta-analysis were only a sample of all potential studies conducted on this topic (Field, 2001). Hunter and Schmidt also support this random effects method in that it is more appropriate for organizational data and the type of inferences that are usually made (Field, 2001). Please refer to Appendix B for a list of formulas that I used in my analysis.

Because I used the Schmidt and Hunter approach, I also corrected, to the extent possible when reliability data were available, for attenuation in the unreliability in the measurement scales for both the independent and dependent variables. Correcting correlations for unreliability would reflect a more accurate effect size (Ng et al., 2005). When no alpha was reported in a study, an average alpha value was derived from other studies in the sample (Fuller & Marler, 2009). Some objective career success measures such as salary and promotion did not require such correction because of their non-psychological properties. These measures were assumed to be reliable due to their objective nature, therefore no measure was used.
CHAPTER THREE

RESULTS

Sample

The overall sample consisted of 100 effect sizes derived from 41 studies. The total sample size was 45,652. These individuals were from a wide range of demographic backgrounds including differing ages, countries of origin, and occupations.

Main Effects

A main effect was calculated for each employability variable and career success variable to provide an indication of the existence and strength of the relationship between the variables. I used Cohen’s $d$ as a guide to determine the magnitude of each effect size. Credibility intervals were also calculated for the effect sizes that were corrected for attenuation. Please refer to Appendix E for tables displaying the summarized data by variable. I have included graphs of each correlation in Appendix G. In the graphs, the thick vertical bar in the main effect or average from the studies. Each diamond shape represents the individual effect size from that study. The horizontal bars attached to the diamonds are standard error bars, showing the range of the confidence interval.

Hypothesis 1 predicted proactive personality, as a construct of employability would be related positively to both objective and subjective
career success. My results found support for this hypothesis, with effect sizes ranging from small to medium: salary (.120), promotions (.136), career satisfaction (.280), and job satisfaction (.261).

Hypothesis 2 predicted conscientiousness, as a construct of employability, would be related positively to both objective and subjective career success. My results found support with effect sizes ranging from small to medium: salary (.115), promotions (.046), prestige (.232), job satisfaction (.089), career satisfaction (.181), extrinsic career satisfaction (.335), and job success (.405).

Hypothesis 3 predicted adaptability, as a construct of employability, would be related positively to both objective and subjective career success. My results found support with a medium effect size: career satisfaction (.362). However, due to a lack of studies (promotions n = 1; job satisfaction n = 1; income n = 1), I was not able to calculate an effect between adaptability and objective career success.

Hypothesis 4 predicted resilience, as a construct of employability, would be related positively to subjective career success. Because of a lack of studies (job satisfaction n = 1, salary n = 1), I was not able to test the hypothesis.

Hypothesis 5 predicted work ethic, as a construct of employability, would be related positively to both objective and subjective career success. My results found support with small effect sizes; salary (.138), promotions (.056), job satisfaction (.090), and career satisfaction (.072).
Hypothesis 6 predicted ambition, as a construct of employability, would be related positively to objective career success and negatively related to subjective career success. My results found support for ambition being positively correlated with objective career success with medium effect sizes, salary (.277) and objective career success (.249). However, I could not calculate an effect size between ambition and subjective career success due to a lack of studies (n = 1).

Hypothesis 7 predicted personal initiative, as a construct of employability, would be related positively to subjective career success. Because of a lack of studies (n = 0), I was not able to test the hypothesis.

Hypothesis 8 predicted work engagement, as a construct of employability, would be related positively to both objective and subjective career success. Because of a lack of studies (recognition = 1, job satisfaction n = 1, career satisfaction n = 1, perceived subjective career success n = 1), I was not able to test the hypothesis.

Hypothesis 9 predicted job involvement, as a construct of employability, would be related positively to subjective career success. My results support my hypothesis. I found small effects for career satisfaction (.155) and job satisfaction (.190).

In summary, most variables positively correlated with career success. Only four correlations had 95% credibility intervals that had a lower bound extending below zero: conscientiousness and prestige, conscientiousness and
extrinsic career satisfaction, job involvement and career satisfaction, and work ethic and salary. Statistical significance is not inferred for these correlations because the limits of CV cross over zero. This could be a factor of low study samples.

Inter-correlations

Hypothesis 11 predicted that multiple willingness to work employability constructs would correlate positively. There were four inter-correlations between the willingness to work variables found in the articles (n = 4). The results showed small to medium effect sizes. These variables were conscientiousness and work ethic (.100) (n = 5), conscientiousness and proactive personality (.036), conscientiousness and adaptability (.280), and ambition and work ethic (.310).

Moderators

To determine whether a moderator analyses should be performed, I looked at the $I^2$ statistic (Appendix E, table 10). $I^2$ is considered a better indicator of sample heterogeneity than the Q statistic because it describes the percentage of variability in point estimates that are due to heterogeneity rather than sampling error (Higgins & Thompson, 2002). The Q statistic also only gives information about a presence or absence of heterogeneity and does not report the extent (Huedo-Medina, Sánchez-Meca, Marín-Martínez, & Botella, 2006). $I^2$ with a magnitude of 75 or higher means there is evidence for a
moderator; specifically, 75% of the total variability among the effect sizes is caused by true heterogeneity between studies and not by sampling error (Huedo-Medina, Sánchez-Meca, Marín-Martínez, & Botella, 2006). My results indicated high heterogeneity across all studies. The heterogeneity ranged from 74.23 to 99. Another indication of a moderator effect is to look at the credibility intervals; intervals with larger spans signify an increased probability that a moderator exists (Whitner, 1990).

Hypothesis 10 predicted that age was expected to moderate the relationships between the above employability constructs and career success. Unfortunately, because of a lack of studies that contained an age variable (n = 12), the moderator analysis would be a misestimate (Steel & Kammeyer-Mueller, 2002). Thus, I did not conduct any moderator analyses.
CHAPTER FOUR
DISCUSSION

Theoretical Implications

The primary goal of my study was to determine if there was support for the willingness to work component of the RAW model from Hogan et al. (2013). More specifically, I expected to find that my study’s variables, comprised of willingness to work and significant parts of an individual’s employability, would predict both objective and subjective career success. I also expected that there might be overlap in the relationships of some of the independent variables. In addition, if there was redundancy in the W constructs, as evidenced by strong correlations across the studies, the measurement of the W component could be simplified. After running the analysis, I did found support for the hypotheses regarding the predictions of career success.

Upon a primary look at my results, the meta-analytical correlations seemed low, ranging from small to medium, using Cohan’s guidelines. However, according to a study by Field (2005) who examined correlation coefficients from meta-analyses published in the Psychological Bulletin between 1997 and 2002, estimates using the Hunter and Schmidt method have typically ranged from 0 to .3, and most commonly, between .10-.16. Additionally, Bosco, Aguinis, Singh, Field, and Pierce (2015), found “the usual interpretation and classification of effect sizes as small, medium, and large
bear almost no resemblance to findings in the [psychology] field, because distributions of effect sizes exhibit tertile partitions at values approximately one-half to one-third those intuited by Cohen” (p. 431). Thus, the correlation coefficients I found are clearly within these ranges.

Most notably, my findings show that willingness to work does indeed lead to both objective and subjective career success. Consequently, I believe the variables proactive personality, conscientiousness, work ethic, job involvement, adaptability, and ambition make up the W aspect of employability. Some of the dependent variables, however, seem to correlate more strongly than others with the predictors. For example, work ethic had much smaller effect sizes for subjective career success than the other variables. This result could be because those high in work ethic are not as concerned with satisfaction from their job as they are motivated to perform work.

My results are also aligned with Fuller’s (2009) proactive personality meta analysis. From those results, proactive personality correlated with salary (.13), promotions (.11), career satisfaction (.26), and job satisfaction (.24). Fuller also found a .28 correlation between conscientiousness and proactive, the same correlation from my results.

Subjective career success (i.e. career and job satisfaction) averaged a .23 effect size while objective career success (i.e. salary, promotions) averaged an effect size of .17. This difference could simply be a statistical
artifact because no correction for attenuation was made to the DV of objective career success. When comparing the original effect sizes with those not corrected for attenuation, subjective career success retained larger effect sizes than objective career success, .20 and .16, respectively. This outcome could suggest that subjective career success is important to employees willing to work hard, more than money or extrinsic rewards from the organization.

Employees may perceive their careers as satisfying and rewarding even though they do not make a lot of money. Some employees do not feel the need to be promoted and are content with jobs without having a need to ascend within an organization. Employees late in their career tend to be less interested in promotions and increased financial attainment and rather more interested in doing work that aligns with their values and talents (Olson & Shultz, 2013). This finding also suggests that subjective career success and objective career success are distinct constructs that are not always correlated with each other. This conclusion is aligned with the findings by Burke (1999); Heslin (2005); and Korman, Wittig-Berman, and Lang (1981).

Alternatively, another difference between these two types of career successes could be a factor of an employee’s perception. Subjective career success data are obtained by asking employees how they feel about their jobs and careers. Objective career success may be easier to capture but less dependent on an employee’s efforts. Also, a reason for differential objective career success could be a factor of age. For example, a young adult just
starting his career may have high job satisfaction, but has not attained any promotions. Although, a study by Van der Heijden, de Lange, Demerouti, and Van der Heijde (2009), found that younger workers’ self-reported employability contributed to both overall promotions and current gross income, but supervisory ratings correlated only to income. In their study, the over forties group’s self-reported employability related positively to overall promotions, but had a negative relationship when supervisory ratings were used.

I also looked at inter-correlations between independent variables that were measured in the same study. Based on Cohen’s $d$, conscientiousness and proactive personality had a medium effect size. Conscientiousness and adaptability also had a medium effect size. This set of results implies that conscientiousness is a trait that accompanies both proactive personality and adaptability traits. Research by Ones, Viswesvran, and Dilchert (2005) and Major, Turner, and Fletcher (2006) have found that conscientiousness consistently relates to proactive personality and ambition. Thus, those who are high in the willingness to work aspect of employability will most likely have aspects of most of the dispositional variables I looked at in my study.

Conscientiousness-work ethic and ambition-work ethic had smaller effect sizes, .102 and .036 respectively. This outcome leads to the suggestion that work ethic, while being a part of willingness to work, may be a separate entity from the other variables. An employee high in willingness to work and work ethic could be low in ambition or vice-versa.
Practical Implications

There are several practical implications where the information from this meta analytical study can be of use. The first would be in recruitment and selection. Knowledge of these results can help to recruit candidates who will potentially lead to employees higher in both objective and subjective career success. Individuals who are high on the willingness to work component are likely more employable than those who are low on the dimension. They will be more likely not only to have career success, but also to retain their jobs. Retention of the best employees is important for organizations. Turnover and training new employees can be costly and affect efficiency. An article by Tracey and Hinkin (2008) says that HR practices such as recruitment, selection, orientation, and training lead to the majority of the cost from turnover. Hiring the most employable employees from the beginning can help keep costly turnover low.

Another thing to keep in mind is that because willingness to work is made up of dispositional traits, it may be hard to train for these characteristics. From this standpoint, hiring managers may want to look for these traits when hiring candidates. It is important to note that the ability and rewarding to work with components of the RAW model are still important, with some of those skills having the potential to be trained for with on-the-job training. Ability may be as stable as willingness to work with training for ability probably dependent
on the type of job. Rewarding to work may be difficult to teach, but most employees have potential to learn interpersonal skills.

Because employees are more likely to stay at their current job if they have high job success, management needs to give their employees an environment where they have opportunities to display these motivational traits. According to a meta-analysis by McVovy and Cascio (1985), job enrichment was twice as effective at reducing turnover as realistic job previews. Work environments that allow employees to be proactive and conscientious will have more successful employees. Employees high on willingness to work are driven, but if they do not have the means to do so, their career success will likely be less than had they been given adequate autonomy or resources. Thus, these employees may ultimately leave that organization to pursue greater career success.

Employees who are willing to work are also assets to an organization in terms of productivity. They are motivated to work hard, which helps an organization both financially and efficiently. These attributes and behaviors can lead employees in a continuous feedback loop; when employers see this type of behavior, the employees are more likely to get raises or more responsibility, which can then increase their employability, leading again to more career success.

There are also implications for the employee. If hiring managers are looking for these characteristics, candidates may want to demonstrate that
they fit into the W construct whether it is in the context of an interview or cover letter to obtain a job. For example, to demonstrate W, candidates can provide references or letters of recommendations. They can state in their résumés that they are reliable and punctual in completing their tasks (Barber & Bailey, 2015). It is also important for employees to be aware where they fit on the W scale; if they are high on W, they may want to look for a job that gives them autonomy and engaging work compared to more passive jobs, for example.

Limitations

There were a couple of major limitations for my study. The first limitation was that I had a difficult time gathering articles that contained employability constructs and career success. Consequently, it was not possible to conduct moderator tests for those sample results with high heterogeneity.

One component of employability, personal initiative, turned out to be particularly challenging to find articles in relation to career success. After searching many different databases, I did not find any articles of personal initiative being correlated to either objective or subjective career success. I believe this occurred because personal initiative is often used to define proactive personality. Fuller and Marler's (2009) meta-analysis used career initiative in their definition of proactive personality. Therefore, personal initiative may be inherent in many of proactive personality articles.
Articles with the variables, career engagement and career resilience, were also difficult to find. Nevertheless, I did come across studies with these variables correlating with career success. Unfortunately, I was not able to add them into the meta-analysis because there were less than two studies per dependent variable (e.g. salary, job satisfaction, etc.). I could not conduct an analysis on just one study, so I ultimately had to leave out both career engagement and career resilience.

Another limitation was that I did not receive any unpublished articles. Many of the listservs and bulletins that would have been useful, were not accessible to me. Many sites required membership, in which I did not have.

Using the SPSS macro (Field & Gillett, 2012), I calculated Rosenthal's fail safe N (See Table 10). The purpose of this statistic is to account for the possibility that the effect sizes estimated are biased, most likely upward, because of the lack of null findings presumed to come from unpublished studies (i.e., the file drawer problem). The fail safe N indicates how many null findings would be necessary to reduce the effect sizes calculated to no effect.¹

Because of a lack of sufficient samples, a moderator analysis would not have been reliable. However, if I had had enough articles, a moderator

¹There has been some debate about the use of this statistic (Aguinis, Pierce, Bosco, Dalton, & Dalton, 2011), with a proposal that a different method should be used to evaluate the possibility of publication bias in meta analyses; specifically, Duval and Tweedie (2000) suggested a trim and fill procedure that relies on a graphical representation of effect sizes, with the largest effects at the top of the graph and the smallest effects at the bottom, resulting in a funnel shaped graph. The researcher then inputs the number of missing studies that would fill out the graph to be symmetrical. I chose not to use this technique because a recent analysis of this procedure (Peters, Sutton, Jones, Abrams, & Rushton, 2007), indicated that for heterogeneous studies, the procedure will most likely misestimate the effect.
analysis would have made it possible to examine the high heterogeneity in my analyses and leave me with results that provide more detail about the difference in samples.
CHAPTER FIVE

CONCLUSION

Overall, the results from this meta-analysis reveal that the W aspect of the Hogan et al., (2009) model of employability predicts both objective and subjective career success. My study added to the current literature on proactive personality and other willingness to work dispositional traits that were not included in Fuller’s 2009 study. Continued research on this topic is important to address optional moderators that could give more information about the meaning of the data for different samples of variables (e.g. age).
APPENDIX A

CONSTRUCTS AND DEFINITIONS
<table>
<thead>
<tr>
<th>Construct</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactive Personality</td>
<td>Proactive people are characterized as seeking out opportunities, showing initiative, and persevering to bring about meaningful change (Bateman &amp; Crant, 1993).</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Conscientiousness indicates the individual’s degree of organization, persistence and motivation in goal directed behavior (Bateman &amp; Crant, 1993). Conscientious individuals are achievement oriented (hardworking and persistent), dependable (responsible and careful), and orderly (planful and organized) (Judge et al., 1999).</td>
</tr>
<tr>
<td>Work Ethic</td>
<td>Work drive represents an enduring motivation to expend time and effort to finish projects, meet deadlines, be productive, and achieve success (Lounsbury et al., 2003).</td>
</tr>
<tr>
<td>Job Involvement</td>
<td>Lodahl and Kejner (1965) defined job involvement as the degree of daily absorption a worker experiences in work activity. Job involvement leads individuals to exceed the normal job expectations (Moorhead and Griffin, 1995) and is a key component in employee motivation (Lawler, 1986).</td>
</tr>
<tr>
<td>Ambition</td>
<td>Ambition is the persistent and generalized striving for success, attainment, and accomplishment (Judge &amp; Kammeyer-Mueller, 2012).</td>
</tr>
<tr>
<td>Adaptability</td>
<td>Adaptable people are willing and able to change personal factors—KSAOs, dispositions, behaviors, and so on—to meet the demands of the situation (Ashford &amp; Taylor, 1990; Chan, 2000). These attributes predispose individuals to be proactive and willing to change as the need arises (Gowan, 2012).</td>
</tr>
<tr>
<td>Resilience</td>
<td>The ability to adapt to changing circumstances, even when circumstances are discouraging or disruptive. It involves belief of one’s self, willingness to take risks, and a need for achievement (Day &amp; Allen, 2004).</td>
</tr>
<tr>
<td>Construct</td>
<td>Definitions</td>
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<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Career Engagement</td>
<td>The degree to which somebody is proactively exhibiting different career behaviors to enhance his or her career development (Hirschi &amp; Fruend, 2012).</td>
</tr>
<tr>
<td>Personal Initiative</td>
<td>An individual taking an active and self-starting approach to work and going beyond what is formally required in a given job (Frese, Kring, Soose and Zempel, 1996).</td>
</tr>
<tr>
<td>Construct</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>The degree to which a person needs pleasant and harmonious relations to others (Stömer, 2010)</td>
</tr>
<tr>
<td>Openness</td>
<td>The degree to which a person needs intellectual stimulation, change and variety (Stömer, 2010)</td>
</tr>
<tr>
<td>Career Adaptability</td>
<td>Employees' resources (ability) for managing present and impending work and career challenges that may affect their integration in their social environment (Savickas, 1997)</td>
</tr>
<tr>
<td>Optimism</td>
<td>Optimistic workers are likely to perceive numerous opportunities in the workplace, to view career changes as challenges (Scheier &amp; Carver, 1992), and to persist in the pursuit of desired outcomes and goals (Carver &amp; Scheier, 1994)</td>
</tr>
<tr>
<td>Career Commitment</td>
<td>Career commitment is defined as “the strength of one’s motivation to work in a chosen career role” (Hall, 1971, p. 59)</td>
</tr>
</tbody>
</table>
Table 3. Search Terms for Studies

<table>
<thead>
<tr>
<th>Search Terms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employability</td>
<td>Adaptability</td>
</tr>
<tr>
<td>Career success</td>
<td>Career adaptability</td>
</tr>
<tr>
<td>Objective career success</td>
<td>Career resilient</td>
</tr>
<tr>
<td>Subjective career success</td>
<td>Optimism</td>
</tr>
<tr>
<td>Deposition</td>
<td>Work ethic</td>
</tr>
<tr>
<td>Personality</td>
<td>Protestant work ethic</td>
</tr>
<tr>
<td>Willingness to work</td>
<td>Work drive</td>
</tr>
<tr>
<td>Motivation</td>
<td>Ambitious</td>
</tr>
<tr>
<td>Proactive personality</td>
<td>Personal initiative</td>
</tr>
<tr>
<td>Big 5 personality</td>
<td>Flexible role orientation</td>
</tr>
<tr>
<td>Personality</td>
<td>Career engagement</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Career commitment</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>Job involvement</td>
</tr>
<tr>
<td>Openness</td>
<td>Work Centrality</td>
</tr>
</tbody>
</table>
Table 4. List of Constructs Used in Analysis and Respective Sample Sizes

<table>
<thead>
<tr>
<th>Construct</th>
<th>N</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactive Personality</td>
<td>12</td>
<td>4035</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>18</td>
<td>23332</td>
</tr>
<tr>
<td>Work Ethic</td>
<td>7</td>
<td>12154</td>
</tr>
<tr>
<td>Job Involvement</td>
<td>4</td>
<td>979</td>
</tr>
<tr>
<td>Ambition</td>
<td>3</td>
<td>2461</td>
</tr>
<tr>
<td>Adaptability</td>
<td>3</td>
<td>1166</td>
</tr>
<tr>
<td>Career Resilience</td>
<td>2</td>
<td>292</td>
</tr>
<tr>
<td>Personal Initiative</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Engagement</td>
<td>2</td>
<td>1234</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>45652</td>
</tr>
<tr>
<td>Author (Year)</td>
<td>Construct(s)</td>
<td>Sample size</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Barnett &amp; Bradley (2007)</td>
<td>Proactive Personality</td>
<td>90</td>
</tr>
<tr>
<td>Bozionelos (2003)</td>
<td>Conscientiousness</td>
<td>264</td>
</tr>
<tr>
<td>Burke &amp; MacDermid (2006)</td>
<td>Job Involvement</td>
<td>591</td>
</tr>
<tr>
<td>Chan (2006)</td>
<td>Proactive Personality</td>
<td>139</td>
</tr>
<tr>
<td>Converse et al., (2012)</td>
<td>Proactive Personality</td>
<td>249</td>
</tr>
<tr>
<td>De Haro, Castejon, &amp; Gilar (2013)</td>
<td>Conscientiousness</td>
<td>339</td>
</tr>
<tr>
<td>Erdogan &amp; Bauer (2005)</td>
<td>Proactive Personality</td>
<td>295/203</td>
</tr>
<tr>
<td>Gowan (2012)</td>
<td>Career Resilience</td>
<td>72</td>
</tr>
<tr>
<td>Hirschfeld, Thomas, &amp; Bernerth (2011)</td>
<td>Proactive Personality</td>
<td>672</td>
</tr>
<tr>
<td>Judge, Cable, &amp; Boudreau (1994)</td>
<td>Work ethic, ambition</td>
<td>1012</td>
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<td>Judge et al., (1999)</td>
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<td>Conscientiousness, work ethic</td>
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<td>Construct(s)</td>
<td>Sample size</td>
</tr>
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<td>Maurer &amp; Chapman (2013)</td>
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<td>Parasuraman et al., (1996)</td>
<td>Job Involvement</td>
<td>111</td>
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<td>Prabhu (2013)</td>
<td>Proactive Personality</td>
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<td>Proactive Personality, Conscientiousness</td>
<td>59</td>
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<td>Saks (2006)</td>
<td>Engagement</td>
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<td>Seibert &amp; Kraimer (2001)</td>
<td>Conscientiousness</td>
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<td>Seibert, Kraimer, &amp; Crant (2001)</td>
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<td>Adaptability, Conscientiousness</td>
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<td>Wu, Foo, &amp; Turban (2008)</td>
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<td>Yeang, Yahya, Othman, Pangil (2013)</td>
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<tr>
<td>Zacher (2014)</td>
<td>Conscientiousness</td>
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</tr>
</tbody>
</table>
APPENDIX B

CALL FOR UNPUBLISHED STUDIES
CALL FOR UNPUBLISHED ARTICLES

Dear ____________,

I am a second year Industrial Organizational Psychology masters student at California State University, San Bernardino. I am currently conducting a meta-analysis for my master’s thesis focusing on employability and career success. I am in the process of finishing the search of the published literature, and am now making a call to gather any remaining findings that are unpublished (unfinished, file drawer, non-submitted), or soon to be published.

I am interested in studies that relate an individual’s employability or willingness to work to career success, both objective and subjective. Specifically, I am looking for the following variables: Proactive Personality, Conscientiousness, Work Ethic, Job Involvement, Ambition, Adaptability, Career Resilience, Personal Initiative, and Career Engagement, and their relationship to career success.

If you believe your study qualifies for inclusion, I am requesting a brief description of the study design, independent and dependent variables and associated metrics – preferably a correlation matrix. The associated effects sizes are also desirable.

Alternatively, I would be happy if you can provide us with your data and any information required to determine how the variables might be coded. I will only use the data for the purpose of the meta-analysis and we will delete the data afterward. The Institutional Review Board at CSUSB has approved my study.

Responses can be sent to this email address: jasmera@coyote.csusb.edu. Similarly, if you have any questions about this study, please do not hesitate to get in contact.

Thank you for the assistance and contribution to our work. I will gladly send you a copy of the meta-analysis once it is published.

Best regards,

Alisha Jasmer
California State University, San Bernardino
APPENDIX C

INSTRUCTION GUIDE FOR PEER RATERS
INSTRUCTION GUIDE FOR PEER RATERS

Directions: read each article (you don’t need to read it thoroughly, mainly just the methods and results sections). For each article, I have a list of things I am asking you to look for. This includes:

<table>
<thead>
<tr>
<th>The name of the article</th>
</tr>
</thead>
<tbody>
<tr>
<td>The author(s)</td>
</tr>
<tr>
<td>The country from which the sample is from</td>
</tr>
<tr>
<td>The year of publication</td>
</tr>
<tr>
<td>The journal from which the article was published</td>
</tr>
<tr>
<td>The sample size – this is very important- some articles may have different samples for certain analysis (have multiple studies in one article)</td>
</tr>
<tr>
<td>Who was the sample? (e.g. students, doctors, managers at restaurant)</td>
</tr>
<tr>
<td>Whether the article uses objective, subjective career success (this is my DV)</td>
</tr>
</tbody>
</table>
  - Objective (extrinsic) career success could be labeled as income/salary, prestige, promotion history, performance
  - Subjective (intrinsic) career success could be labeled as job/career satisfaction |
| Which IV construct they use: |
  1. Proactive Personality
  2. Conscientiousness
  3. Work ethic (work drive, protestant work ethic, work centrality)
  4. Job involvement
  5. Ambition
  6. Career/job resilience
  7. Personal initiative
  8. Adaptively
  9. Work/job engagement |
| The type of effect – I believe all the articles use r (correlations) |
| The effect size (the most important!) –as stated, I think all the articles use r so just look at the correlation matrix usually in the results section. I have put an example down below. |
| The effect size between IVs (i.e. the effect between proactive personality and work ethic) |
| Is there a possible moderators? |
  1. Age
  2. Position in organization
  3. Industry
  4. Occupational field |
If there is a moderator, list the effect size for between the moderator and IVs and DVs

Record all the scales used for both career success and the IVs

If you have any questions with anything please let me know. Also, if you are not sure of something, please make a note and let me know. I am hoping to be able to have this finished by our next meeting, May 15th.

Effect Size example: Attached is a correlation matrix from one of the articles, Zacher (2014)

The constructs of interest are career adaptability, conscientiousness, subjective career success (career satisfaction) with age as a moderator. N = 1723

1. Career adaptability and career satisfaction, r = .40
2. Conscientiousness and career satisfaction, r = .17
3. Age and career satisfaction, r = .13
4. Age and career adaptability, r = .04
5. Age and conscientiousness, r = .15
6. Career adaptability and conscientiousness, r = .24
APPENDIX D

STATISTICAL FORMULAS
**Statistical formulas**

Statistical analysis and Excel guide: Derived from Neyeloff, Fuchs, & Moreira (2012)

1. Calculating the outcome (effect size, es): In our example we have the number of events and the number of subjects in columns B and C, so we can simply compute the rate in column D as

\[
\frac{n_{\text{events}}}{n_{\text{total}}}
\]

2. Calculating Standard Error (SE): All SE can be derived from the formula,

\[
SE = \frac{\sum (\bar{x} - \mu)^2}{\sqrt{n}}
\]


4. Computing individual study weights (w): We must weight each study with the inverse of its variance, so

\[
w = \frac{1}{SE^2}
\]

5. Computing each weighted effect size (w*es)

This is computed multiplying each effect size by the study weight.

6. Other necessary variables (w*es² and w²): We will need two other variables to calculate the Q statistics.

\[
Q = \sum (w*ES^2) - \frac{[\sum (w*ES)]^2}{\sum w}
\]

7. Calculating Q:

\[
l^2 = \frac{(Q - df)}{Q}
\]

8. Calculating l²:
Random Effects Model

\[
v = \frac{Q - (k - 1)}{\sum w - \left( \frac{\sum w^2}{\sum w} \right)}
\]

9. Calculating v:

\[
w_v = \frac{1}{(SE^2 + v)}
\]

10. Calculating \(w_v\):

\[
\bar{es}_v = \frac{\sum (w_v \times ES)}{\sum w_v}
\]

11. Calculating effect summary:

\[
SE_{\bar{es}_v} = \sqrt{\frac{1}{\sum w_v}}
\]

12. Calculating standard error:
## Screenshots of Excel Formulas

<table>
<thead>
<tr>
<th>Article, year</th>
<th>IV</th>
<th>r</th>
<th>Sample Size</th>
<th>Output</th>
<th>df</th>
<th>K</th>
<th>N</th>
<th>SE</th>
<th>Var</th>
<th>w</th>
<th>w*e</th>
<th>w*e^2</th>
<th>w^2</th>
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<tr>
<td>*Maurer &amp; Chapman</td>
<td>PP</td>
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<td>289</td>
<td>Salary</td>
<td>3</td>
<td>4</td>
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<td>3.2</td>
<td></td>
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</tr>
<tr>
<td>(2013)</td>
<td>PP</td>
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<td>4</td>
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<td>0.12</td>
<td>59</td>
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<td>4</td>
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<td>5.2</td>
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<tr>
<td>Selbert, Kraimer, &amp;</td>
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<td>Crant (2001)</td>
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<td></td>
<td>5.2</td>
<td></td>
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</table>

Sums: 
- \( \text{SUM(K2:K3)} \)
- \( \text{SUM(L2:L5)} \)
- \( \text{SUM(M2:M5)} \)
- \( \text{SUM(N2:N5)} \)

<table>
<thead>
<tr>
<th>Q</th>
<th>P</th>
<th>O</th>
<th>S</th>
<th>T</th>
<th>U</th>
<th>V</th>
<th>W</th>
<th>X</th>
<th>Y</th>
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<td></td>
</tr>
</tbody>
</table>

1. \( v = \frac{1}{\left( \sum a^2 + \sum b^2 \right)} \)
2. \( w = \frac{p^2}{2} \)
3. \( w*e = \frac{p^2}{2} \)
4. \( w*e^2 = \frac{p^2}{2} \)
5. \( w^2 = \frac{p^2}{2} \)
6. \( (T6-F2)/(K6-N6/K6)) = \text{SUM}(P2:P5) \)
7. \( \text{SUM(Q2:Q3)} = \text{SUM}(R2:R5) \)
8. \( \text{SUM}(S2:S5) = \text{M6} - (L6*P6) \)
9. \( (T6-F2/T6)100 = Q6/P6 \)
10. \( \text{SQRT}(L6) = W6 - (1.96*W6) \)
11. \( W6 + (1.96*W6) \)
<table>
<thead>
<tr>
<th>Z</th>
<th>A</th>
<th>A8</th>
<th>AC</th>
<th>AD</th>
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<tr>
<td>rbar (11)</td>
<td>var^2 (12)</td>
<td>var_pop (14)</td>
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<td>CV HIGH</td>
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<tr>
<td>=D2*C2</td>
<td>=D2*(C2-(Z7))^2</td>
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<td></td>
</tr>
<tr>
<td>=D3*C3</td>
<td>=D3*(C3-(Z7))^2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>=D4*C4</td>
<td>=D4*(C4-(Z7))^2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>=D5*C5</td>
<td>=D5*(C5-(Z7))^2</td>
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<td>=SUM(Z2:Z5)</td>
<td>=SUM(AA2:AA5)</td>
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<tr>
<td>=Z6/H2</td>
<td>=AA6/H2</td>
<td>=AA7-W6</td>
<td>=Z7+(1.96*AB7)</td>
<td>=Z7-(1.96*AB7)</td>
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APPENDIX E

RESULT TABLES - OBSERVED
<table>
<thead>
<tr>
<th>Variable</th>
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<th>R</th>
<th>95% CI</th>
<th>$I^2$</th>
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<td></td>
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<tr>
<td>Salary</td>
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<td>777</td>
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<td>1637</td>
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<td>0.152-.357</td>
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<td><strong>Conscientiousness</strong></td>
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<td>Salary</td>
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<td>Career Satisfaction</td>
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<td><strong>Work Ethic</strong></td>
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<tr>
<td>Salary</td>
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<td>0.140</td>
<td>0.061-.217</td>
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<td>0.056</td>
<td>0.049-.088</td>
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<td>Job Satisfaction</td>
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<td>11494</td>
<td>0.092</td>
<td>0.050-.134</td>
<td>98.76</td>
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<tr>
<td>Career Satisfaction</td>
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<td>9507</td>
<td>0.071</td>
<td>0.026-.120</td>
<td>99.16</td>
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<td><strong>Adaptability</strong></td>
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<tr>
<td>Career Satisfaction</td>
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<td>0.210-.503</td>
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<td>Salary</td>
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<td>3079</td>
<td>0.240</td>
<td>0.108-.363</td>
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</tr>
</tbody>
</table>

Note. $k =$ number of validity coefficients from independent samples; $N =$ total sample size across meta-analyzed correlations; $r =$ sample-size weighted mean observed validity; $I^2 =$ percentage of total variability of effect size due to heterogeneity; 95% CI = lower and upper bounds of the 95% confidence interval.
Table 7

<table>
<thead>
<tr>
<th>Inter-correlations</th>
<th>K</th>
<th>N</th>
<th>R</th>
<th>95% CI</th>
<th>I²</th>
<th>95% CV</th>
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</thead>
<tbody>
<tr>
<td>Conscientiousness/Work Ethic</td>
<td>5</td>
<td>13188</td>
<td>.102</td>
<td>.049-.160</td>
<td>98.82</td>
<td>.077-.178</td>
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<tr>
<td>Conscientiousness/Proactive Personality</td>
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<td>348</td>
<td>.28</td>
<td>.057-.505</td>
<td>74.8</td>
<td>-.03 -.104</td>
</tr>
<tr>
<td>Conscientiousness/Adaptability</td>
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<td>1967</td>
<td>.31</td>
<td>.163-.460</td>
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<td>.036</td>
<td>.023-.048</td>
<td>92.27</td>
<td>.116-.400</td>
</tr>
</tbody>
</table>

Note. k = number of validity coefficients from independent samples; N = total sample size across meta-analyzed correlations; r = sample-size weighted mean observed validity; I² = percentage of total variability of effect size due to heterogeneity; 95% CI = lower and upper bounds of the 95% confidence interval
APPENDIX F

RESULTS TABLES-CORRECTED
Table 8
Correlations Corrected for Attenuation – Independent Variable Only

<table>
<thead>
<tr>
<th>Variable</th>
<th>K</th>
<th>N</th>
<th>R</th>
<th>Cl%</th>
</tr>
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<tbody>
<tr>
<td><strong>Proactive Personality</strong></td>
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<tr>
<td>Salary</td>
<td>4</td>
<td>777</td>
<td>.120</td>
<td>.10-.140</td>
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<td>Promotions</td>
<td>3</td>
<td>1141</td>
<td>.134</td>
<td>.05-.220</td>
</tr>
<tr>
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Note. k = number of validity coefficients from independent samples; N = total sample size across meta-analyzed correlations; r = sample-size weighted mean observed validity; 95% CI = lower and upper bounds of the 95% confidence interval.
Table 9
Correlations Corrected for Attenuation – Dependent Variable Only

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Note. k = number of validity coefficients from independent samples; N = total sample size across meta-analyzed correlations; r = sample-size weighted mean observed validity; 95% CI = lower and upper bounds of the 95% confidence interval
Table 10
Correlations Corrected for Attenuation – Independent & Dependent Variables

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Note. k = number of validity coefficients from independent samples; N = total sample size across meta-analyzed correlations; r = sample-size weighted mean observed validity; I² = percentage of total variability of effect size due to heterogeneity; 95% = lower and upper bounds of the 95% confidence interval; 95% CV = lower and upper bounds of the 95% credibility interval; Fail-Safe = Rosenthal fail-safe is the number of null studies needed to disprove the results.
APPENDIX G

RESULTS - GRAPHS
Graph 1
Proactive Personality/Salary

Note. Decimal places omitted. Bottom box and whisker in graph represents the mean effect size and its confidence interval.
Graph 2
Proactive Personality/Promotions
Graph 3
Proactive Personality/Career Satisfaction
Graph 4
Proactive Personality/Job Satisfaction
Graph 6
Conscientiousness/Promotions
Graph 7
Conscientiousness / Prestige
Graph 8
Conscientiousness/Extrinsic Career Satisfaction

Effect Size
Study

0 10 20 30 40 50 60 70
0 1 2 3

0 1 2 3
Graph 9
Conscientiousness/Career Satisfaction

Effect Size

Study

0 5 10 15 20 25 30 35 40 45 50
Graph 10
Conscientiousness/Job Satisfaction
Graph 12
Job Involvement/Career Satisfaction
Graph 13
Job Involvement/Job Satisfaction
Graph 14
Work Ethic/Salary
Graph 15
Work Ethic/Job Satisfaction

![Graph showing the relationship between effect size and work ethic/job satisfaction.](image-url)
**Graph 16**

Work Ethic/Promotion
Graph 17
Work Ethic/Career Satisfaction
Graph 18
Adaptability/Career Satisfaction
Graph 19
Ambition/Salary
Graph 20
Ambition/Objective Career Success

Study

Effect Size
Graph 21
Conscientiousness/Work Ethic
Graph 22
Ambition/Work Ethic

Study vs. Effect Size
Graph 23
Adaptability/Conscientiousness
Graph 24
Proactive Personality/Conscientiousness
APPENDIX H

REFERENCES OF STUDIES CONSIDERED FOR ANALYSIS
References of studies considered (but not used) for analysis


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REFERENCES


