PERSONALITY USE IN THE ORGANIZATIONAL CONTEXT: A REVIEW

A Thesis

by

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ABSTRACT

This thesis reviews literature focused on the utilization of personality inventories in organizations. The theories and models of personality psychology can be applied by industrial-organizational psychologists to understand the functions of personality in the workplace. There has been evidence to support the benefit of personality inventories in a multitude of ways. This thesis discusses a brief history of personality testing, followed by personality theories and models utilized by industrial-organizational psychologists. The assessment of personality in organizations is also discussed. First, personality as a predictor of job performance is discussed. This is followed by a discussion of the various ways personality contributes to important outcomes in the workplace, including recruitment, selection, training, and team development. Finally, two popular personality assessments are described, and future directions are provided.

CONTRIBUTORS AND FUNDING SOURCES

Contributors

This work was supervised by the student's thesis committee chair, Professor Stephanie C. Payne, with Professor Olabisi Atoba, of the Department of Psychological and Brain Sciences, and Professor Wendy Boswell of the May's Business School as committee members. It also reflects feedback from Professor Winfred Arthur, Jr. All other work conducted for the thesis was completed by the student independently.

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1. INTRODUCTION

Personality psychology includes a wide breadth of theories, topics, and research. Personality refers to individual differences in characteristic patterns of thinking, feeling and behaving and is consistent over time (American Psychological Association, n.d). Due to the prevalence of personality's effects on one's daily activities and interactions, it is unsurprising that researchers have examined the influence of personality on behavior in the workplace. This thesis focuses on the personality research within the personnel and organizational psychology literature. It begins with an overview of personality, models of personality, and theories about the influence of personality on job performance. This is followed by a review of the use of personality measures as a predictor of job-related outcomes and its application within the work context. The review concludes with human resource managerial implications and future directions for research.

1.1. History of Personality

Humans have an innate desire to understand the world around us and even more so to understand ourselves. Just as every snowflake is different, every human is a unique being with their own set of thoughts, feelings, and experiences. These individual differences are important to the description, explanation, and prediction of human behavior. The focus on human attributes can be traced back as far as 350 B.C.E when Aristotle attempted to map human character traits in his *Nicomachean Ethics* (Wiggins, 1996, p. 22). The 19th century birthed personality psychology research with Francis Galton and his lexical hypothesis theory. Further into the 20th century, psychologists focused on individual differences and traits. The first two textbooks focused on personality were published by Gordon W. Allport and Ross Stagner in 1937, bringing together

all the past personality-focused research. These two works signified the beginning of personality psychology as it is known today.

There are a variety of different definitions of personality. For the purpose of this thesis, the American Psychological Association's (APA) definition is adopted. This definition states that personality refers to "individual differences in characteristic patterns of thinking, feeling, and behaving" (American Psychological Association, n.d., p. 1). In addition to this, there are two separate focuses of personality psychology. The first area focuses on understanding individual differences in personality characteristics, while the second focuses on how these various characteristics come together as a whole (American Psychological Association, n.d.).

1.2. Theories and Models

The following theories discussed are theories applicable to organizational behavior that may utilize personality, however, some theories are social psychology theories rather than strictly personality theories. While each may not be strictly personality focused, each can utilize personality within the organizational realm. In addition to individual personality, the social psychology based theories can be thought of as looking at the personality of whole groups and organizations.

1.2.1. Trait Theory

Traits have been a component of personality theories since researchers first started studying individual differences (Boyle, Matthews, & Saklofske, 2008). Trait theory assumes that personality characteristics are relatively stable over time and across situations (Wiggins, 1996). The founding fathers of trait psychology include Gordon Allport, Raymond Cattell, and Hans Eysenck. Allport described traits or dispositions as a way of filtering experience through oneself in order to impose a personal structure on the world that are consistent and unique to the

individual (Boyle, Matthews, & Saklofske, 2008). While Allport held a primarily idiographic stance on traits, Cattell was a proponent of nomothetic trait models. Nomothetic approaches seek to identify traits that are meaningful across individuals (Boyle, Matthews, & Saklofske, 2008). Cattell stated that traits are latent constructs with causal force, such that traits influence behavior, but situational factors moderate this relationship. He also stated that the personality sphere should be differentiated from other individual differences such as ability and personality models should be hierarchical (Boyle, Matthews, & Saklofske, 2008). Hans Eysenck focused on extraversion, neuroticism, and psychoticism as heritable properties of the brain and also pioneered the use of empirical studies to test the relationships between traits and behavior in rigorously controlled settings (Boyle, Matthews, & Saklofske, 2008). While trait theory is one of the hallmark theories of personality, there are a multitude of others.

1.2.2. Social Categorization Theory and Social Identity Theory

Social categorization theory (SCT) was first discussed in 1971 when Henri Tajfel, M.G. Billig, R.P. Bundy, & Claude Flament conducted an experimental study focused on the effects of social categorization on intergroup behavior. In this study, participants were sorted into trivial categories and instructed to distribute rewards and penalties to others with nothing but the irrelevant classification noted between the ingroup and outgroup. It was found that the participants favored those within their own group, distributing more rewards to their ingroup than the outgroup regardless of other contributing factors. From these findings, Tajfel and colleagues posited that people group or classify each other using ingroups (yourself and the group you identify with) and outgroups (groups you do not identify with). This categorization can lead to favoritism and discrimination due to the tendency of individuals to favor members

they associate with (ingroup) and consequently viewing outsiders (outgroup) negatively (Tajfel et al., 1971).

Similar to social categorization theory, social identity theory (SIT) is a social psychology-based theory on intergroup relations. Henri Tajfel and John Turner introduced social identity theory in 1979. According to this theory, an individuals' sense of self is attributed in part to the various groups they identify with, which causes them to act according to the norms of these associated groups. Thus, people may act differently based on which group they are with (Tajfel & Turner, 1979). SIT also states that people tend to classify themselves into these various social categories. Therefore, it can be inferred that identification with a certain group is relevant to recruitment and selection in an organizational context. Ashforth and Mael (1989) argue that in terms of SIT, organizational identification is a type of social identification. Further, social identification can also derive from work groups, departments, unions, and so on. Individuals tend to choose activities that match important aspects of their identities, and subsequently support institutions that embody those identities (Tajfel & Turner, 1979). This can be of particular interest to organizations due to the likelihood of identification enhancing organizational commitment and support (Ashforth & Mael, 1989).

1.2.3. Vocational Choice and the ASA Model

When looking at personality from an organizational perspective, it is important to look at past research on vocational choice. John Holland first proposed his theory of vocational choice in 1959, which states that at the time a person makes a vocational choice, the person is "the product of the interaction of his particular heredity with a variety of cultural and personal forces including peers, parents and significant adults, his social class, American culture, and the physical environment" (p. 35). Within his theory of vocational choice, Holland defined six

distinct types of careers: intellectual, artistic, social, enterprising, conventional, and realistic. He theorized that these career environments interact with a person through self-evaluation, which directs the individual towards an environment comprised of similar people. This suggests that an organization's environment is determined by the people within it, which in turn attracts similar people to the organization. This is the basic premise behind the Attraction Selection Attrition (ASA) model put forth by Schneider in 1987. This theory posits that it is the attributes of the people in a work setting that determine organizational behavior (Schneider, 1987). In other words, Schneider concludes that the environment and those within it are not separable, and that the people in the environment make it what it is. This model has been used extensively to explain how recruitment and selection work, beginning with employee attraction to careers, jobs, and organizations (Judge & Cable, 1997).

1.2.3.1. Attraction

Holland's (1959) theory ties in heavily to the attraction part of the ASA model. The attraction factor states that people are attracted to careers as a function of their own interests and personality, which ties back to Holland's determination that people are similar to the career environments they join. Schneider supports this assumption of attraction with similar studies. For example, Tom (1971) found that people's most preferred environments are ones that have the same personality profile as they do. Similarly, Vroom (1966) found that people choose to work at organizations they believe will be instrumental in obtaining their valued outcomes. Therefore, attraction of similar types of people to similar places begins to determine the organizational culture.

1.2.3.2. Selection

The selection process can include formal and informal processes. Organizations require a range of competencies from employees, which would lead to the assumption that the "typing" of an organization would not be common. However, people are not defined by single characteristics. This multidimensionality can lead to organizational "typing" when many people share common attributes and only differ in their specific competencies. For example, Holland (1959) types people not only by their dominant career interests, but also their secondary and tertiary interests. This shows that even career interests can be multidimensional, and it is not simply one characteristic that determines the type of person who will be selected to an organization. Therefore, despite hiring for different positions and needed competencies, organizations can end up choosing people who share many common personal attributes.

1.2.3.3. **Attrition**

Opposite the attraction factor of the ASA model is attrition. The basic premise of attrition is that people who do not fit into an environment tend to leave it. While this may seem contradictory to attraction, it is possible that people may be attracted to an organization and later realize they do not fit. Therefore, if people who do not fit in leave, those who remain will constitute a more homogenous group. This led Schneider (1987) to propose the idea that attraction to an organization and attrition from it produce restriction in the range of people within the organization. Because of this range restriction, similar behaviors are seen from the people there, making it appear that the organization is a determinant of their behavior.

1.2.4. Person-Organization Fit

Similar to Schneider's (1987) ASA model is the concept of person-organization (P-O) fit. P-O fit can be broadly defined as compatibility between a person and an organization (Kristof, 1996). Kristof explains the various conceptualizations of P-O fit, including supplementary fit,

complementary fit, needs-supplies perspective, and demands-abilities perspective.

Supplementary fit occurs when a person "supplements, embellishes, or possesses characteristics which are similar to other individuals" within an organization or environment (Muchinsky & Monahan, 1987; p. 269). The fundamental characteristics of an organization tend to include culture/climate, values, goals, and norms, while those of a person typically include personality, values, goals, and attitudes. The relationship between these characteristics are the focus of supplementary fit. This is contrasted with the idea of complementary fit, wherein an individual's characteristics "make whole" or add to the environment what it had been missing (Muchinsky & Monahan, 1987). When looking at the needs-supplies perspective, P-O fit is said to occur when an organization satisfies the needs, desires, or preferences of an individual, while the demands-abilities perspective suggests that P-O fit occurs when a person has the abilities needed to fulfill organizational demands (Kristof, 1996). Organizations often supply opportunities demanded by employees, such as financial, physical, and psychological resources, but also task-related, interpersonal, and growth opportunities that employees find important. When the organization supplies these demands, needs-supplies fit is fulfilled. However, organizations also demand employee contributions such as time, commitment, effort, knowledge, skills, and abilities. When the employee supplies these organizational needs, demands-abilities fit is fulfilled. The supply and demand relationship between the organization and the individual can therefore be looked at from different lenses. These various conceptualizations broadly encapsulate the different perspectives behind P-O fit, however, the overarching idea remains the same.

1.2.5. The Big Five Model of Personality

The most widely used taxonomy for personality research is the Big Five Model of Personality. This model can be traced back to Galton's (1884) "lexical hypothesis," in which he

states that "the frequency of the type of words that people use to differentiate themselves and others reveals personality traits" (Hough et al., 2015, p. 188). Later in 1936, Gordon Allport and Henry Odbert compiled a list of almost 18,000 terms that they considered personality relevant and later separated these terms into four distinct categories: (1) personality traits; temporary states, moods, and activities; (2) highly evaluative judgements of personal conduct and reputation; (3) physical characteristics, capacities and talents, terms of doubtful relevance to personality, and (4) terms that could not be assigned to the other three categories (John & Srivastava, 1999). Expanding upon this model, Cattel (1943, 1945) began to reduce Allport and Odbert's initial list, ultimately narrowing the list down to 35 words (Hough et al., 2015). Fiske was the first to narrow the factors down to five in 1949, yet Tupes and Christal (1961, 1992) identified what is known today as the Five Factor Model, or the Big Five (Hough et al., 2015).

The traits of the Big Five Model are openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism or emotional stability. Openness to experience includes traits such as imagination, curiosity, originality, and broad mindedness. Conscientiousness is illustrated by being dependable, hardworking, achievement-oriented, and persevering. Extroversion includes being sociable, assertive, talkative, and active. The agreeableness category includes being curious, flexible, trusting, good-natured, and cooperative. Finally, the neuroticism facet is exemplified by being anxious, depressed, angry, emotional, and insecure. Current research commonly utilizes the taxon of emotional stability rather than neuroticism. Emotional stability and neuroticism are opposite ends of the same concept, such that if one is high on emotional stability, they are low on neuroticism and vice versa.

The Big Five model of personality is considered a hierarchical model as it is composed of five higher-order traits and within each trait there are lower-order facets. The number of lower-

order facets depends on the measure adopted but can range from two to six or more. For example, conscientiousness consists of achievement orientation and dependability (Hogan & Ones, 1997), but it has also been described of being composed of industriousness, order, self-control, responsibility, traditionalism, and virtue (Roberts et al., 2005).

1.2.6. HEXACO and Circumplex Models

Two other models of personality that have grown in popularity are the HEXACO model and circumplex models. The HEXACO model is composed of six factors: honesty-humility (H), emotionality (E), extraversion (X), agreeableness (A), conscientiousness (C), and openness to experience (O). This is a more comprehensive model compared to the Big Five, yet both models are relatively similar due to the fact that they are both guided by factor analysis and identify five of the same factors. However, the HEXACO factors have not been proven to provide stronger validities than Big Five factors when predicting workplace outcomes theoretically related to personality (Hough et al., 2015).

The circumplex models are an alternative to hierarchical models such that the relationships between personality traits are illustrated as a circle wherein the stronger or more positively related personality traits are, the closer they will be in the circle, whereas traits that are more weakly or negatively correlated lie further apart (Hough et al., 2015). This model allows facets to correlate with other factors when relationships exist, unlike strict hierarchical structures. These models attempt to capture the totality of personality by acknowledging the interrelationships between dimensions. Thus, circumplex models may show more realistic and comprehensive relationships between personality facets.

2. PERSONALITY IN ORGANIZATIONS

Personality can be used within organizations in a variety of contexts, such as predicting performance and selecting applicants. It is important to look at how personality assessments and measures can benefit organizations today, especially as the workforce becomes more globalized and diverse. While the knowledge, skills, and abilities of employees differ, there can be similarities in personality traits when looking at successful incumbents. Within this section, personality use as a predictor of job performance will be discussed first, including organizational citizenship behaviors and counterproductive work behaviors. The use of personality within recruitment, selection, training and teams will follow, finishing with specific challenges involved with personality measurement.

2.1. Personality as a Predictor of Job Performance

Personality measures within the workplace context have long been a widely debated topic of research, particularly since the influential review paper by Guion and Gottier in 1965. The authors concluded that there was little validity for the use of personality measures within a personnel setting, which led to many counter argumentative papers throughout the following decades. In 1991, Barrick and Mount published a meta-analysis to show evidence of the usefulness of personality measures as predictors, which in turn increased the popularity of personality research. Until this meta-analysis, validity of personality measures for personnel selection purposes was very low due to there not being an agreed upon taxonomy. Due to the wide acceptance of the Big Five Model of Personality, as well as the improvement of meta-analytic procedures, there was a new opportunity to challenge previous findings. The authors used 162 samples from 117 studies, with sample sizes ranging from 13 to 1,401, for a total sample size of 23,994. The five occupational groups analyzed included professionals, police,

managers, sales, and skilled/semi-skilled, and the criteria included job proficiency, training proficiency, and personnel data. The results of their analysis found that conscientiousness was a consistently valid predictor across all occupations and criteria included, with a mean correlation of .22. Extroversion had the second highest mean correlation of .14, with a higher correlation of .26 when correlated with training proficiency. Although the correlations were modest, this study provided a more optimistic view of the potential for personality to predict job performance and sparked renewed interest in the topic (Mount & Barrick, 1998).

Much research has been done on the relationship between job performance and personality characteristics within the past 30 years. While certain factors such as conscientiousness have been found to be related to job performance across jobs (Huffcutt et al. 2001; Hurtz & Donovan, 2000), other studies have focused on the use of personality in specific fields. Within jobs that involve interpersonal interactions, conscientiousness, agreeableness, and emotional stability have a positive relationship with job performance (Mount, Barrick, & Stewart, 1998). Within a team setting, higher levels of conscientiousness, agreeableness, and openness to experience have been found to be positively related to team performance (Neuman, Wagner, & Christiansen, 1999). Due to the relationships between personality and job performance, organizations are focusing more on applicant and employee traits. A meta-analysis by Sackett and Walmsley (2014) found that conscientiousness was top-ranked (or tied as top-ranked) for all work-related criteria they examined, with agreeableness also being ranked highly for all criteria (task performance, organizational citizenship behaviors, and counterproductive work behaviors). An overall aggregation of ratings across criteria suggested conscientiousness, agreeableness, and emotional stability were the most strongly valued attributes in the workplace (Sackett & Walmsley, 2014). In addition to traditional job performance, organizational

citizenship behaviors and counterproductive work behaviors have also been correlated with personality characteristics.

2.1.1. Organizational Citizenship Behavior

Organizational citizenship behavior (OCB) has been defined as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p. 4). Similarly, contextual performance refers to activities that support the organizational, social, and psychological environment (Borman & Motowidlo, 1993). Both OCB's and contextual performance aide in creating a better work environment, and thus provide an additional component of job performance. Research has suggested personality characteristics to be predictors of contextual performance (Hurtz & Donovan, 2000; Van Scotter & Motowidlo, 1996). For example, conscientiousness and performance have a positive relationship across all jobs and tasks, and conscientious individuals are task focused and self-disciplined, which can lead to willingness to perform various roles needed and a focus on accomplishing goals (Hurtz & Donovan, 2000). Additionally, conscientiousness, extraversion, and agreeableness each predict contextual performance in team settings (Morgeson, Reider, & Campion, 2005). Within team settings, Morgeson and colleagues also found that personality characteristics accounted for 7%-10% of unique variance in contextual performance. Similarly, LePine and Van Dyne (2001) found a strong relationship between cooperative behavior and conscientiousness, agreeableness, and extraversion. Specifically, individuals who had high levels of conscientiousness, extraversion, or agreeableness showed higher levels of cooperative behavior.

2.1.2. Counterproductive Work Behavior

While OCB's focus on improving an organization, counterproductive work behavior (CWB) is "intentional employee behavior that is harmful to the legitimate interests of an organization" (Dalal, 2005). Just as organizations would benefit from predicting OCB's, they would similarly benefit from predicting CWB's. Common CWB's include absenteeism, turnover, deviant behavior, and loafing. Personality has been found to be strongly related to CWBs in terms of predicting future negative behaviors (Salgado, 2002). Conscientiousness has been found to predict deviant behaviors and turnover, while extraversion, openness to experience, agreeableness, and emotional stability have been found to predict turnover (Salgado, 2002). Similarly, conscientiousness has shown to be the largest source of variance in integrity tests, followed by agreeableness and emotional stability (Ones, Viswesvaran, & Schmidt, 1993). In addition to singular traits predicting CWBs, the interaction of multiple traits has also been found to predict CWBs (Jensen & Patel, 2011). Jensen and Patel examined the relationship between CWBs and three trait pairings: (1) conscientiousness and emotional stability, (2) agreeableness and emotional stability, and (3) conscientiousness and agreeableness, finding that individuals high in both traits in each respective pairing performed fewer CWBs. While this interaction was present for each pairing, those who were highly conscientious and highly emotionally stable performed the least CWBs of each pair. Those who were low in only one trait within each pair had similar levels of CWBs to those who were low in both traits within a pair. Thus, personality traits can benefit organizations in the prediction of job performance, organizational citizenship behaviors, and counterproductive work behaviors.

2.2. Personality in Recruitment and Selection

Targeted recruitment strategies have brought about higher levels of diversity in hiring decisions (Newman & Lyon, 2009). Because an organization wants to hire someone with a high likelihood of success, it is ideal to recruit those who not only fit the requirements of the position but also embody specific characteristics that have shown a positive relationship with job success. Personality has been used successfully as a targeted recruitment strategy through advertising and selective wording of job postings (Stevens & Szmerekovsky, 2010). Based on the job characteristics and responsibilities, an organization may wish to recruit applicants with specific personality characteristics such as conscientiousness and extraversion. Attractiveness of an organization, as stated in the attraction component of the ASA model, effects job applicant intentions. Johnson, Winter, Reio, Thompson, & Petrosko (2008) found that managerial applicants had more favorable job ratings when their personality matched that of an ideal job candidate. Because attractiveness of an organization can effect applicant intentions, recruitment materials that can successfully attract individuals with an ideal set of personality characteristics would benefit an organization.

The idea of recruiting applicants with specific personality characteristics can be extended further than likelihood of success. A desire for P-O fit may provide an additional motivation to recruit those with personality traits that would provide the highest likelihood of integration into the company. Similarly, job choice decisions based on perceived P-O fit comprise the attraction component of the ASA model previously discussed. Research has shown that organizational values significantly affect job choice decisions, such that individuals have a higher likelihood of choosing jobs when the organizations values are similar to their own (Judge & Bretz, 1992). This perceived values congruence between job seekers and organizations increased organizational

attractiveness, thus demonstrating the attraction component of the ASA model. Indeed, P-O fit perceptions have significantly predicted job choice intentions comparable to other important job aspects such as benefits and rewards (Cable & Judge, 1996). When looking at P-O fit, Cable and Judge found that job seekers perceptions of P-O fit were not affected by demographic similarity with organizational representatives. Thus, targeted recruitment may benefit more when focusing on P-O fit rather than demographic similarity. In addition to these two findings, they also found that job seekers seem to place less emphasis on person-job fit than P-O fit when making job choice decisions. This shows that organizational culture and values have a large impact on applicant decisions, even more so than the job itself. These findings show the importance of P-O fit on organizational attractiveness as well as applicant decisions. Therefore, recruiting for P-O fit can potentially provide an additional benefit to organizations.

Personality measures are also commonly utilized by businesses in the initial interview and hiring stages. It has been found that 30% of American companies use personality inventories to screen applicants (Heller, 2005). Within Fortune 100 companies, 40% have reported using personality inventories for assessing job applicants on some level, ranging from front line workers to CEOs (Rothstein & Goffin, 2006). Personality can be measured in other pre-employment selection tools like interviews. Huffcutt et al. (2001) found that within employment interviews, personality tendencies were assessed 35% of the time, more than any other attribute category. Within the category of personality tendencies, conscientiousness was the most frequently assessed construct across all interviews analyzed at 46%. When looking at how structured an interview is, low structure interviews showed a 37% frequency of personality characteristics measurement while high structure interviews showed a 34% frequency. Therefore, personality characteristics are evaluated at similar frequencies regardless of interview structure.

Additionally, personality can affect an applicant's interview process and likelihood of success. For example, researchers have found extraversion to be significantly and positively correlated with interviewee performance, while high neuroticism scores have been associated with lower interviewee performance ratings (Cook, Vance, & Spector, 2000). Although conscientiousness is the most frequently assessed in interviews, an applicant's level of extraversion can affect an interviewers' impression and subsequent judgment of interviewee performance.

An additional benefit of personality assessment use is a lack of adverse impact (Ones & Anderson, 2002; Hogan & Hogan, 2007). Cognitive measures have been found to show adverse impact, however, due to the noncognitive nature of personality inventories, there has not been strong evidence for adverse impact (Ryan, Ployhart, & Friedel, 1998). This could be of particular interest to organizations when considering selection techniques that minimize the potential for legal issues.

2.3. Personality in Training and Team Development

While there are personality assessments commonly used for selection purposes, there are many that recommend use only for developmental purposes, such as the Meyers Briggs Type Indicator (MBTI). Training programs require time, money, and support in order to be successful, and these programs have only become more common as organizations become more globalized and team based. Common training programs focus on topics such as leadership, diversity, and technical skills, and have found that personality assessments can provide supplemental assistance to these programs in various ways. Personality can aide in individualizing training programs by indicating the most beneficial program format. Individualization of training programs can improve training outcomes of employees (Lee, Johnston, & Dougherty, 2000). For example, an employee high on extraversion may find learning situations involving high levels of interaction

and activities to be most enjoyable, while those low on extraversion may prefer self-paced or virtual learning environments (Barrick & Mount, 1991).

Personality has been shown to influence an individual's motivation to improve work through learning, such that extraversion directly and positively influence this motivation (Naquin & Holton, 2002). Similarly, conscientiousness and agreeableness predicted motivation to improve work through learning when mediated by work commitment. Major, Turner, and Fletcher (2006) found that extraversion, openness, and conscientiousness were significantly positive predictors of an individual's motivation to learn. For organizations that promote a culture of learning, these traits can provide insight into an individual's potential person-organization fit.

In addition to training, personality can aide in team formation, effectiveness, and outcomes. Diversity within teams is associated with various positive outcomes (e.g., better problem solving, more creativity, etc.), particularly with deep level characteristics. Deep level diversity characteristics include the attitudes, beliefs, values, and personality of an individual and are learned through extended, individualized interaction (Harrison, Price, & Bell, 1998). This is opposed to surface level diversity characteristics, which consist of more overt, biological characteristics such as age, race, or sex. It has been found that the longer a group works together, surface level characteristics are less important while deep level diversity becomes more important on work group cohesion (Harrison, Price, & Bell, 1998). Within group settings, team conscientiousness, agreeableness, extraversion, and openness to experience have been found to be positively related to team performance (Bell, 2007). Similarly, teams higher in conscientiousness, agreeableness, extraversion, and emotional stability were found to receive higher team performance ratings from supervisors (Barrick et al., 1998).

Currently, there is a mix of findings regarding homogeneity and heterogeneity effects. Lykourentzou, Antoniou, Naudet, & Dow (2016) examined the effects of balanced and imbalanced teams on performance and individual perceptions. It was found that teams with a balance of personalities performed significantly better on collaborative tasks than did teams with a surplus of leader type personalities. In this study, the balanced teams reported lower levels of conflict as well as higher levels of satisfaction and acceptance. Similarly, creating teams based on personality types in a classroom setting has shown that groups with a mixture of personality types is associated with more interaction and problem solving than groups comprised of only one type (Rutherford, 2006). While heterogeneity within teams can benefit performance, it can also harm performance if there is too much. Heterogeneity of conscientiousness in teams has been found to be significantly and negatively related to actual team performance in product development teams (Kichuk & Wiesner, 1997). However, Kichuk and Wiesner also found that successful product development teams were characterized by higher levels of extraversion, higher agreeableness, and lower neuroticism. Similarly, teams high in openness to experience and emotional stability have been shown to perform better in high task conflict situations than those who are low in these characteristics (Bradley et al., 2013). Amato and Amato (2005) found support for both compatible and complementary teams. Specifically, students from one college course that had little to no previous group experience preferred the comfort of a more compatible, homogenous group while students from a separate course with more prior group experience preferred the diversity of a complementary, heterogenous group. Thus, the personality characteristics of team members can provide insight on effectiveness and positive outcomes, however, it can be dependent on other factors such as the team's purpose or experience.

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2.4. Personality Measurement Challenges

Although personality measures have been found to show moderate levels of validity in the prediction of work performance, the most prevalent issue facing these measures is response distortion. Distorting responses, or faking, "stem from a desire to manage impressions and present oneself in a socially desirable way" (Dilchert et al., 2006, p. 211). The issue of faking has been a large focus in the research literature. Ziegler (2011) estimated that 30% of applicants fake. There are multiple factors that can affect respondents' likelihood to distort their responses, such as individual characteristics or whether it is a high-stakes test (Dilchert et al., 2006). High-stakes tests include tests that result in hiring or firing decisions, promotions, or salary raises. Despite the concern of faking distorting study results, personality measures retain their criterion-related validity regardless of response distortion (Ones, Viswesvaran, & Reiss, 1996). Nevertheless, techniques for mitigating distortion are important to note. Techniques used to mitigate distortion include faking warnings, wherein researchers include a written statement for respondents warning that faking will be identified or that there will be negative consequences, as well as forced responses and response time limits (Dilchert et al., 2006).

While it is understandable that applicants wish to improve their likelihood of receiving an offer, faking can be detrimental to a company when certain characteristics are seen as imperative to the position. Potential negative outcomes can include low job performance, waste of financial resources, and turnover (Zeigler, 2011). Response distortion is more common in job applicants than incumbents and can have a significant effect on who is hired (Rosse et al., 1998). Specifically, response distortion was found to be most highly correlated with personality traits that were more obviously job-related, with neuroticism and conscientiousness correlating the strongest. This is particularly concerning for hiring purposes due to the fact that

conscientiousness has the highest correlation with job performance across occupations and is the most commonly measured personality trait within hiring situations (Huffcutt et al., 2001; Sackett & Walmsley, 2014).

3. PERSONALITY ASSESSMENTS

Personality characteristics cannot be studied without a way to assess them. Specific models such as the five-factor model can provide a theoretical background for these characteristics, however, there are a multitude of ways to measure the constructs within these models. There are a wide variety of personality assessments currently used by researchers and organizations, and each one has their own unique items and constructs. In this section, two assessments that are widely used in organizations today are reviewed. Both of these assessments are multidimensional with uncorrelated dimensions, meaning that they measure multiple unique constructs and provide scores for each individual dimension, but not an overall score (Furr, 2018). For example, 10 items in a 100-item test may focus on extraversion while another 10 focus on agreeableness, and the 10 items will provide one score for extraversion and the other 10 items will provide a separate score for agreeableness. One other approach is projective personality techniques, which include word association tests. This approach has origins in psychoanalysis and is dependent on content analysis for meaning. While it is beneficial to know about these different approaches, no projective tests will be discussed within this section, as they are used less frequently, and their validities are dependent in part on the individual scoring of the answers.

It is important to note that although both of the following assessments are currently being utilized by organizations worldwide, they are not equal in terms of reliability, validity, and overall quality. The first assessment, the Hogan Personality Inventory, has been thoroughly researched and validated over 40 years for use in multiple organizational procedures such selection and training (Hogan & Hogan, 2007). In contrast, the Myers-Briggs Type Indicator has garnered a wide array of criticism within academic research (Nowack, 1996; Pittenger, 1993).

The Hogan Personality Inventory exemplifies an ideal assessment backed by industrial-organizational psychologists. The Myers-Briggs Type Indicator, however, is not recommended by researchers and is discussed only due to its prominent use today rather than its quality.

3.1. Hogan Personality Inventory

The Hogan Personality Inventory (HPI) is a measure of normal psychology based on socio-analytic theory and the Five-Factor Model developed by Robert and Joyce Hogan. Socioanalytic theory attempts to explain individual differences in interpersonal effectiveness (Hogan & Hogan, 2007). This theory posits that there are two universal human motives – needs for social acceptance and status – and that there are two views of one's personality – the actor and the observer. Robert and Joyce Hogan began work on the HPI while in graduate school in the 1970's, then began testing their inventory in 1979. The HPI has been used in over 400 validity studies and continues to be studied and improved today. Currently, the HPI is widely used across a variety of organizations worldwide for selection and development purposes (Hogan & Hogan, 2007).

The HPI contains 206 items and has seven primary scales: adjustment, ambition, sociability, interpersonal sensitivity, prudence, inquisitive, and learning approach, as well as one validity scale and 41 subscales (Hogan & Hogan, 2007). Descriptions of the primary scales from the HPI manual appear in Table 1 below.

Table 1 Descriptions of the Primary Scales in the Hogan Personality Inventory

Scale	Description
Adjustment	The degree to which a person appears calm and self-accepting or, conversely, self-critical and tense.
Ambition	The degree to which a person seems socially self-confident, leader-like, competitive, and energetic.
Sociability	The degree to which a person seems to need and/or enjoy interacting with others.
Interpersonal Sensitivity	The degree to which a person is seen as perceptive, tactful, and socially sensitive.
Prudence	The degree to which a person seems conscientious, conforming, and dependable.
Inquisitive	The degree to which a person is perceived as bright, creative, and interested in intellectual matters.
Learning Approach	The degree to which a person seems to enjoy academic activities and to value educational achievement for its own sake.

The purpose of the validity subscale is to detect "careless or erratic responding", while the 41 subscales present more specific information regarding the primary scales than the primary scales alone (Hogan & Hogan, 2007). The HPI is primarily designed for use in personnel selection, development, and career-related decision making. The HPI identifies how the candidate is likely to act in various circumstances, notes strengths and shortcomings, makes suggestions about how to manage the individual's career, pinpoints characteristics relevant for success in most work environments, identifies suitability for the position, summarizes the recommendation for job fit and potential hiring, and classifies candidates as high fit, moderate fit, or low fit (Hogan & Hogan, 2007). This assessment is particularly notable in that it can be used for selection purposes, unlike many other personality assessments.

HPI scores have been found to be stable over time, with test-retest reliabilities ranging from .69 to .87 (Hogan & Hogan, 2007). Used in over 400 validity studies, there is a large volume of support for the HPI's use in occupational settings (Hogan & Hogan, 2007). Within

personnel selection, the HPI has been validated for use in seven job families: (1) managers and executives, (2) professionals, (3) technicians and specialists, (4) sales and customer support, (5) administrative and clerical, (6) operations and trades, and (7) service and support. Within each family, Hogan has determined the specific scales that can be used to predict performance. For example, the HPI scales of adjustment, ambition, interpersonal sensitivity, and prudence were found to be predictive of successful performance for (1) managers and executives.

3.2. Myers-Briggs Type Indicator (MBTI)

Based on the work of Carl Jung, the Myers-Briggs Type Indicator (MBTI) was first published in 1944 by Katherine Cook Briggs and her daughter Isabel Briggs Myers. Carl Jung published his book *Psychological Types* in 1921, which described four dichotomous sets of traits: extraversion and introversion, sensing and intuition, thinking and feeling, judgement and perception. Katherine Cook Briggs began researching personality in 1917, proposing her own typology which included four temperaments: meditative (or thoughtful), spontaneous, executive, and social ("The Story of Isabel", n.d.). After Jung's book was translated to English in 1923, Briggs saw a similarity between her own typology and Jung's, although his was more in depth and thought out. After extensively studying the work of Carl Jung, Briggs and Myers extended this study of personal behavior to create a practical use of this theory of personality types. The pair started developing the indicator during WWII as a way for women entering the workforce for the first time to find jobs "most comfortable and effective" for them ("MBTI Basics," n.d.). The *Briggs Myers Type Indicator Handbook* was published in 1944, later changing its name to "Myers-Briggs Type Indicator" in 1956 ("MBTI Basics," n.d.). Publication of the indicator moved to the Consulting Psychologists Press in 1975 where it remains to this day. The third and most recent edition of the MBTI was published in 1998. According to Consulting Psychologists

Press, the MBTI is currently used by 80% of Fortune 100 companies (The Myers-Briggs Company, 2019).

The four dichotomous sets of traits are extraversion and introversion, sensing and intuition, thinking and feeling, judgement and perception. Each trait is defined in Table 2 below. In total, there are 16 possible type combinations. It is noted that no trait is "better" than another, as each typology is simply a preference of the participant ("MBTI Basics," n.d.).

Table 2 Definitions of the Myers-Briggs Type Indicator Traits

Trait	Description
Extraversion (E)	Refers to the act or state of being energized by the world outside the self. Extraverts enjoy socializing and tend to be more enthusiastic, assertive, talkative, and animated. They enjoy time spent with more people and find it less rewarding to spend time alone.
Introversion (I)	Refers to the state of being predominately concerned with one's inner world. Introverts prefer self-reflection to social interactions. They also prefer to observe before participating in an activity. Introverts tend to more quiet, 'peaceful', and reserved. Note: Introverts prefer individual activities over social ones—this is not to be mistaken with shy people who fear social situations.
Sensing (S)	Refers to processing data through the five senses. Sensing people focus on the present and prefer to "learn by doing" rather than thinking it through. They are concrete thinkers recognize details. They are more energized by the practical use of an object/idea rather than the theory behind it.
Intuition (N)	Refers to how people process data. Intuitive people are keener to the meaning and patterns behind information. Intuitive people are more focused on how the present would affect the future. They are readily able to grasp different possibilities and abstract concepts. They easily see the big picture rather than the details.
Thinking (T)	Refers to how people make decisions. Thinking people are objective and base their decision on hard logic and facts. They tend to analyze the pros and cons of a situation and notice inconsistencies. They prefer to be task-oriented and fair.
Feeling (F)	Refers to how people make decisions. Feeling people are more subjective. They base their decisions on principles and personal values. When making decisions, they consider other people's feelings and take it in account. It is in their best mind to maintain harmony among a group. They are more governed by their heart.
Judging (J)	Refers to how people outwardly display themselves when making decisions. Judging people have a tendency to be organized and prompt. They like order; prefer outlined schedules to working extemporaneously. They find the outcome more rewarding than the process of creating something. Judging people seek closure.
Perceiving (P)	Refers to people how people outwardly display themselves when making decisions. Perceiving people prefer flexibility and live their life with spontaneity. They dislike structure and prefer to adapt to new situations rather than plan for it. They tend to be open to new options and experiences. While working on a project, they enjoy the process more than the outcome.

The MBTI, while widely used by organizations today, has garnered an array of criticism. First and foremost, Briggs and Myers were never formally trained in psychology and were self-taught in the area of psychometrics ("The Story of Isabel," n.d.). Within the academic realm, researchers have criticized the MBTI for issues with test-retest reliability and a lack of validity, namely predictive validity of employee job performance ratings (Nowack, 1996). Additionally, it has also been found that scores on the dichotomous scales fall in a normal distribution rather than a bimodal distribution, calling in to question the evidence for the scales' dichotomous nature (Pittenger, 1993). The MBTI technical manual reports a split-half reliability coefficient of .70-.80, while other sources have reported an average of 50% of respondents receiving a different type 5 weeks after taking the inventory for the first time (Pittenger, 1993). Despite these criticisms, the MBTI remains one of the more popular assessments used by organizations that is on the market.

4. CONCLUSION

The importance and relevance of personality in the workplace can be explained by various theories. Galton's lexical hypothesis theory and Holland's theory of vocational choice paved the way for models currently utilized today such as the Attraction Selection Attrition model and the Big Five model. From this, organizations have benefitted from the use of personality assessments in areas such as recruitment, selection, training, and team development. Personality variables have also shown to predict important organizational outcomes such as job performance, organizational citizenship behavior, and counterproductive work behavior. While there are hundreds of personality assessments currently available, two assessments frequently used by organizations include the Hogan Personality Inventory and the Meyers Briggs Type Indicator. The use of personality inventories in organizations has grown exponentially in the past century, and it can be assumed that personality will continue to be utilized for the foreseeable future. Future research should focus on how personality can be utilized in the growing technologically focused workplace, as well as its use in specific jobs. Additionally, more research on the reliability and validity of specific personality assessments used in the workplace would be beneficial to focus on in the future. Although much research has been done on personality use in the workplace, there is always more to discover.

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