AN ABSTRACT OF THE THESIS

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Title: Characteristics of the Human Resource Executives and Companies that Use More Sophisticated Employee Selection Methods

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Many psychologists have noticed a big gap between academic research on which personnel selection methods are most effective and which personnel selection methods are most popular in the real world of human resource practices. The purposes of this study were to investigate the popularity of different personnel selection methods in the real HR world and to find out which HR executives convince their organizations to use the more effective methods and which HR executives do not. Based on the results of the participants (*N* = 94), HR executives with a higher educational level use more sophisticated personnel selection methods than less educated HR executives. HR executives with an industrial-organizational psychology or human resources related major degree use more sophisticated personnel selection methods than those with other types of degrees. HR executives who belong to the Society of Industrial-Organizational Psychology use more sophisticated personnel selection methods than those who do not belong to a national level professional HR society. However, HR executives with an HR certification did not use more sophisticated personnel selection methods. Also, larger organizations did not use more sophisticated personnel selection methods.

CHARACTERISTICS OF THE HUMAN RESOURCE EXECUTIVES AND COMPANIES THAT USE MORE SOPHISTICATED

EMPLOYEE SELECTION METHODS

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Chapter 1

REVIEW OF THE LITERATURE

**Introduction**

Organizations have been using different methods to select people for more than a thousand years. The ancient Chinese people started to use tests to select talented people to work for the government 1400 years ago. [Chinese civil servant exams](http://en.wikipedia.org/wiki/Imperial_examination), which were established in 605 AD, have been considered as the first documented, modern selection tests. After all the years, people still use different ways to choose the best candidates; although some of them are not even scientific. For instance, graphology, which is the study and analysis of handwriting, has been used for a hundred years for personnel selection. According to research, even now, 38% (Shackleton & Newell, 1994) to 93% (Bruchon-Schweitzer & Ferrieux, 1991) of European companies are using this as an aid. However, after I/O psychology appeared 100 years ago, I/O psychologists did a lot of research and tried to find more scientific methods to perform personnel selection. I/O psychologists try to convince people these methods are more scientific than any other methods and that HR directors should use more of what the I/O psychologists think are effective scientific methods to choose the right people. The purposes of this study are to investigate the applications of personnel selection methods in the real HR world and to find out who uses the more effective methods and who does not.

In this thesis, by scientific, I mean more reliable and valid. If we want to know whether a selection method has scientific merit or not, we need to see if it has reliability and validity or not. Reliability means the consistency of the measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects (Chamorro-Premuzic & Furnham, 2010). Validity is the strength of our conclusions, inferences or propositions. Validity answers the question, does the test measure what it is supposed to measure (Chamorro-Premuzic & Furnham, 2010). The ideal purpose for an HR director is to use selection methods with high reliability and validity. In reality, however, many HR directors may fail to live up to that ideal. I want to discover which HR directors fail and which HR directors succeed in using the best selection methods.

**Current Uses of Employee Selection Methods**

Related researches about the application of personnel selection methods in the real HR world are limited. The way HR professionals use these scientific selection methods to help their companies is unknown for the most part. For example, people are still using graphology even though it has no validity. Some HR researchers have noticed the big gap between scientists and practitioners. For example, Drogan (2002) surveyed the top HR executive at 122 credit unions across the United States about their institution’s usage of personnel selection methods for hiring entry level employees. According to her study, 65 companies (53%) used job analysis when developing their selection methods, 17 (14%) conducted validation studies of their selection methods, 46 (37%) collected data on recruiting sources to identify the most effective sources, 33 (27%) used cognitive ability tests, and 5 (4%) used weighted application blanks (WABs) or Biographical Information Blanks (BIBs). The most widely used method in her study was the structured interview which 88 (72%) of the institutions used. Thus, other than the structured interview, many of the suggested techniques for improving the quality of hiring decisions were left unused by many institutions.

In a larger study, Rynes, Colbert, and Brown (2002) surveyed 5,000 human resource professionals regarding the extent to which they agreed with various HR research findings. 959 participants responded the survey and the results suggested that there are large discrepancies between research and practitioners’ beliefs about effective selection methods. Especially for intelligence and personality tests, practitioners place far less faith in these two methods as predictors of employee performance than selection research would recommend. This study illustrates that personality and cognitive ability tests may not be welcomed by HR professionals. Also, the authors believed the reason for this is because HR professionals care about their employees’ feeling and interpersonal relationships are crucial for HR jobs as well. These types of tests can be controversial and upset job applicants.

In Rynes, Giluk, and Brown’s (2007) study, the results suggested a significant failure of academic research to transfer to important practitioner sources of information. The practitioners’ messages are often different from the ones transmitted by academic journals. If these studies’ results were combined, it could be inferred that either HR practitioners are unaware of academic research findings or they do not always believe academic research findings. Knowing the reasons that cause this gap between science and practice can be very helpful remedying the problem.

Konig, Klehe, Berchtold, and Kleinmann (2010) surveyed 506 HR professionals online in Switzerland and they predicted six variables might affect the gap: (1) the procedures’ diffusion in the field, (2) legal problems associated with the procedures, (3) applicant reactions to the procedures, (4) their usefulness for organizational self-promotion, (5) their predictive validity, and (6) the costs involved. The results showed that poor applicant reactions, high costs, and poor diffusion in the field were the main reasons for the gap. Future research on how to decrease this gap would be a boon to the HR profession and help improve the influence of I/O psychology. The follow sections highlight some of the research on employee selection methods that have been shown to effectively predict job performance.

**Interviews**

For most organizations, the interview was reported as being the most important component in determining final selection decisions (Keenan, 1995). The interview can be structured or unstructured. The unstructured interview is similar to an informal discussion where interviewers ask whatever questions come to mind and follow up the interviewee’s answers with additional questions (Chamorro-Premuzic & Furnham, 2010). The structured interview is pre-planned to ensure every candidate receives exactly the same questions in the same order for judgment (Chamorro-Premuzic & Furnham, 2010).

Narrative review is a popular way to study the relationship between interview performance and job performance. Rather than provide an estimate of an effect size between global measures (e.g., between interview scores and job performance), a narrative review examines the qualitative nuances of the effects (Posthuma, Morgeson, & Campion, 2002). Posthuma, Morgeson, and Campion thought this method could focus on which specific predictors related to which specific criterion, in what settings, and when the effects were not found. Also, a narrative review can describe and critique the research methodology used to review the studies in greater detail.

Researchers have performed numerous meta-analyses to examine the reliability of interviews. It has been argued that the interview method has low reliability; this is especially true with unstructured interviews. However, Conway, Jako and Goodman (1995) found that the reliability of the interview actually depends on the situation. In their study they used three moderators, which were study design, interviewer training, and three dimensions of interview structure (standardization of questions, standardization of response evaluation, and standardization of combining multiple ratings). They investigated the reliability by reviewing 111 empirical studies and found that the average reliability of highly structured individual interviews was .67 (variance = .002), the reliability of moderate structure was .56 (variance = .034), and the reliability of low structured individual interviews was .34 (variance = .038). The results also showed the standardization of questions was more strongly related to reliability when coefficients were based on separate interviews and did not find evidence that job analysis directly increased reliability.

The last thing that was mentioned by the researchers from this study was about the reliability of interview. They recommended that some form of interviewer training should be used because reliabilities in this study were higher when interviewers were trained. According to this study, we can say that individual interviews are just moderately reliable. Also unstructured interviews are much more likely to be used than structured, even though structured interviews are more reliable than unstructured. If a measure has reliability, it does not mean it has validity. Because of this principle, more research has been devoted to studying the validity of interviews instead of trying to prove whether interviews are reliable or not.

Even though the interview has been treated as a low validity method, some researchers have been challenging this point of view. In a well known meta-analysis McDaniel, Whetzel, Schmidt, and Maurer (1994) analyzed 245 coefficients derived from 86,311 individuals. They used the psychometric meta-analytic procedure to examine the relationship between interview performance and job performance. McDaniel, Whetzel, Schmidt, and Maurer found that interview validity depends on the interview content, how the interview is conducted, and the nature of the criterion. Situational interviews had higher validity (.50) than job-related interviews (.39) and psychological based interviews (.29). Structured interviews had higher validity (.44) than unstructured interviews (.33). The validity for job performance (.37) and training performance criteria (.36) were similar. Tenure criteria had low validity (.20).

According to McDaniel, Whetzel, Schmidt, and Maurer’s (1994) research, structured interviews have higher validity than unstructured interviews. However, it is unclear why there is a difference between these two types of interviews. Schmidt and Zimmerman’s (2004) study illustrated a way to look into this question. Their hypothesis was that the difference in criterion-related validity between unstructured and structured employment interviews is due solely to the greater reliability of structured interviews. In their study, they used meta-analyses methods to test their hypothesis and used McDaniel et al. (1994) and Huffcutt and Arthur’s (1994) data. The hypothesis was tested in four data sets by using standard psychometric procedures. Researchers removed the effects of measurement error in interview scores. Only the first set of data supported the hypothesis and the other three were not supportive. They also found three to four independent unstructured interviews have the same level of validity for predicting job performance as a structured interview conducted by a single interviewer. The result of this study does not fully answer the question of their hypothesis. However, the research demonstrates the importance of the hypothesis and the need for future research on it.

Not all researchers feel satisfied with these validation studies. Some think there are some problems with the way research has been done regarding interview validity. For instance, what kind of interview should be used to study interview validity, what kind of criteria should be used to test the validity of interviews, and what kind of factors will affect the validity of the interview? For example, Dreher, Ash, and Hancock’s (1988) reviewed some of the research about interview validity. They found that a general review of the literature revealed that individuals are likely to differ in their ability to provide accurate predictions of employee behavior and that interviewers often differ in their constant tendency to make favorable or unfavorable ratings. What the researchers recommended were: first, admit it is likely that many companies have conducted interview validity studies that resulted in a null or at least discouraging results; second, there is a need to study, using appropriate designs, the validity of the typical employment interviewer; third, learn more about how interviews are conducted in natural settings.

Even though an interview does not have a high reliability and validity (both structured and unstructured), it is still widely used in human resource practice. However, things might be different if we combined structured interviews with other methods. For example, Schmidt and Hunter (1998) found that the combination of a structured interview plus a general mental ability (GMA) test has a high validity (mean validity of .63), which makes it useful. Maybe because it is so widely used, researchers never stop trying to prove the interview is a good method. In my study, the structured interview will be one of the personnel selection methods that I consider as more sophisticated in my survey. I will also consider interviews as more sophisticated if the company trains its interviewers and if it develops a way to score interview answers on job related dimensions.

**Biographical Data**

The ancient Chinese people believed that consider the past and you shall know the future. This Chinese proverb tells us the value of our past for predicting our future. In I/O psychology, past performance and experiences have been used to predict future job performance for decades. One of the most common methods is to collect applicants’ biographical data; simply known as biodata. Biodata have been used to help make selective decisions for many decades, especially in certain areas such as sales and insurance. In broad terms, biodata includes information about a person’s background and life history, ranging from objectively determined dates – date of first job, time in last job, years of higher education – to subjective preferences, such as those encompassed by personality traits (Chamorro-Premuzic & Furnham, 2010). Basically, the assumption underlying the use of biodata is that past performance is used to predict someone’s future performance. It has been argued that one of the greatest potential routes for understanding and improving the prediction of work performance is the link between individuals’ life histories and their performance at work (Fleishman, 1988). Biodata are typically obtained through application forms. Biographical information blanks (BIBs) and weighted application blanks (WABs) are two of the instruments used to collect biodata. They are self-report instruments in which job applicants are asked to provide information about past and present work behavior, successes, and failures.

The usefulness of collecting biodata for employee selection has been established for a variety of occupations, especially in sales and insurance. Gable, Hollon, and Dangello (1992), for instance, investigated the utility of biodata information in predicting future job performance and turnover rates for sales workers. These researchers collected data from application forms and tried to determine if the data could predict which applicants would be good performers and not likely to voluntarily terminate their employment once hired. Fifteen different types of information were collected from the application forms including sex, age, and years of education. Six variables predicted performance, but not turnover. Three variables predicted turnover, but not performance. Only three variables - career aspirations, extent of selling experience, and length of time at most recent job - predicted turnover and performance for all salespeople. These researchers concluded that some biographical items were predictive of performance level and future turnover of sales people. Level of performance was the moderating variable in predicting turnover. Thus, recommended items from the application forms would be more helpful for reducing turnover for high performers, but not as effective for predicting the turnover of the low performers.

When an organization uses biodata to select a new employee, it wants to choose the right person. In other words, it hopes biodata has high validity because the higher the validity, the more accurately the application form information will predict an employee’s future job performance. Schmidt and Hunter (1998) tested the validity of 19 selection procedures for predicting job performance and training performance. They also combined general mental ability (GMA) with 18 other selection procedures. The results showed that the validity of biographical data was .35 if measured as a single predictor, and it increased to .52 if combined with GMA tests for predicting job performance. For the prediction of performance in training programs, on the other hand, biographical data had a validity of .30 as a single predictor and .56 if combined with GMA tests. HR managers might need to pay attention to this result because a single predictor usually cannot fully satisfy one’s selection needs. The real question becomes how to select several selection methods and combine them together.

Some studies investigated more specific types of biographical data. For instance, Allworth and Hesketh’s (2000) study examined the predictive validity of job requirement biodata. Job requirement biodata inquires directly about experience in tasks and behaviors that directly reflect the requirements of the target jobs. Their results showed that job requirement biodata has moderate (*r* = .36) predictive validity for service role performance. Because in this study, job requirements biodata were based on job analysis information, the findings support the development of biodata items based on job analysis data. In my study, the use of validated WABs and BIBs are considered as a more sophisticated selection method in my survey.

**Integrity tests**

Integrity tests, also known as written honesty tests, are a useful tool for initial screening in the personnel selection process. It is also a multimillion-dollar industry in the US. Integrity tests fall into two major categories: overt integrity tests and personality-oriented measures (Cascio & Aguinis, 2005). Overt integrity tests include two types of questions. The first type assesses a candidate’s attitudes toward theft and other forms of dishonesty and the second type deals with admissions of theft and other illegal activities. The first type of questions are more subtle than the second type of questions. Personality-oriented measures are not actually designed to measure dishonesty, but more as predictor of a wide variety of counterproductive behaviors.

Several studies have shown that the integrity test is a useful tool. For example, Ones, Viswesvaran and Schmidt (1993) conducted a meta-analytic study about the validity of integrity tests. The results showed that when integrity tests were used to predict supervisory ratings of performance, the average validity was .41 and the results for overt and personality-oriented tests were similar. However, when they were used to predict theft, the validity of integrity tests fell down to .13. Not all the researchers believe integrity tests cannot predict theft well. For instance, Bernardin and Cooke (1993) used convenience store employees as participants and found scores on two overt integrity tests successfully predicted detected theft (validity = .28).

Despite all the advantages of integrity tests, there are at least three issues about the tests that need to be noticed. The first problem is when a company uses an integrity test for all the candidates, does the company take people’s individual characteristics into consideration? Do people’s personal life themes, beliefs, or even personality affect the results of integrity tests? Not many researchers have examined this question, but it is a good topic for the future research. The second issue is whether integrity tests cause adverse impact or not? According to Ones and Viswesvaran’s (1998) research, women tend to score higher than men, and job applicants who are 40 years old or older tend to score higher than those who are younger than 40. As we can see from this study, the use of integrity tests could discriminate against men and younger applicants. So for the future research, more knowledge about the adverse impact of integrity tests is needed and how to avoid adverse impact in integrity tests. The last problem is privacy. Many people believe that these kinds of tests can invade people’s privacy and privacy should be protected even in a selection process. Especially in the United States, where privacy is treated as a very important value, more attention needs to be paid to this issue. In spite of these issues, I consider the use of integrity tests as a more sophisticated selection method in my survey because they can predict job performance.

**Cognitive Ability Tests aka General Mental Ability Tests or Intelligence Tests**

A cognitive ability test is one of the most popular types of psychological tests that has been used for humanity. There are many varieties of cognitive ability tests and they are widely used for various purposes. These tests attempt to measure a very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending one’s surroundings – “catching on,” “making sense” of things, or “figuring out” what to do (Gottfredson, 1997, p. 13). Cognitive ability is very essential for acquiring, understanding, and memorizing knowledge. It is also sometimes used as a personnel selection test. It has proven a reliable and valid predictor for future job performance.

Cognitive ability tests predict the ability to learn in both educational settings and job training. For example, Kuncel, Hezlett, and Ones’ (2004) research showed that cognitive ability measures are valid for predicting learning in education. Their meta-analysis addressed the question of whether a general cognitive ability measure developed for predicting academic performance would be valid for predicting performance in both educational and work domains. The test used to measure cognitive ability was the Miller Analogies Test. The results indicated that the cognitive ability test was a valid predictor of seven of the eight measures of graduate student performance, with an average correlation of .32, five of the six school-to-work transition performance criteria, with an average correlation of .29, and all four of the work performance criteria, with an average correlation of .37. The study also contradicts the notion that work intelligence and school intelligence are totally different.

Another study that was conducted in Europe reached a similar conclusion. Salgado, Anderson, Moscoso, Bertua, and Fruyt (2003) conducted a study about the criterion validity of cognitive ability tests for predicting job performance ratings and training success in a European community. In their study, general mental ability (GMA) and other specific cognitive abilities such as verbal, numerical, spatial-mechanical, perceptual and memory were used as measures of the participants’ cognitive ability. They found the tests of GMA and the specific cognitive abilities were very good predictors for job performance and training. Among all these cognitive predictors, GMA was the best predictor for job performance (*p* = .62) and for training success (*p* = .54). This study also compared the cognitive ability test validities of European and American samples. For job performance, the result of the European community study showed a larger operational validity than in the U.S. However, results for training success were very similar.

Vinchur, Schippmann, Switzer, and Roth’s (1998) meta-analysis study evaluated the effectiveness of several predictors to predict both objective and subjective sales performance. These predictors included biodata, potency (a subdimension of the Big Five personality trait Extraversion), achievement, age, and general cognitive ability. The objective criterion for job performance was dollar sales and the subjective criterion for job performance was supervisor rating. The results indicated that general cognitive ability correlated .40 with subjective criteria (ratings) but only .04 with objective sales. The authors suggested that the reason for such unstable results was the small sample size, but the reason for this could be because employees with high cognitive ability test scores look smarter than those who had lower scores on the cognitive ability tests. People tend to like smart people, especially supervisors. However, this kind of academic intelligence does not help to sell products very well, sometimes a person needs street smarts to sell his/her products or know how to have a good relationship with his/her clients.

Hunter’s (1986) study is one of the most important studies for cognitive ability test validation. In this study, Hunter reviewed hundreds of studies and he divided the review into three sections. The first section showed cognitive ability predicts supervisor ratings and training success. He summarized that general cognitive ability predicts performance ratings in all lines of work, though validity is much higher for complex jobs than for simple jobs. It predicts training success at a uniformly high level for all jobs. The second section showed general cognitive ability predicts objective measures of job performance. Hunter found that general cognitive ability predicts objective measures of performance better for civilian work (*r* = .75). The path analysis in this study showed that the main reason cognitive ability had a strong ability to predict job performance was because of job knowledge. General cognitive ability predicts job knowledge (*r* = .80 for civilian jobs) and job knowledge predicts job performance (*r* = .80).

Cognitive ability tests not only can be used as a good predictor for job performance and learning/training success, but they are also associated with large financial gains. In Hunter and Hunter’s (1984) research, they found that for entry-level jobs, there is no better predictor of job performance than cognitive ability tests by comparing several common selection tests. The mean validity coefficient for cognitive ability tests was .53. This result provided a strong support for using cognitive ability tests for making employment decisions. Hiring people for federal entry-level jobs based on cognitive ability tests has a utility of $15.61 billion per year, according to Hunter and Hunter, compared to hiring people at random.

Hunter and Hunter’s (1984) study also made notice of the test fairness problem. Cognitive ability tests do not treat majorities and minorities equally. Using cognitive ability tests to make hiring decision can result in adverse impact for minorities. Hunter and Hunter found that these selection tests typically produce a mean difference between African Americans and White applicants of one standard deviation.

Cognitive ability tests are one of the most effective methods for personnel selection. They can be used in other fields as well. For example, they can be used to select the best students, best scientists, and best leaders. The underlying logic is that people with high cognitive ability can learn faster, process information faster, and remember information faster than other people. However, even though cognitive ability tests are very useful, they still have limitations. Fairness should be considered as the first issue. As stated before, cognitive ability tests have adverse impact for different groups.

Another issue is whether the effectiveness of cognitive ability tests can be generalized to other countries besides America? A few studies have touched on this topic. For example, in a European study, Rindermann (2007) found that intelligence test scores correlated highly with national ability. Rindermann argued that that the differences between nations were due to known environmental and unknown genetic factors. Cognitive ability tests might have different results predicting performance in different countries. Researchers need to know whether the predictive ability of cognitive ability tests can be globally generalized.

A second issue that needs to be explored in future research is the fairness of using cognitive ability tests to make decisions about different groups of people in international studies. A third issue is whether cognitive ability tests can be used to select employees for all the jobs? The answer is not definitive yet because only a limited number of studies focused on this topic. For example, Hunter and Hunter’s (1984) research demonstrated that cognitive ability tests predicted job performance for entry-level jobs with only moderate validity. In Allworth and Hesketh’s (2000) study, they concluded that the role of cognitive ability may have been weaker than expected because many of the participants were in low complexity roles that can be relatively easily learned such as a kitchen hand. Further research should focus more on how cognitive tests have varying validity with different jobs. We can hypothesize that cognitive tests are more valid for high knowledgeable jobs than simple jobs, but does a house-keeping employee need to take a cognitive ability test? Hunter and Hunter would say yes. I am not sure what other researchers would conclude, but in my study, the use of cognitive ability tests is considered as a more sophisticated selection method in my survey.

**Personality Tests**

Unlike some other psychological tests, personality testing has been used in industry for personnel selection purposes since the 1920s. Personality tests are very interesting because, while they are widely used in the I/O psychology world, for many decades they did not have high validity for organizational criteria. There are many personality tests available for personnel selection purposes, like Cattell’s 16 PF, the California Personality Inventory, and the Myers-Briggs Type Indicator, that have been around for decades. However, today the most popular personality tests in the I/O psychology world are those based on the Five Factor Model (FFM), or Big Five Model. An example would be the Hogan Personality Inventory. The five factors are openness, conscientiousness, extraversion, agreeableness, and neuroticism (Chamorro-Premuzic & Furnham, 2010). .

Studies suggest that conscientiousness is the most valid personality dimension for predicting job performance. For example, in Barrick and Mount’s (1991) study, the relationships between the five personality dimensions and three job performances measures (job proficiency, training proficiency, and personnel data) were investigated for five occupational groups (professionals, police, managers, sales, and skilled/semi-skilled). Their results indicated that conscientiousness was the only dimension that showed consistent relationships with all the criteria for all groups. Extraversion was a valid predictor of performance for occupations that involve social interaction, such as managers and sales people. Openness to experience and extraversion were valid predictors of the training proficiency criterion. However, the correlations between the personality dimensions and job performance were not very high. They ranged from .04 for openness to experience to .22 for conscientiousness.

Tett, Rothstein and Jackson (1991) reviewed 494 studies. After correcting for unreliability in the criterion, they found that the corrected estimate of the overall correlation between personality and job performance was .24. They thought the findings showed Big Five personality tests were valid for predicting job performance. They also found the mean validities derived from confirmatory studies were higher than those derived from exploratory studies. Compared to Barrick and Mount’s (1991) study, which obtained an overall corrected correlation of .11, this study obtained a higher correlation (.24). This study also indicated that tenure was a moderator for the personality-performance relationships. Validities were higher in longer tenured samples.

The two studies mentioned above were both conducted in the United States. Researchers need to find out if the results can be generalized to other countries. Salgado’s (1997) study provides an example of how the Big Five Model is used in the European community. This study was very similar to Barrick and Mount’s (1991) study and the results were also similar. Conscientiousness was a valid predictor across job criteria and occupational groups. Extraversion was a predictor for two occupations. Openness and agreeableness were valid for training proficiency. The only important addition was emotional stability and it has been proven to be a valid predictor for all occupational groups within all criteria. Salgado’s study confirmed the Barrick and Mount’s hypothesis about emotional stability was correct.

The five-factor model of personality can also be used with other criteria, such as job satisfaction. In Judge, Heller and Mount’s (2002) research, the relationship between five-factor model of personality and job satisfaction was investigated in a meta-analytic study of 163 independent samples. They found that the estimated correlations with job satisfaction were -0.29 for Neuroticism, .25 for Extraversion, .02 for Openness to Experience, .17 for Agreeableness, and .26 for Conscientiousness. The overall correlation with job satisfaction was .41. Unlike other research, this study indicated that neuroticism had the strongest and most consistent correlation with job satisfaction, instead of conscientiousness as the strongest predictor for future job performance. This study provides another way to look into these five personality factors. Conscientiousness is not the only factor that matters.

Personality tests can also be used to predict performance in managerial jobs. Still using a five-factor personality test, researchers found the relationship between personality factors and leadership were -0.24 with Neuroticism, .31 with Extraversion, .24 with Openness to Experience, .08 with Agreeableness, and .28 with Conscientiousness (Judge, Bono, Ilies & Gerhardt, 2002). Overall, the five-factor model had a correlation of .48 with leadership. In this study, leadership was broken down to two criteria, leadership emergence and leadership effectiveness. The researchers defined leadership emergence as a leader emerged from within a group. In contrast, leadership effectiveness referred to a leader’s ability to influence his or her subordinate, which is a between-groups phenomenon. These two criteria because are useful they capture the two basic aspects of a leader, within-group leadership and between-group leadership. Compared to some former studies about this topic, this study gave more details in leadership criteria and its results showed a stronger and more consistent personality-leadership relations. Four of the five personality factors were related to leadership. Agreeableness was the lone exception. However, the study did not explain how these personality factors influence leadership.

Personality traits are also related to counterproductive behaviors. In Salgado’s (2002) study, counterproductive behaviors were defined as absenteeism, accidents, deviant behaviors, and turnover. The Big Five factors were the predictors. The results showed conscientiousness was a valid predictor of deviant behaviors and turnover. Emotional stability, extraversion, and openness were valid predictors of turnover. None of these five factors were found to be effective predictors of absenteeism and/or accidents.

After reviewing these personality-related studies, the following conclusions emerge. First, personality tests have a noticeable correlation with job performance, job satisfaction, leadership, and some counterproductive work behaviors. It is a common and useful selection tool in the I/O psychology world. Second, conscientiousness is the strongest predictor for future job performance. Third, neuroticism might have the strongest and most consistent correlation with job satisfaction. Forth, extraversion might be the most important personality factor for a leader.

The conclusions above are based on studies where a five-factor personality test was employed. Even though this is the most common type of personality test and numerous studies have determined the validity of this type of test, researchers need to explore new methods to test personality. Maybe researchers should spend less time studying the relationships between the five-factors and other variables and conduct more research about how to test people’s personality. Second, all these studies only showed a moderate correlation between personality and the criterion. No study showed a strong correlation between personality and the criterion. This becomes a problem for I/O psychologists because it is really hard to sell their idea and products to companies if they cannot convince them that the test can help them select the best candidate. Companies will resist spending money on tests with limited effectiveness. Future research should help personality tests become more practical. Third, personality can be influenced by other variables very easily. People do not always follow their personality to do things. For example, an introverted person might talk a lot if he/she becomes a seller. Personality does not capture a person’s ability to do something, only his/her preference for doing it. It is really hard to follow his/her personality all the time in the work place. Researchers

need to explore how personality traits interact with other variables, such as working environment, company culture, and/or type of job, to influence work criteria.

In my study, the measurement and use of personality dimensions, such as conscientiousness, which are known to be related to job performance are considered as a more sophisticated selection method in my survey. Even though personality measures have only moderate relationship with job performance, they can combine with other predictors to add predictive power and they have less adverse impact than other predictors.

**Work Sample Tests**

The work sample test is another useful test for personnel selection. It does not test what a person knows what to do, but tests what a person actually will do. In work samples, situations are selected to be typical of those in which the individual’s performance is to be predicted. Situations are made sufficiently complex so that it is very difficult for the persons tested to know which of their reactions are being scored and for what variables. It is hoped that the naturalness of the situations result in more valid and typical responses than those obtained from other approaches (Flanagan, 1954). Usually, two types of work samples are used. One type makes use of group exercises, which means participants are placed in a situation and the successful completion of the task requires interaction among the participants. The other type makes use of individual exercises. It means participants can complete a task independently. The leaderless group discussion, the in-basket test, business game, and situational judgment tests are examples of work sample tests. Situational judgment tests are considered a low-fidelity work sample tests because they contain a lot of job-related situations.

The effectiveness of a work sample test is based on the hypothesis that the greater the degree of point-to-point correspondence between predictor elements and criterion elements, the higher the validity (Asher, 1972). In work sample tests, specific work sample behaviors should have point-to-point relationships with the criterion. The validity of work sample tests has been demonstrated. For example, Schmitt, Gooding, Noe, and Kirsch’s (1984) meta-analytic study of research published between 1964 and 1982 found cognitive ability tests were not superior to work sample tests and personality measures were less valid. Hunter and Hunter’s (1984) study gave more support for the validity of work sample tests. They found work sample tests’ average validity coefficient was .54 for predicting promotion and/or certification. Cascio and Phillips (1979) found that performance tests not only have high validity, but they were also cost-effective.

Work sample tests have also been shown to have high face validity and acceptance. For example, Steiner and Gilliland’s (1996) study showed that work sample tests have high face validity and acceptance in both America and France. In their study, both American and French participants were asked to rate from 1 (indicated least favorable) to 7 (indicated most favorable) ten different selection methods. These ten selection methods were interview, resume, work sample tests, biographical information blank, written ability tests, personal references, personality tests, honesty tests, personal contacts, and graphology. Results showed that work-sample tests had a 5.26 face validity score for both the United States (*SD* = 1.49) and France (*SD* = 1.19). Work sample tests were also the only test that had the same scores for both countries. French and American people tended to perceive different face validity for other nine tests. For example, graphology only had a 1.95 face validity score for the United States where it is seldom used, but in France where it is used a great deal, the face validity score was 3.23. The selection method with the greatest face validity in the United States was interviews with a face validity score of 5.39. The selection method with the greatest face validity in France was work sample tests with a face validity score of 5.26. When the participants were asked the reason why they rated work sample tests so acceptable, the American participants thought the most important reason was that it gives employees the opportunity to perform. In contrast, France participants believed the most important reason was that employees believe work sample tests are logical. As we can see from the study, both country’s people prefer to use work sample tests, but for different reasons. A limitation to the study was the sample’s representativeness. Both countries’ participants were college students. We don’t know how much the college students know about personnel selection methods. Employees’ opinions about the work sample tests’ face validity should be more important than college students’.

Test fairness can always spark people’s attention. A company wants to avoid any potential bias when using a test, if possible. In the United States, the Civil Rights Act of 1990, encourages companies to use tests that avoid adverse impact for protected groups based on sex, race, color, religion, national origin, age, or disability status. Some tests like cognitive ability tests are controversial because they tend to cause adverse impact for racial minorities. However, work sample tests substantially reduce adverse impact. For instance, in a study by Brugnoli, Campion, and Basen (1979) participants were asked to evaluate a videotaped performance of a black job applicant and a white job applicant performing a relevant and irrelevant task. Results showed that race-linked bias was found only when subjects were asked to make global evaluations after observing an applicant performing an irrelevant job behavior on a task. They concluded that by using careful work sample development procedures and by assisting raters in focusing on and recording relevant behavior, potential racial bias in the use of work samples can be small.

Unlike other tests previously discussed, work sample test can imitate the real job tasks and give the applicants the chance to show their practical ability. Work sample tests do not tell HR professionals what a person can do in the future, but what a person already knows how to do now. Work sample tests have good validity and can reduce adverse impact. In summary, work sample tests are a useful selection method. Historically, work samples have been used in blue collar jobs (Muchinsky, 2009). Because my study will focus on white collar work, work samples were not included.

**Assessment Centers**

A popular selection tool for managerial jobs is assessment centers. They are not a place but a method. It is a comprehensive method that brings together many techniques and instruments. Examples of some commonly used assessment center simulation exercises are role-play, presentations, and in-baskets. It has become a popular method since American military psychologists first used it during World War II to select spies for the Office of Strategic Services. Assessment centers can be used for selection, promotion, and development planning. In the past, they were usually applied for managerial jobs because compared to other methods, assessment centers can be more time consuming and cost more money. The first industrial firm to adopt this approach was AT&T, which conducted a longitudinal study in 1956. This study was a very large and comprehensive investigation of managerial career development. Its purpose was to understand what characteristics are important to the young employee’s career development (Bray, Campbell, & Grant, 1974). Their sample contained 125 college men and 144 non-college men and the criteria included management level achieved and current salary. The predictive validities of the assessment staff’s global predictions were .44 for college men and .71 for noncollege men. The assessment center staff correctly identified 31 (82%) out of 38 college men who were promoted to middle level jobs and 15 (75%) out of 20 noncollege men. The assessment center staff also correctly identified 68 (94%) out of 72 men (both college and noncollege) who were not promoted. However, more recently, HR people have started to use assessment centers to assess a wider range of non-managerial jobs. For example, in Dayan, Kasten, and Fox’s (2002) research, assessment centers were used as a selection process for entry-level candidates to the police. It would be interesting to see how well assessment centers predict performance for other non-managerial jobs.

Assessment centers are a valid predictor of future job performance. For instance, Damitz, Manzey, Kleinmann, and Severin’s (2003) study examined the validity of assessment centers in pilot selection, a new field of application. In this study, assessment centers demonstrated criterion validity for ratings of interpersonal and performance-related skills. The results provide empirical evidence for the construct and criterion validity of an assessment center for assessing interpersonal and performance-related skills in pilot selection. Another study also tried to answer a similar question, and the results showed that an assessment center can be a vital tool to capture the interpersonally oriented dimensions of police work (Dayan, Kasten, & Fox, 2002). In this study, instead of focusing on pilot selection, an assessment center was used for entry-level police applicants. Two stages were included in the selection process. In the first stage the applicants were administered personality and cognitive ability tests. The second stage was comprised of assessment center simulations, which included a series of simulation designs and group exercises. The study had two main findings. First, assessment center performance showed a substantial contribution to the prediction of future police work performance. Second, peer evaluation contributed more than professional assessment center assessors’ ratings or written tests of cognitive ability for assessment center validity, if the peer evaluations were based on their observations of candidates during the assessment center process. Therefore, the article suggested that assessment center simulations and evaluations by peer candidates are important predictors for future police behavior success.

What is the relationship between assessment centers and traditional personality and cognitive ability tests? Collins et al. (2003) hypothesized that cognitive ability and personality traits were primarily correlated with the evaluator’s overall assessment ratings (OARs). Results showed that the correlations between OARS and cognitive ability was .67, and .50 with Extraversion, .35 with Emotional Stability, .25 with Openness, and .17 with Agreeableness. The multiple correlation was .84. A similar study was undertaken by Lievens, Fruyt, and Dam (2001). They linked personality factors and assessment center domains by scrutinizing the notes of assessors for personality descriptors and by classifying them according to Five Factor Model. Results revealed that assessors, as a group, use descriptors referring to all five personality domains. The distribution of the Big Five categories varied across assessors and exercises. For instance, the in-basket elicited the conscientiousness domain most frequently, whereas the group discussion elicited extroversion descriptors most often. Assessment center ratings can be affected by many factors. The way to design a good assessment center is an important task for I/O psychologists. Studies provide some ideas for making a well designed assessment center. For instance, Lievens and Conway (2001) reanalyzed a large number of studies (*N* = 34). They wanted to know whether assessment center data reflected a dimensional model that measured stable individual-differences attributes, such as planning, or whether the data reflected an exercise-based model, in which correlations were higher within an exercise even if it was measuring multiple dimensions. The results were mixed. They reported that assessment centers were significantly more construct valid when fewer dimensions were used and when assessors were psychologists. Future research could focus more on these other potential factors.

When assessment centers are compared to other methods, they are more expensive and harder to use. Raters need more training to know how to use assessment centers. All these factors need to be considered for the development of assessment centers in the future. Also some researchers believe that better validity can be obtained by combining several personnel selection methods together. For example, Schmidt and Hunter (1998) studied 19 selection procedures for predicting job performance and training performance. They paired general mental ability (GMA) with the 18 other selection procedures. Results showed that the three combinations with the highest validity for predicting job performance were GMA plus a work sample test (mean validity of .63), GMA plus an integrity test (mean validity of .65), and GMA plus a structured interview (mean validity of .63). This study might provide a new way to think of personnel selection methods. Instead of focusing on single selection tool, people can combine several selection methods together as a new tool.

Historically, assessment centers have been used to make predictions about managerial jobs (Muchinsky, 2009). Because my study will focus on entry level jobs, assessment centers were not included.

**Hypotheses**

Most employee selection studies focus on the validity of personnel selection methods. Only a few studies have investigated the real world application of different personnel selection methods. Because of the gap between science and practice, more research is needed on why so many HR professionals fail to employee effective employee selection methods. The purpose of this study is to identify which HR professionals are more likely to use sophisticated employee selection methods and which HR professionals are less likely to use sophisticated employee selection methods. The benefit of answering this “who” question is that I/O psychologists will be better able to direct their educational efforts to where they are most needed. Basically, I believe that larger companies and HR professionals with more education will be more likely to use sophisticated employee selection methods than their less educated peers at smaller companies. This leads to six hypotheses.

**Hypothesis one.** Companies witha higher educated top HR executive will use more sophisticated personnel selection methods than companies with a less educated top HR executive.

I would image people with different educational levels will choose different types of personnel selection methods. I believe more educated people are more likely to be aware of the more sophisticated methods because they would have more exposure to these methods from their school. In addition to learning more, I assume the more educated professionals would also be more willing to believe in academic research and, therefore, to use the research results in their real job. According to Hunter and Hunter’s (1984) study, cognitive ability tests have good predictive validity. If more educated HR executives have higher cognitive ability, then they should use more sophisticated personnel selection methods.

**Hypothesis two.** Companies witha top HR executive who graduated with an I/O psychology related major will use more sophisticated personnel selection methods than companies with a top HR executive who did not graduate with an I/O psychology related major.

I believe HR executives who graduated with an I/O psychology related major will be more familiar with all these personnel selection methods and understand the validity of each method better than other people. An executive with an I/O psychology related major will be more likely to know the advantages and disadvantages of the methods and not be afraid of using them. They will also know how to use these methods, which one works the best for certain circumstances. In Konig, Klehe, Berchtold, and Kleinmann’s (2010) study, they found high cost is one of the three reasons that cause the gap between academic research and practice in the real work place. Because I believe HR executives who graduated from different majors should have different opinions about the cost, HR executives with different majors will use different personnel selection methods.

**Hypothesis three.** Companies witha top HR executive with an HR certification will use more sophisticated personnel selection methods than companies with a top HR executive without an HR certification.

To have an HR certification, people need to study and pass the test to get it. Afterwards, they must engage in continuing education to get recertified every three years. If an HR executive has a certification, I believe he/she would have more HR knowledge and more experiences in this field, so he/she would be more familiar with these more complex selection methods and know how to use them. Also to pass the test to get the certification, HR executives should have good cognitive ability. Hunter and Hunter’s (1984) study showed the good predictive validity for cognitive ability tests. If HR executives are smart enough to get a certification, they should use more sophisticated personnel selection methods.

**Hypothesis four.** Companies witha top HR executive who belongs to more national level HR related professional organizations will use more sophisticated personnel selection methods than companies with a top HR executive who belongs to fewer national level HR related professional organizations.

I believe if a person belongs to a national level HR related professional organization, he/she usually has more opportunities to keep up with the trends of academic research because of the conferences and publications available. Thus, he/she should know more about these selection methods better and know how to use them. For example, a core I/O psychology competency for graduate training laid out by SIOP (1994) is employment selection, placement, and classification.

**Hypothesis five.** Bigger companies will use more sophisticated personnel selection methods than smaller companies.

Because bigger companies have more employees, their top HR executive is usually paid more. For more pay, they can attract HR executives with better education and experience. Also, bigger companies usually have larger HR departments with more employees and bigger budgets. With more money, the larger companies can spend more on expensive selection methods. In Konig, Klehe, Berchtold, and Kleinmann’s (2010) study, they found high cost is one of the three reasons that cause the gap between academic research and practice in the real work place. More money can reduce this gap if the company can afford the high cost. With more HR employees, the larger companies can hire HR specialists who focus on staffing, training, or compensation. Therefore, the larger companies should have HR executives and HR staffing specialists who know more about the sophisticated selection methods. In addition, the larger companies will also have the resources to use these methods.

**Hypothesis six.** Companies witha top HR executive who is better prepared will use more sophisticated personnel selection methods than companies with a top HR executive who is worse prepared. Preparation will be defined as having a combination of a more advanced degree, an I/O psychology related major, an HR certification, and belonging to more national level HR related professional organizations.

Chapter 2

METHOD

**Participants**

The population of the study was the top human resource executive at all the credit unions in the United States. These institutions and their top officers are listed in the 2001 Credit Union Directory. From this list, I first sampled the top human resource executive at the 500 largest credit unions. Because of the low response rate, I decided sample an additional 1,100 credit unions. Because the credit unions from the Mid-Western states had a higher response rate than the other states, in my initial sample group, I decided to limit my second sample group to the credit unions in Kansas, Missouri, Oklahoma, Nebraska, and Colorado. My eventual sample size was 1,600. Ninety four executives responded, a 5.9% response rate. The average number of full-time employees at these 94 credit unions was 172 (SD = 388). The largest had 3,500 employees, the smallest had 7 employees, and the median was 82 employees.

In examining the education level of the participants, 2% had only a high school degree, 17% had some college, 47% had a bachelor’s degree, and 33% had a masters’ degree. None had a doctoral degree. Regarding the type of degree, 14% of the participants had either an I-O psychology or an HR degree, 75% had a business degree, and 11% had a non-business degree. Seventeen percent of the participants had some kind of Society for Human Resource Management (SHRM) certification and 83% did not. Eighteen percent of the participants belonged to SHRM, 5% belonged to SIOP, and 77% did not belong to any national level professional organization. Seventy-one percent of the participants are a member of the senior management team and 29% of the participants are not on the senior management team.

**Design**

Because I was not manipulating any variables, I used a correlational design. The main limitation of this design is its poor ability to make causal inferences. However, the intent of this study was not to identify cause and effect relationships. Rather it was to identify the HR executives who fail to use sophisticated employee selection methods. There were five predictor variables: four measures of the HR executives’ preparedness and one measure of organizational size. There was one major criterion variable: a measure of how many sophisticated employee selection methods an organization used. The survey was pilot tested on 10 local HR practitioners who made recommendations on how to improve the survey. HR professionals were asked their opinion about the survey during a local lunch meeting on April 13, 2011, 15 surveys were handed out and received 10 surveys back. Their recommendations were used to fine tune the instruments.

**Instruments**

**HR executive preparation.** This variable was measured by the questions that were created by the researcher.Four dimensions of the HR executives’ preparation were measured. First, the HR executives were asked to indicate their highest level of education, from high school to a doctoral degree. This variable ranged from 1 (high school degree) to 5 (doctoral degree). Second, the HR executives were asked to indicate what type of academic degree they obtained for their highest degree. The responses fell into three categories: HR or I-O psychology, business related, and non-business related. Third, the HR executives were asked to indicate if they had any HR related certifications and/or licenses. The responses fell into two categories. Either they had some kind of SHRM certification or they did not. Finally, the HR executives were asked to indicate the national-level, HR related professional organizations to which they belonged. The responses fell into three categories: SHRM, Society for Industrial & Organizational Psychology (SIOP), or none. These measures appear in Appendix A.

**Size of organization.** To measure this variable, the HR executives were asked to indicate how many full time equivalent employees work for their entire financial institution. This measure appears in Appendix A.

**Employee selection sophistication.** To measure this variable, the HR executives were asked a number of questions about their employee selection practices for entry level employees (see Appendix B). These questions were created by the researcher.

1. Assigning specific weights to the applicants’ biographical data from the resumes or application forms. This was discussed in the Biographical Data section of the literature review.

2. Checking the applicants’ history from their resumes or application forms. This was discussed in the Biographical Data section of the literature review.

3. Using a cognitive ability test. This was discussed in the Cognitive Ability Tests, aka General Mental Ability Tests or Intelligence Tests, section of the literature review.

4. Using an integrity test. This was discussed in the Integrity Tests section of the literature review.

5. Using a personality test (but the latter must be based on the Big Five model). This was discussed in the Personality Tests section of the literature review.

6. Using a structured interview. This was discussed in the Interviews section of the literature review.

7. Having a standard way to score interview responses. This was discussed in the Interviews section of the literature review.

8. Training interviewers. This was discussed in the Interviews section of the literature review.

9. Combining the information from multiple sources to create a single score for each applicant. This was discussed in the Biographical Data section of the literature review.

10. Using job analysis data to develop the selection methods. This was discussed in the Biographical Data section of the literature review.

11. Having a credible strategy for reducing adverse impact. This was discussed in the Cognitive Ability Tests, aka General Mental Ability Tests or Intelligence Tests, section of the literature review.

The affirmative responses to these 11 questions were summed to create an index of employee selection sophistication. The index number was the main criterion variable.

**Procedure**

First, consent from the university’s Institutional Review Board (IRB) was obtained for using human beings in the study (see Appendix C). Then, all the participants were sent informed consent forms explaining the pertinent information of this study via email (see Appendix D). The participants received their consent form in an email letter. Within the letter was an electronic address for my online survey.

I sent 500 surveys out to the largest credit unions in all the states in the USA based on how many credit unions each state had. For example, if a state had 10% of the countries credit unions, then I sent surveys to the 50 largest credit unions in that state (10% of the sample of 500). My goal was to have my sample resemble the geographic breakdown of credit unions nationwide. I focused on the largest credit unions because they have more employees and, I hypothesized, more sophisticated selection practices. After a week I realized that my response rate was so low (only seven surveys were returned) that I would have to send out more surveys via email.

Because most of the responses came from Mid-Western states, I decided on a new strategy for my second sample. I sampled every credit union in Kansas and an equal number from the adjoining states: Missouri, Oklahoma, Nebraska, and Colorado. Participants were asked to fill them out electronically and then email the researcher back. I gave my participants about one month to finish the survey.

Chapter 3

RESULTS

**Hypotheses**

**Hypothesis 1.** The first hypothesis was that companies witha higher educated top HR executive would use more sophisticated personnel selection methods than companies with a less educated top HR executive. To test this hypothesis, a correlation coefficient was employed. The result showed that this hypothesis was supported and the correlation coefficient was moderately strong (*r* = .38, *p* < .001, *N* = 93).

**Hypothesis 2.** The second hypothesis was that companies witha top HR executive who graduated with an I/O psychology related major would use more sophisticated personnel selection methods than companies with a top HR executive who did not graduate with an I/O psychology related major. To test this hypothesis, an ANOVA was employed. The hypothesis was confirmed (*F* (2,90) = 7.345, *p* < .001). A post hoc Tukey test followed. Results indicated that HR executives who graduated with an I/O psychology or human resource major (*M* = 6.69, *SD* = 2.02) used significantly more sophisticated personnel selection methods than business majors (*M* = 4.62, *SD* = 1.72, *p* = .002) and non-business major (*M* = 3.90, *SD* = 2.18, *p* = .002). However, the personnel selection methods usage difference between business major and non-business major was not significant (*p* = .64).

**Hypothesis 3.** The third hypothesis was that companies witha top HR executive with an HR certification would use more sophisticated personnel selection methods than companies with a top HR executive without an HR certification. To test this hypothesis, an independent t-test was employed. Results showed that HR executives with an HR certification (*M* = 5.44, *SD* = 2.58) did use significantly more sophisticated personnel selection methods than HR executives without a certification (*M* = 4.64, *SD* = 1.83). Thus, the third hypothesis was not supported (*t* (94) = 2.98, *p* = .088). Although it was not significant (*p* > .05), it was close to being significant. A larger sample size might have uncovered a difference.

**Hypothesis 4.** The fourth hypothesis was that companies witha top HR executive who belongs to more national level HR related professional organizations would use more sophisticated personnel selection methods than companies with a top HR executive who belongs to fewer national level HR related professional organizations. However, the survey’s results showed that HR executives in my study only belong to either SHRM or SIOP, or they don’t belong to any of the national-level organizations at all. No participant from my study belonged to two national organizations or more. Thus, the predictor variable had three categories: SHRM, SIOP, or none. The data were analyzed with an ANOVA. The hypothesis was confirmed (*F* (2,91) = 3.56, *p* = .03). A post hoc Tukey test followed. Results indicated that HR executives who belonged to SIOP (*M* = 7.00, *SD* = 3.67) used more sophisticated personnel selection methods than those who did not belong to any of the organizations (*M* = 4.61, *SD* = 1.66, *p* = .02). There was no significant difference between HR executives who belonged to SIOP and HR executives who belonged to SHRM (*M* = 4.82, *SD* = 2.38, *p* = .08), but it was almost significant. Also no significant difference was found between HR executives who belonged to SHRM and HR executives who did not belong to any of the organizations (*p* = .91). These results did not answer the fourth hypothesis per se, but they still provided useful information.

**Hypothesis 5.** The fifth hypothesis was that bigger companies would use more sophisticated personnel selection methods than smaller companies. To test this hypothesis, a correlation coefficient was employed. The result showed that this hypothesis was not supported and the correlation coefficient was weak (*r* = .09, *p* = .40, *N* = 93).

**Hypothesis 6.** The sixth hypothesis was that companies witha top HR executive who is better prepared would use more sophisticated personnel selection methods than companies with a top HR executive who is worse prepared. To test this hypothesis, a multiple regression analysis was employed. Four predictor variables were entered into the regression: education level, type of major, HR certifications, and professional organizations. As stated earlier, education level was scored from one to five. For type of major, I-O psychology or HR received 2 points, business received one point, and non-business received a zero point. For HR certifications, a SHRM certification received one point and no certification received a zero point. For professional organizations, SIOP received two points, SHRM received one point, and no organizations received a zero point. These numbers were based on the relative means of each category on the criterion variable, the use of sophisticated personnel selection methods.

This hypothesis was confirmed. Two of the four variables were significant predictors of the use of sophisticated personnel selection methods: HR executives’ education level (*t* (90) = 2.27, *p* = .03) and their major (*t* (90) = 2.43, *p* = .02*).* Combined, these two variables were able to explain 21% of the variance inthe use of sophisticated personnel selection methods (R2 = .205). Having a top HR executive with an advanced degree in either I-O psychology or HR is the best predictor of whether that company will be using sophisticated personnel selection methods. Belonging to SHRM or having a SHRM certificate did not add any significant explanatory value. The regression formula for predicting how many of the sophisticated personnel selection methods an HR executive might use based on his/her education level and type of degree was:

Predicted Number of Methods Used = 1.63 + .656 (Education) + 1.154 (Major)

**Exploratory Analyses**

I was interested in which selection methods were used the most and the least. As can be seen in Table 1, almost all of the credit unions use resumes and interviews (98.9%) as selection methods. When using interviews, 93.6% of the companies said the interview was structured. More than 90% of the credit unions use history checks as a selection tool. The least used selection method was the use of personality tests; only 12.8% of the credit unions use personality tests. More than half of the credit unions (63.8%) use job analysis to develop their selection methods, but only 7.4% of them combined all the information into one score for all job applicants. The usages of the other four selection methods ranged from about 20% to 40%.

Table 1

*Percentage of Usage of Different Selection Methods*

|  |  |  |
| --- | --- | --- |
| Personnel Selection Methods Usage and Selection Sophistication | YES | NO |
| Resume | 93 (98.9%) | 1 (1.1%) |
| History Check | 86 (91.5%) | 8 (8.5%) |
| Interview | 93 (98.9%) | 1 (1.1%) |
| Credit Check | 40 (42.6) | 54 (57.4) |
| Cognitive Ability Test | 10 (19.6%) | 84 (89.4%) |
| Personality | 12 (12.8%) | 82 (87.2%) |
| Integrity | 20 (21.3%) | 74 (78.7%) |
| Drug Test | 34 (36.2%) | 60 (63.8%) |
| Are different pieces of information about the applicants’ experience and education assigned specific weights? | 67 (71.3%) | 27 (28.7%) |
| Are the interview questions structured? | 88 (93.6%) | 6 (6.4%) |
| Is there a standard way to evaluate and score each applicant’s responses? | 47 (50%) | 47 (50%) |
| Do your interviewers receive interview training? | 41 (43.6%) | 53 (56.4%) |

|  |  |  |
| --- | --- | --- |
| Personnel Selection Methods Usage and Selection Sophistication | YES | NO |
| If your organization uses multiple selection methods  when hiring entry level employees, is the information from the multiple sources combined in a systematic way to arrive at a single score for each job applicant? | 7 (7.4%) | 87 (92.6%) |
| Does your organization use job analysis information in the development of its selection methods for entry level employees? | 60 (63.8%) | 34 (36.2%) |
| When hiring entry level employees, does your organization employ strategies to reduce the adverse impact of the decisions? | 11 (11.7%) | 83 (88.3%) |

I also explored the relationships between the number of employees a company has and the personal characteristics of the HR executives, such as HR executives’ educational level, major, certification, and professional membership. The researcher believed that larger companies would hire better prepared HR executives. However, these hypotheses were not supported. Using correlation coefficients, results showed very weak relationships between organizational size and education (*r* = .19, *p* = .07, *N* = 92), major (*r* = .17, *p* = .11, *N* = 91), certification (*r* = .06, *p* = .59, *N* = 93) and professional membership (*r* = .06, *p* = .59, *N* = 93).

Finally, because I was interested in how HR executives keep up with their field and educate themselves about HR issues, I asked the participants to name: (a) the magazine, journal, newspaper, Internet site, etc. that they rely on the most to keep up to date with changes in the HR field and (b) the conference that they rely on the most to keep up to date with changes in the HR field. In response to the first question, ten participants named SHRM related information such as HR Magazine or the SHRM web site, five participants mentioned the Harvard Business Review, three participants indicated industry publications such as Credit Union National Association (CUNA) HR Magazine or the CU Times, two participants mentioned newspapers such as the New York Times, and one participant indicated the SIOP journal. In response to the second question, ten participants said the SHRM conference is the conference they rely on the most to keep up to data with changes in the HR field. Five of them named the SIOP conference, four of them named the CUNA conference, and one participant said various conferences.

In addition, for the open ended questions 13, 15, and 18, I asked the participants (13) if your organization uses a personality test for selecting entry level employees, what personality dimension(s) does the test measure, (15) explain how your organization quantifies and then combines the data to yield a single score, and (18) explain your organization’s strategy to reduce adverse impact. In response to the first question, five of the participants chose conscientiousness, four of them said loyalty, and one said sales aptitude. In response to the second question, two of the participants said “based on job analysis.” In response to the third question, eight of the participants said that training was their strategy for reducing adverse impact and four of the participants said their strategy to reduce adverse impact was to police violators.

Chapter 4

DISCUSSION

One purpose of the present study was to find out whether HR practitioners used the personnel selection methods that I/O psychologists have shown to be reliable and valid. Another purpose was to explore the relationships between HR executive characteristics and the use of these personnel selection methods. The relationship between organizational size and the use of these personnel selection methods was also explored.

The first hypothesis was supported. Higher educated HR executives did use more sophisticated personnel selection methods than the less educated HR executives. For my data, higher educated would mean a masters degree, as none of my participants had a doctorate. A possible explanation for this result is that people with more education are more likely to be aware of the more sophisticated methods because they learned more about these methods when pursuing their masters’ degree. Masters degrees provide more specialized training than undergraduate degrees.

Perhaps the HR executives with more education also have more cognitive ability. Because they are able to perform better on cognitive ability tests, maybe they are more comfortable asking job applicants to be tested.

Another possible explanation for this result is that people with more academic learning and professional training may be more willing to believe in academic research and use the research results in their real job. Students who pursue more

education must take more rigorous research classes and consume more sophisticated research articles for their classes.

Finally, perhaps people who pursue more formal education also pursue more informal education. Subsequently, people with advanced degrees may have more intellectual curiosity which drives them to learn about newer and better practices in their chosen profession, rather than just being satisfied with the status quo.

While it is difficult to say why HR executives with more education are more likely to use more of the sophisticated selection methods, this finding echoes Hunter and Hunter’s (1984), study which found that cognitive ability tests have good predictive validity. If more educated HR executives have higher cognitive ability, then they would be expected to do their jobs better (i.e., use better methods) for whatever reason.

For the second hypothesis, the researcher found significant results as well. The participants with degrees in I/O psychology or HR used significantly more of the sophisticated selection methods compared to business and non-business majors. This finding was not surprising because HR executives who graduated with an I/O psychology major or an HR major would, hopefully, be much more familiar with all these personnel selection methods and understand their effectiveness better than others who had never taken a class that focused on employee selection. Because knowledge is power, these executives would be more likely to use these methods because they know how well they can work and which one works the best for certain circumstances.

In Rynes, Giluk, and Brown’s (2007) study, the results suggested a significant failure of academic research to transfer to important practitioner sources of information. The practitioners’ messages are often different from the ones transmitted by academic journals. We could infer that either HR practitioners are unaware of academic research findings or that they do not always believe academic research findings.

Seventy-five percent of the participants in this study were business majors. While business majors may be exposed to a class or two about HR, apparently little sticks unless they focus on HR. Business majors learn how to control budgets and cut costs because these tactics improve the bottom line. As I mentioned in my literature review, some selection methods, such as assessment centers, can be expensive. Konig, Klehe, Berchtold, and Kleinmann’s (2010) found that high cost is one of the three reasons that cause the gap between academic research and practice in the real work place. Perhaps HR executives with an academic background in I/O psychology or HR see money spent on sophisticated selection methods as an investment that will pay off in better performance and/or lower turnover, while the HR executives with a typical business major sees these sophisticated selection methods as a cost that reduces organizational profits.

The third hypothesis was not supported in this study. I was expecting that HR executives who have a certification would use more sophisticated selection methods because usually a certification requires certain qualifications. For example, to get a SHRM’s HR certification, people need to pass the test. Only the well-prepared candidate can pass the test and receive the certification. Those who pass will have learned more during their preparation. Furthermore, to be recertified an HR executive must maintain a record of continuing education.

One explanation for the weak predictive power of a SHRM certification is that those with the certificate only need to pass a single test. This is different from pursuing a degree where one must pass numerous tests. Also, even if someone learns a lot preparing for the test, how long can he/she remember that knowledge after the test? The knowledge learned in school requires repetition, which helps the learner place the information in his or her long term memory. This might be one explanation for the non-significant result of hypothesis three. On the other hand, the results were almost significant (*p* = .088). Thus, obtaining and maintaining an HR certification may have some value, but not as much as obtaining an advanced degree in I/O psychology or HR.

Results of hypothesis four indicated that HR executives who belonged to SIOP used more sophisticated personnel selection methods than those who did not belong to any of the organizations. There was no significant difference between HR executives who belonged to SIOP and HR executives who belonged to SHRM, but it was almost significant. Also no significant difference was found between HR executives who belonged to SHRM and HR executives who did not belong to any of the organizations. As the national-level organization for I/O psychologist, SIOP did show that it impacts HR executives. The HR executives who were members of SIOP graduated with an I/O psychology degree. These sophisticated selection methods are taught in I/O psychology programs, so it was not a surprise to find SIOP members using more of the sophisticated selection methods. A core I/O psychology competency for graduate training laid out by SIOP (1994) is employment selection, placement, and classification.

The fifth hypothesis from my study was not supported. The result showed that larger companies do not use more sophisticated personnel selection methods than the smaller companies. This is not the result I was expecting. I imaged larger companies would have larger personnel selection budgets than the smaller ones, and also have more money to hire more professional and better educated HR executives. According to the results of my first and second hypotheses, HR executives with a higher educational background and with an I/O psychology or HR related major use more of the sophisticated selection methods.

However, this hypothesis was not confirmed, which means my assumptions about the larger companies was wrong. In my exploratory results, I found that the number of employees a company has was only weakly related to the personal characteristics of the HR executives, such as the HR executives’ educational level (*r* = .19) or his or her major (*r* = .17). Thus, the HR executives who earn the larger paychecks because they oversee a larger HR department and a larger organizational workforce are not necessarily better prepared, at least when it comes to their knowledge of employee selection methods. This is a disturbing finding for American business which is currently struggling in a globally competitive marketplace.

The sixth hypothesis was tested by a regression analysis. Four variables were added into the analysis: education level, type of major, SHRM certification, and membership in a nationwide HR professional organization. This hypothesis was confirmed, but only two variables were significant predictors of the use of sophisticated personnel selection methods: educational level and type of major. This result was confirmed in hypothesis one and two, but each variable was able to explain unique variance in the criterion. These two variables explained 21% of the variance inthe use of sophisticated personnel selection methods. There must be some other variables that influenced the use of sophisticated personnel selection methods, but further research will be needed to uncover them.

**Practical Implications**

Apparently, some selection methods like the resume, history checking of the resume, and the interview are very popular. More than 90% of the credit unions in my study use these methods. In contrast, some other methods, such as personality tests and cognitive ability tests, are much less popular. Less than 20% of the credit unions use these two methods. These results support Rynes, Colbert, and Brown’s (2002) findings which indicated that personality tests and intelligence tests are not welcomed by HR executives, as well as those by Drogan (2002). If Hunter and Hunter (1984) are correct in stating that the use of cognitive ability tests alone could save the federal government billions of dollars, imagine the impact the use of cognitive ability tests could have on all of American industry. And that improvement would be augmented by adding the predictive power of multiple methods. But the majority of America’s HR executives seem to lack the knowledge of or belief in these more sophisticated selection methods.

As consultants, I/O psychologists would be able to identify the companies that most need their help. These would be companies, both large and small, that had HR departments run by an executive without much formal training in I/O psychology or HR. In other words, sadly for American industry but fortunately for new I/O psychology graduates, most of the companies out there need our help.

One of the ways an I/O psychology or HR consultant could have a long lasting impact on improving the selection practices of American business would be to help companies select or promote individuals into the top HR executive position. First, the consultant could select individuals who were more knowledgeable about cutting edge selection technology. Second, the consultant could use cutting edge selection technology in the selection process, thereby exposing all of the HR executives, even those not chosen, to these methods. Third, the consultant could take the time to explain the benefits of the selection methods to all applicants.

I/O psychologists and HR experts working in academia need to disseminate their employee selection knowledge into publications that are read by HR practitioners, such as HR Magazine, and not just in academic publications, such as Journal of Applied Psychology or Academy of Management Journal. Likewise, they need to speak at practitioner venues such as the SHRM conference and not just at SIOP or at the Academy of Management.

I/O psychologists and HR experts working in large organizations may not have the opportunity to impact other organizations directly, but as scientist-practitioners they too need to disseminate their employee selection knowledge to HR practitioners. Those who have knowledge should not hoard their knowledge because there is a research-practitioner gap. In George A. Miller’s 1969 presidential address to the American Psychological Association, he encouraged his fellow psychologists to give psychology away in the interest of the public welfare.

**Limitations**

A major limitation of the current study is that the sample is biased. Random sampling was not used in this study because I was not be able to obtain a representative sample of U.S. credit unions. All my participants were from credit unions in the United States. Also I sent out roughly 69% of my surveys to the credit unions in the mid-west of America, including Kansas, Missouri, Oklahoma, Nebraska, and Colorado. Credit unions in the mid-west are usually smaller than the coastal states. Also I noticed most of the credit unions in those states are agricultural-related. So those credit unions do not represent all the credit unions in the United States. Thus, I was not able to make confident inferences about what is happening in U.S. credit unions and companies in the other industries.

Another limitation of the study was the small sample size. Even though I sent out 1,600 surveys, I only had 94 surveys returned back for my study. The response rate of my study was only 5.9%. One of the reasons for this low response rate might be the method I choose to send out my surveys. I sent out all my surveys electronically because of the limitation of time and budget. People, especially busy people like HR executives, usually ignore these kinds of online surveys. Real mail from the U.S. Postal Service might have helped my response rate. Small samples have greater standard error of measurement.

The main limitation of this study was the sample. The result might have been different if I chose a different industry as my sample. Future studies should use a different industry to survey.

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Appendix A

Predictor Variables (HR Executive Preparations and Size of Company)

**What Is Your Job Title:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Are You a Member of the Senior Management Team?**

(a) Yes, I am (b) No, I am not

**Level of Education:** Please indicate the highest level of education you obtained by circling the appropriate response.

(a) High School (d) masters degree

(b) Associate’s degree or some college (e) doctoral degree

(c) bachelor’s degree

**Degree Type:** In the highest degree that you achieved, what was your major?

Please write down your major \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Type of Certification and/or License:** Please indicate any certifications (such as SHRM’s HR Professional or Senior HR Professional) or licenses (such as a psychology license) that you hold that are related to the practice of human resources management.

Please write down your certifications and licenses:

**Professional Affiliations:** Please indicate all of the national-level professional organizations to which you belong that are related to the field of human resources management. Examples include the Society of Human Resources management, the Society of Industrial/Organizational Psychology, Training and Development.

Please write down your professional affiliations:

**Size of Your Financial Institution:** Please indicate the size of the financial institution for which you work by indicating approximately how many fulltime equivalent employees are currently employed by your entire organization.

Number = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ employees.

Please name the magazine, journal, newspaper, Internet site, etc. that you rely on the most to keep you up to date with changes in the HR field.

I read \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please name the conference that you rely on the most to keep you up to date with changes in the HR field.

I attend \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Appendix B

Criteria (Sophistication of Employee Selection Methods)

When hiring employees for **entry level jobs, such as tellers or accounting clerks,** please answer the following questions about your employee selection methods.

**1. Which of the following sources of information does your organization collect to help reach a hiring decision? Please circle YES if your organization uses that kind of information and circle NO if it does not.**

|  |  |  |
| --- | --- | --- |
| **Sources of Information** | **Uses this information?** | |
| Resumes or application forms | YES | NO |
| History checks of applicants education and job experience | YES | NO |
| Interviews | YES | NO |
| Credit checks | YES | NO |
| Cognitive ability tests (such as the Wonderlic Personnel Test) | YES | NO |
| Personality tests | YES | NO |
| Integrity tests | YES | NO |
| Drug tests | YES | NO |
| Other (please specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | YES | NO |

**2. If your organization uses resumes or application forms for selecting entry level employees, please answer the following question.**

|  |  |  |
| --- | --- | --- |
| Are different pieces of information about the applicants’ experience and education assigned *specific* weights, not just subjective estimates? | YES | NO |

**3. If your organization uses interviews for selecting entry level employees, please answer the following three questions.**

|  |  |  |
| --- | --- | --- |
| Are the interview questions structured (i.e., for a particular job, is each applicant asked the same questions)? | YES | NO |
| Is there a standard way to evaluate and score each applicant’s responses? | YES | NO |
| Do your interviewers receive interview training (such as how to accurately receive, remember, and evaluate the information they gather from the applicants) | YES | NO |

**4. If your organization uses a personality test for selecting entry level employees, what personality dimension(s) does the test measure?**

|  |  |  |
| --- | --- | --- |
| **5. If your organization uses multiple selection methods when hiring entry level employees, is the information from the multiple sources combined in a systematic way to arrive at a single score for each job applicant?**  If you answered YES, please explain how your organization quantifies and then combines the data to yield a single score. | YES | NO |
| **6. Does your organization use job analysis information in the development of its selection methods for entry level employees?** | YES | NO |
| **7. When hiring entry level employees, does your organization employ strategies to reduce the adverse impact of the decisions?**  If you answered YES, please explain your organization’s strategy. | YES | NO |

Appendix C

IRB Human Subjects Approval Form

 Appendix D

Informed Consent Cover Letter

Cover Letter for E-Mail

Dear Credit Union HR Executive,  
  
Hello, my name is Xuan Wang and I am a graduate student at Emporia State University in Kansas. I would like to ask you to complete a short survey about the employee selection practices at your institution. The survey is made up of just a hand full of questions and should take no more than ten minutes to complete. Go to [**http://www.zoomerang.com/Survey/WEB22CA8K65C6K/**](http://www.zoomerang.com/Survey/WEB22CA8K65C6K/)to complete the survey.   
  
By participating in this research project, you will help illuminate what the common selection practices are in the credit union industry, and you help me complete my master’s thesis. If you are interested in receiving a copy of the findings, you can email me at the email address listed below. I encourage you to ask for a copy of the results because that would be a good way for you to keep an eye on what your competitors are doing.   
  
To maintain your confidentiality, the results will be used for research purposes only and only summarized results of the data will be reported. If you have any questions or concerns, please feel free to contact me. Thank you for your help.   
  
Sincerely,  
  
Xuan Wang   
xwang3@emporia.edu 

I, Xuan Wang, hereby submit this thesis to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involves potential financial gain will be allowed without written permission of the author.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature of Author

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title of Thesis

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature of Graduate Office Staff Member

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date Received