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Should You Hire fluffybunny61@yahoo.com?: An Analysis of Job Applicants' Email Addresses and their Scores on Pre-Employment Assessments

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Should you hire fluffybunny61@yahoo.com?
An analysis of job applicants' email addresses and their scores on pre-employment tests

By
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Should you hire fluffybunny61@yahoo.com? An analysis of job applicants' email addresses and their scores on pre-employment tests

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Abstract

SHOULD YOU HIRE FLUFFYBUNNY61@YAHOO.COM? AN ANALYSIS OF JOB APPLICANTS' EMAIL ADDRESSES AND THEIR SCORES ON PRE-EMPLOYMENT TESTS

BLACKHURST, EVAN C., M.A. Minnesota State University, Mankato, 2011. 39 pp.

In an age where electronic mail is displacing traditional mail, email addresses are functioning as names, and names can be the basis of first impressions. What can be said about someone who applies for a job using an inappropriate email address (i.e. babyslayer666@mail.com)? The aim of this study was to determine if there are differences in job qualifications (as determined by pre-employment tests) between individuals who use appropriate email addresses to apply for jobs and individuals who use inappropriate email addresses. This study analyzed applicant email addresses in two ways. First, subject matter experts (SMEs) subjectively rated each email address for appropriateness. Second, the SMEs coded each email for content based on whether the address contained *antisocial/deviant* themes or *otherwise unprofessional* themes. The study found those who use Appropriate email addresses score higher than those who use Questionable or Inappropriate email addresses on the pre-employment measures of cognitive ability, conscientiousness, professionalism, work-related experience and overall score. Additionally, the study found that individuals who did not use either *antisocial/deviant* or *otherwise unprofessional* email addresses scored higher on each of the pre-employment tests with the exception of cognitive ability. Implications, limitations and ideas for future research are addressed as well.

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CHAPTER I

INTRODUCTION

Over the past ten years, the number of individuals who have used the Internet to search for employment opportunities has grown immensely. In 2001, careerbuilder.com, one of hundreds of online job search websites, reached 5.5 million unique visitors a month ("Company Profile: History," 2011). By 2011, traffic at CareerBuilder was over four times greater than in 2001 with 23 million unique visitors each month. CareerBuilder achieved this rate even with fierce competition from other online job search sites such as Monster, Dice and The Ladders ("About us," 2011).

Google, Inc. provides a good example of a specific organization that has seen incredible growth in the number of online applicants. In 2006, the Internet search giant received roughly 1 million job applications (Baker, 2007). In other words, Google, Inc. was receiving 2,400 applications each day and roughly 17,000 applications each week. Early in 2011, Google, Inc. set the record for most job applications in one week after announcing plans to hire 6,000 new employees (Womack, 2011). In the week after the announcement, the company received 75,000 job applications.

To deal with the mass of applications, recruiters have to resort to using quick methods to decrease the applicant pool. Veteran recruiter Brad Remillard (2010) of Impact Hiring Solutions, estimates that the average each resume is only reviewed by a recruiter for 5 to 7 seconds. This is no surprise, as research on first impressions tells us

that people quickly form first impressions based on very little information (Lindgaard, Fernandes, Dudek & Brown, 2006).

When a recruiter receives an online application, resume or cover letter from a potential employee, he or she has access to the applicant's name, geographic location, employment history and educational background. However, in many situations the first thing a recruiter will see is the applicant's email address and what might a recruiter think about fluffybunny61@yahoo.com?

In an age where electronic mail is displacing traditional mail, email addresses are functioning as names, and names can be the basis of first impressions. Bertrand and Mullainathan (2004) demonstrated that recruiters will form first impressions based on job applicants' first names. The authors mailed resumes in response to help wanted ads in Boston and Chicago. The researchers mailed identical resumes, manipulating only the first name of the applicants to be either a stereotypically "White" or "African-American" name. Across all industries, occupations and employer sizes, resumes with "White" names (e.g., Greg, Brad, Kristen, and Allison) received 50 percent more callbacks than did resumes with "African-American" names (e.g., Darnell, Jermaine, Latoya, and Tanisha). This is an example of labor market discrimination in which people unfairly received fewer opportunities simply due to the first impression of the name they were given at birth.

Short of legally changing one's name, people are stuck with their given name; however, people are not stuck with their email address. If fluffybunny61@yahoo.com thinks that his email address is negatively affecting his chances of finding a job, he can easily create a new account. In fact, according to research by Utz (2004), over 80% of

individuals have more than one email address. This leads to the question: why would individuals use blatantly inappropriate email addresses (i.e. evildemonmaggot@hatemail.com) when they apply for a job? Utz suggests that people may use email addresses that do not contain personal information due to a desire to remain anonymous. Researchers have shown that people tend to think twice before submitting their primary email address online if it contains identifying information (Utz, 2004). However, in a high stakes scenario, such as applying for a job, it seems that better applicants would understand that it is more acceptable to use an email address that contains identifying properties than one that implies, say, satanic worship.

Back, Schmukle and Egloff (2008) demonstrate that some individual differences, specifically personality traits, may be evident in one's email address. The researchers examined email addresses to determine whether independent observers could judge the personality traits of the owner. The authors obtained the email addresses and self-report personality scores for the Big 5 personality constructs and narcissism from 600 college students. They then asked one hundred independent observers to judge the personality traits of the email address using only an email address as the basis of the judgment. The researchers found that the independent observers shared similar impressions of the email owners' personality traits. Not only did the observers share similar impressions but their impressions were accurate for neuroticism, openness to experience, agreeableness, conscientiousness and narcissism. That is, for narcissism and four of the Big 5 personality traits, independent observers could accurately predict email address owner's traits.

What can be said about someone who applies for a job using an inappropriate email address (i.e. babyslayer666@mail.com)? Is it fair to say that he or she is unintelligent? Unprofessional? Inexperienced? Literature would suggest that he or she may be all three.

Cognitive Ability

Cognitive ability, or intelligence, is widely considered one of the best predictors of job performance (Hunter & Hunter, 1984). Research on cognitive ability (i.e. GMA, *g*) suggests that individuals who use less desirable email addresses may be less intelligent. Research has shown that cognitive ability is related to the ability to "fake good" on personality measures (Pauls & Crost, 2005). In other words, when asked to "fake good", individuals high in cognitive ability are able to increase their personality test scores to a greater extent than are people lower in cognitive ability because they are better able to deduce what the question is measuring and determine a socially desirable answer. Because of the link between cognitive ability and faking, this study hypothesizes that people who do not "fake good" by applying for a job with an acceptable email address will be found to be lower in cognitive ability than individuals who apply using acceptable email addresses.

Conscientiousness

Not only might an unprofessional email signal that an applicant is less intelligent, but it might mean that he or she is less conscientious as well. Conscientiousness is a personality trait that measures the degree to which an individual is responsible, dependable, organized and persistent (Barrick, Mount & Strauss, 1993). In a meta-analysis conducted by Barrick and Mount (1991), conscientiousness was found to be a

valid predictor for a wide range of job types (i.e. professionals, managers, police, salespeople, skilled, and semi-skilled workers) and criterion (i.e. dependable job behavior, performance appraisals, training evaluation, etc.). Researchers have shown that individuals high in conscientiousness tend also to be concerned with social desirability (Stöber, 2001) and impression management. Socially desirable impression management is a person's tendency to present oneself in a way that is positive or socially acceptable (Schudson, 1984). Impression management is most important in high stakes situations (Ganster, Hennessey & Luthans, 1983). Individuals will do their best to make a positive impression when something, such as an employment opportunity, is at stake. Because applying for a job is a high-stakes situation, I would expect that people high in conscientiousness would engage in impression management and use an email address that is socially acceptable. In other words, I suspect that people using appropriate email addresses to apply for jobs will score higher on a measure of conscientiousness than people applying using less appropriate email addresses.

Professionalism

Email addresses may also signal the level of the applicant's professionalism. Herbert M. Swick (2000) put it aptly when he wrote, "professionalism is like pornography: easy to recognize but difficult to define." According to Merriam-Webster, professionalism is "the conduct, aims, or qualities that characterize or mark a profession or a professional person." Though the definition of professionalism varies from industry to industry, professionalism was found to be the trait managers expected new hires to have upon entering the work force (Landrum, Hettich & Wilner, 2010). Researchers studying e-professionalism examine how employees use technology outside of work.

These researchers find that employees who score low on professionalism are more likely to use personal cell phones to make work-related calls than their more professional counterparts. Unprofessional employees are also more likely to post inappropriate status updates on social networking websites (Spector et al., 2010). With the research on e-professionalism in mind, I expect that applicants who apply to jobs using unprofessional email addresses would score lower on a measure of professionalism than applicants using acceptable addresses.

Work-Related Experience

Over the course of one's tenure working in an organization it is likely that he or she will learn what is and is not appropriate in a work setting, whether it be from a formal source, such as harassment training, or informally through socialization. For this reason, I suspect that individuals applying for jobs with appropriate email addresses to have more work-related experience than individuals using less professional email addresses because working in an organization gives an individual a sense of what is and is not acceptable in the workplace.

Current Study

If email addresses are related to the personality traits of their owners then they might also be related to other job relevant traits. The purpose of this study is to test whether applicant email addresses are related to their owner's job-related qualifications. That is, is fluffybunny61@yahoo.com less qualified than johndoe@wahoo.com?

In the current study, applicants' email addresses were analyzed in relationship to their scores on pre-employment assessment tests including cognitive ability, conscientiousness, professionalism, and work-related experience. Subject matter experts

rated the work-related appropriateness (Inappropriate, Questionable, and Appropriate) of the email addresses. They then performed a content analysis and coded the themes of the email addresses. The themes included *antisocial/deviant* themes (i.e. craziness/insanity, sexual, devil/demonic, drugs/alcohol, and bad/mean/tough) and *otherwise unprofessional* themes (i.e. self-promotion/deprecation, odd/immature, interest/hobby, relationship to other, cutesy, etc.). Finally, the addresses, ratings, content themes and test scores were collated.

List of Hypotheses

Test scores related to email "appropriateness"

- Hypothesis 1a: Applicants with Appropriate email addresses will score significantly higher on the cognitive ability measure than applicants with Questionable or Inappropriate email addresses. Additionally, applicants with Questionable addresses will score significantly higher than individuals with Inappropriate addresses.

- Hypothesis 1b: Applicants with Appropriate email addresses will score significantly higher on the conscientiousness measure than applicants with Questionable or Inappropriate email addresses. Additionally, applicants with Questionable addresses will score significantly higher than individuals with Inappropriate addresses.

- Hypothesis 1c: Applicants with Appropriate email addresses will score significantly higher on the professionalism and work-related experience measures than applicants with Questionable or Inappropriate email addresses. Additionally, applicants with Questionable addresses will score significantly higher than individuals with Inappropriate addresses.

- Hypothesis 1d: Applicants with Appropriate email addresses will score significantly higher on the overall measure than applicants with Questionable or Inappropriate email addresses. Additionally, applicants with Questionable addresses will score significantly higher than individuals with Inappropriate addresses.

Test scores related to the "antisocial/deviant" email theme

- Hypothesis 2a: Applicants with *antisocial/deviant* email addresses will score significantly lower on the cognitive ability measure than applicants without these references.

- Hypothesis 2b: Applicants with *antisocial/deviant* email addresses will score significantly lower on the conscientiousness measure than applicants without these references.

- Hypothesis 2c: Applicants with *antisocial/deviant* email addresses will score significantly lower on the professionalism and work-related experience measures than applicants without these references.

- Hypothesis 2d: Applicants with *antisocial/deviant* email addresses will score significantly lower on the overall measure than applicants without these references.

Test scores related to "otherwise unprofessional" theme

- Hypothesis 3a: Applicants with *otherwise unprofessional* email addresses will score significantly lower on the cognitive ability measure than applicants without these references.

- Hypothesis 3b: Applicants with *otherwise unprofessional* email addresses will score significantly lower on the conscientiousness measure than applicants without these references.

- Hypothesis 3c: Applicants with *otherwise unprofessional* email addresses will score significantly lower on the professionalism and work-related experience measures than applicants without these references.

- Hypothesis 3d: Applicants with *otherwise unprofessional* email addresses will score significantly lower on the overall measure than applicants without these references.

CHAPTER II

METHOD

Participants

Participants included 30,000 individuals who applied for entry level jobs in a

distribution center. As part of the application process, job applicants completed an online

battery of tests administered by SHL PreVisor, a company that specializes in pre-

employment testing. To ensure applicants' confidentiality, demographic information of

the sample was not made available to the research team.

Measures

In the current study, applicants' email addresses were analyzed in relation to their

scores on pre-employment tests administered by SHL PreVisor. The measures that the

job applicants completed were measures of cognitive ability, conscientiousness,

professionalism, and work-related experience. Additionally, the research team had

access to each applicant's overall score as determined by equally weighting applicants'

scores from the above measures as well as two others that will not be directly studied

(achievement and reliability).

Cognitive Ability. This 40-item measure of cognitive ability is used for the

selection of entry-level employees into various positions across several industries. This

scale measures an applicant's cognitive ability through the applicant's ability to follow

detailed directions in a relatively short amount of time. The cognitive ability measure has

acceptable reliability, with a Cronbach's alpha of $r = .70$. Additionally, for entry level

positions the measure has an observed criterion-related validity coefficient of $r = .15$ using a criterion of supervisor ratings of overall performance (SHL PreVisor, 2011).

Conscientiousness. The conscientiousness scale used in this study is a shortened version of the Performance Scale from SHL PreVisor's Employment Inventory. This measure is designed to discriminate between applicants who are likely to have the tendency to be aware of and follow company policies and procedures, including: working in an organized manner, returning from meals and breaks on time, and working when coworkers are not working. The shortened scale contains 33 and has been shown to have observed validity coefficient of $r = .14$ using the criterion of supervisor ratings of overall performance (SHL PreVisor, 2011). A sample item reads "You are very cautious in most things you do."

Professionalism. The Professional Potential Scale is designed to predict which applicants will be successful across a variety of jobs and industries. This measure contains biodata items that ask applicants about their past achievement, social orientation and aspirations concerning their future. Although the criterion-related validity for this measure is higher for more advanced positions, it is reasonably predictive of entry-level job performance as well, as demonstrated by the observed validity coefficient of $r = .20$ using supervisor ratings of overall job performance as the criterion. The reliability of this 15-item measure has not been directly assessed (SHL PreVisor, 2011). A sample items reads, "In the last six months, how many times have you been late for a work appointment?"

Work-related experience. This measure assesses applicants personal attributes related to success in clerical or front-line customer service positions. The items ask

applicants to reflect on their developmental influences, academic history and accomplishments in work-related situations. According to research, these types of behaviors are positively correlated with job performance in clerical or customer service positions (SHL PreVisor, 2011). For the positions of interest, the observed criterion-related validity coefficient is $r = .13$. Studies of the 22-item measure's reliability are still being conducted.

Overall score. The overall score is created by equally weighting an applicant's scores across six separate measures, including the four discussed above. Additionally, applicant's scores from a measure of achievement and reliability are also included in the overall score.

Procedure

SHL PreVisor provided a file with 30,000 email addresses stripped of their domain name (i.e., @gmail.com or @yahoo.com). The domain name was eliminated to preserve applicant anonymity. These emails were evaluated by 25 industrial and organizational psychology graduate students and one professor at Minnesota State University, Mankato. The students, who are experts in employee selection, were asked to do two things. First, these subject matter experts (SMEs) subjectively rated the addresses on their appropriateness for applying for a job. They rated the addresses on a scale where 1 = Inappropriate, 2 = Questionable, and 3 = Appropriate.

To test interrater reliability, 23 of the SMEs were asked to rate the same 100 email addresses. The intraclass correlation (absolute value) for a single measure was ICC $(3, 1) = .56$, $F (99, 2079) = 35.78$, $p < .001$. The intraclass correlation (absolute value) for average measures was $ICC (3, 1) = .965$, $F (99, 2079) = 35.78$, $p < .001$. Thus, there

were high levels of agreement among the raters regarding the appropriateness of the email addresses.

In addition to the subjective ratings of appropriateness, SMEs completed a more objective content analysis of each address. Addresses were coded for two general themes and then subdivided into more specific categories. These themes and subcategories were pre-determined by a group of SMEs who had previously examined a subset of the email addresses. The first theme is the *antisocial/deviant* theme. This theme includes email addresses that contain references to craziness or insanity, drugs or alcohol, the devil or other demonic entities, sex, and/or criminality or violence. The second theme is called the *otherwise unprofessional* theme. This theme includes addresses with references to self-promotion, self-deprecation, immaturity, hobbies/interests, relationships to others, love, inspiration, money, humor, pop-culture, "cutesy-ness", science fiction and/or "nerdiness".

Data recheck

After the SMEs had rated and coded the email addresses, pre-employment data was made available for a subset of the original 30,000 email addresses. After matching the test scores to the email address through matching applicant identification numbers and deleting duplicates, the research team was left with a sample size of 14,718.

While running descriptive analyses, it appeared that some of the email addresses (approximately 10%) had been rated carelessly. For example, some fell in the Appropriate category when it seemed as though the addresses would be seen as less than professional to a majority of people (i.e. djsmob420, uppity, gtonoffun). Likewise, some

email addresses were rated as Questionable when the addresses were simply the applicant's name (i.e. tonywalker87, donald40johnson, dschneider19).

Each of the email addresses was checked and tagged if it seemed as though it might have been rated incorrectly. Once the recheck was complete, the tagged email addresses were reexamined by a three-person panel. Using a majority rule voting system to determine the final rating of appropriateness, email addresses were placed into the correct category.

Any addresses that were moved from Questionable or Inappropriate to Appropriate were stripped of their codes. Conversely, any addresses that were moved from the Appropriate rating to another had the corresponding codes added. Once the recheck was completed, the research team ran the analyses using both the original SME ratings and the revised panel ratings and found virtually no difference in the results. Because ratings of appropriateness are a subjective measure, results were reported using the original SME ratings. These ratings would more accurately reflect the feelings of an HR professional and it seemed wrong to determine what is and is not appropriate with opinions from only three individuals. Additionally, as reported above, the original ratings were reliable.

CHAPTER III

RESULTS

Descriptive Statistics

The number of emails in each of the subjective rating categories (Appropriate,

Questionable, and Inappropriate) and in each subjective coding themes

(*antisocial/deviant, otherwise unprofessional*) are provided along with examples in Table

1. The number of emails in each of the objective coding themes and an example of each

are presented in Table 2. Descriptive statistics (means and standard deviations and

ranges) for the pre-employment tests are reported in Table 3.

Test Scores related to Email Appropriateness

Hypothesis 1a was partially supported. Using a one-way ANOVA, I found a

difference between at least two of the email appropriateness groups on the cognitive

ability test ($F(2, 14713) = 5.57, p < .01$). Using the Hochberg GT2 post hoc test to

account for the large differences in N between groups, I found a significant difference in

the hypothesized direction between applicants with Appropriate email addresses ($M =$

42.95, $SD = 28.32$) and applicants with Questionable email addresses ($M = 41.31, SD =$

28.02). The hypothesis was not fully supported because there was no difference in

cognitive ability between applicants with Inappropriate email address or applicants with

either Appropriate or Questionable email addresses.

Hypothesis 1b was also partially supported. Using a one-way ANOVA to test for

group differences, there was a significant difference between at least two of the

appropriateness groups ($F(2, 14713) = 9.18, p < .01$). Hochberg's GT2 reveals that the

difference is between applicants with Appropriate email addresses and those with either

Questionable, or Inappropriate email addresses. Applicants with Questionable (M =

44.83, SD = 28.39) and Inappropriate (M = 43.01, SD = 29.00) email addresses scored

significantly lower than applicants with Appropriate email addresses (M = 46.39, SD =

28.67). This hypothesis was not fully supported because there were not significant

differences in conscientiousness scores between applicants with Inappropriate email

addresses and applicants Questionable email addresses.

Hypothesis1c was partially supported as well. There were differences in group

means for professionalism ($F(2, 14713)$ = 10.09, $p < .001$). Using Hochberg's GT2 post

hoc test, I found that applicants with Appropriate email addresses scored significantly

higher (M = 37.41, SD = 27.84) than either applicants with Questionable" (M = 35.72, SD

= 27.82) or Inappropriate email address (M = 34.14, SD = 26.98). However, there was

not a significant difference between applicants with Questionable versus Inappropriate

email addresses. The second part of this hypothesis was fully supported ($F(2, 14713)$ =

53.79, $p < .001$). Using Hochberg's GT2 post hoc test it is clear that each group,

Appropriate, Questionable, and Inappropriate, is significantly different from both the

others. Applicants with appropriate email addresses scored significantly higher (M =

41.86, SD = 30.77) than applicants with Questionable email addresses (M = 37.34, SD =

30.06) and applicants with Questionable email addresses scored significantly higher than

applicants with Inappropriate email addresses (M = 34.16, SD = 28.96).

Hypothesis 1d was again, partially supported. Using one-way ANOVAs I found a

difference between at least two of the groups ($F(2, 14513)$ = 40.58, $p < .001$).

Hochberg's GT2 allows us to see that applicants with Appropriate email addresses scored

higher ($M = 47.11$, $SD = 28.55$) than applicants with either Questionable ($M = 43.30$, $SD = 27.59$) or Inappropriate email addresses ($M = 41.26$, $SD = 27.57$) on SHL PreVisor's scale for overall applicant score. There was no difference between applicants with Questionable versus Inappropriate email addresses for overall score.

Test Scores related to the "Antisocial/Deviant" Email Theme

Hypotheses 2a through 2d were tested with independent samples t-tests. Hypothesis 2a was not supported. There are no significant differences in cognitive ability between individuals who have antisocial/deviant emails and those who do not.

Hypothesis 2b was supported $t(14714) = 2.32$, $p < .05$. Applicants with *antisocial/deviant* email addresses scored lower on the measure of conscientiousness ($M = 42.52$, $SD = 28.63$) than applicants whose emails did not contain such references ($M = 45.69$, $SD = 28.67$).

Hypothesis 2c was fully supported. Applicants with *antisocial/deviant* email addresses scored lower ($M = 33.26$, $SD = 26.78$) on SHL PreVisor's measure of professionalism than applicants who did not include these references ($M = 36.67$, $SD = 27.82$; $t(14714) = 2.58$), $p = .01$). Likewise, applicants with the *antisocial/deviant* addresses scored significantly lower ($M = 34.61$, $SD = 28.01$) than individuals without these references ($M = 39.84$, $SD = 30.56$) on the measure of work-related experience ($t(490.29) = 3.91$, $p < .05$).

Hypothesis 2d was also supported ($t(14514) = 3.12$, $p < .01$). Applicants with *antisocial/deviant* email addresses scored lower on the overall measure ($M = 41.24$, $SD = 27.35$) than applicants who did not have these references in their email addresses ($M = 45.44$, $SD = 28.23$).

Test Scores related to "Otherwise Unprofessional" Theme

Hypotheses 3a through 3d were all tested with independent samples t-tests. Hypothesis 3a was not supported. Applicants with *otherwise unprofessional* email addresses scored no differently than did applicants without the unprofessional content in their email addresses.

Hypothesis 3b was supported. Applicants with *otherwise unprofessional* email addresses scored significantly lower ($M = 44.13$, $SD = 28.64$) than applicants without unprofessional references ($M = 46.00$, $SD = 28.67$) on SHL PreVisor's assessment of conscientiousness ($t(14714) = 3.29$, $p = .001$).

Hypothesis 3c was fully supported. Applicants with *otherwise unprofessional* email addresses scored significantly lower ($M = 35.39$, $SD = 27.85$; $M = 36.31$, $SD = 30.31$) than applicants without no references to the *otherwise unprofessional* theme ($M = 36.90$, $SD = 27.77$; $M = 40.63$, $SD = 30.48$) on the measures of professionalism and work-related experience respectively ($t(14714) = 2.74$, $p < .01$; $t(14714) = 7.12$, $p < .001$).

Hypothesis 3d was also supported ($t(14514) = 5.70$, $p<.001$). Applicants with the *otherwise unprofessional* email addresses scored significantly lower ($M = 42.81$, $SD = 27.82$) on SHL PreVisor's overall measure than did applicants whose emails were not representative of this theme ($M = 46.02$, $SD = 28.28$).

Exploratory Analyses

To determine if there are differences between individuals with professional emails (those email addresses subjectively rated as "Appropriate" by SMEs) and individuals whose email addresses contained one of the objectively coded *antisocial/deviant* or *otherwise unprofessional* subcategories, I ran a series of independent samples t-tests. For

the t-tests I used every email that fell in a certain code (so long as it had at least 100 instances) and a random sample of the same number of Appropriate emails.

There were two subcategories represented from the *antisocial/deviant* theme: sexual and criminal/violent. The results are shown below in Tables 4-8. Just as I found in the analyses above, I found no significant differences in cognitive ability between the subcategories and the random sample of Appropriate email owners. Surprisingly, I found no significant differences between those using emails containing references from the *antisocial/deviant* subcategories and those with Appropriate emails on either conscientiousness or professionalism. I did, however, find differences between individuals who used emails with sexual references and those with Appropriate email addresses for both work-related experience and the overall score.

After combining related subcategories from the *otherwise unprofessional* theme, there were 10 subcategories: self-promoting, odd/immature, hobby/interest, relationship to other, love combined with inspirational, popular culture, science fiction combined with geeky/nerdy, cutesy and "juvenile" which is a combination of four subcategories ("boy", "girl", "little" and "baby"). The results are shown below in Tables 9 through13. Much like in the analyses above, there were no significant differences on the cognitive ability measure between groups. Somewhat unexpectedly, the only subcategory of *otherwise unprofessional* emails that was significantly different for the conscientiousness measure was the "juvenile" subcategory. These individuals scored significantly lower on the conscientiousness measure than did applicants with Appropriate email addresses. There were several subcategories that scored lower than the Appropriate samples on professionalism, including the odd/immature, "juvenile", and sci-fi/geeky/nerdy

categories. Many of the subgroups scored significantly lower than their Appropriate counterparts on the work-related experience measure. In fact, the only subcategory not to score significantly lower on this measure was the science fiction/geeky/nerdy subcategory. Six of the ten subcategories in the *otherwise unprofessional* theme scored significantly lower on the overall measure, including self-promoters, odd/immature, love/inspirational, "juvenile", sci-fi/geeky/nerdy and cutesy.

CHAPTER IV

DISCUSSION

Hypotheses 1a through 1d were partially supported. People with either Questionable or Inappropriate email addresses tend to score lower on the pre-employment tests than people with Appropriate email addresses. However, contrary to my hypotheses, there were no differences between individuals with Questionable versus Inappropriate email addresses. It seems that there is not as strong a distinction between Questionable and Inappropriate email addresses as there is between Appropriate email addresses and either of the less professional groups. However, the findings are still in line with previous research on cognitive ability and faking, conscientiousness and impression management, as well as professionalism/work experience and inappropriate use of technology.

Hypotheses 2a through 2d and 3a through 3d were all supported with the exception of the cognitive ability-related hypotheses. There were no significant differences in cognitive ability between individuals with or without *antisocial/deviant* emails. The same held true for individuals with or without *otherwise unprofessional* email addresses. However, individuals with either of the less professional references in their email addresses scored lower on the other four pre-employment tests (conscientiousness, professionalism, work-related experience, and overall score). The findings for conscientiousness are congruent with previous research in that individuals who are evidently less concerned with social desirability score lower on the measure of conscientiousness. The same is true for professionalism; those who post inappropriate

status updates on social networking sites, or in this case apply for a job with a less than professional email address, score lower on professionalism than those who do not. As expected, individuals with no unprofessional references scored higher on the measure of work-related experience than those with either of the less than professional references.

Implications

The findings of the study are twofold; they are important for both employers and applicants. For employers, the findings suggest that applicants with cutesy, nerdy, or juvenile email addresses may score lower on pre-employment tests and therefore be less effective on the job than individuals who do not use these types of email addresses. Because such a large proportion of applicants use acceptable emails (56.4% of email addresses were subjectively rated as Appropriate; 76.6% of email addresses contained neither *antisocial/deviant n*or *otherwise unprofessional* themes) it may be plausible to use email address appropriateness as a screening tool. Given the link demonstrated in this research between email address appropriateness and job qualifications, it would be reasonable to screen out applicants with clearly inappropriate email addresses, so long as the organization's selection ratio is high. It is important that any organization who decides to do this be careful not to screen out protected classes (i.e. email addresses with motherhood statements, racial statements, etc.).

However, I would caution the hiring manager who wants to use only email addresses to screen applicants: check the test scores. While there are significant differences between applicants with Appropriate versus Questionable or Inappropriate email addresses, the effect sizes are not large. There is a difference of roughly ten percent between the high and low group means on the each of the measures. Thus, rather

than using email addresses to screen applicants, I suggest viewing the less than professional email address as a red-flag. In other words, let the pre-employment tests inform the hiring decision but keep an eye on individuals with less than professional email addresses throughout the hiring process.

As for applicants, I can only offer this advice: if you are using an unprofessional email address, change it. There appears to be no advantage in using an email address that is unprofessional or antisocial when applying for a job. It is likely that the recruiter will form a negative first impression of individuals who use either of these email types and there is now research that shows these individuals score lower on pre-employment measures on average compared to applicants who use more appropriate addresses. It is free and relatively easy to create a new email address so there is no excuse for applicants who choose to apply for a position using the email address like fluffybunny61@yahoo.com.

Limitations

The main limitation of this study is that the ratings of appropriateness were subjective and I used 26 subject matter experts. What is appropriate to one person may be inappropriate to someone else. In this study, it may have been better to come up with some concrete guidelines for rating the appropriateness of each email address.   Such as it is, one may look at some of the ratings and disagree with the original SME rating of appropriateness (as I did for roughly 1,500 of the ratings). However, this may not be that great a limitation, as hiring managers are forced to make subjective decisions when selecting applicants.

Another limitation of this study is that I did not have access to the hiring decision for each applicant. If I had been able to access this information I could have tested the differences in hiring rates between applicants with Appropriate, Questionable, and Inappropriate email addresses. This would have allowed for some bit of insight into whether recruiters take an applicant's email address into consideration during the hiring process.

One more limitation of this study is the absence of demographic information regarding the applicants. I suspect that many of the less professional email addresses are a byproduct of youth. I expect that younger individuals with fewer years of job experience would be more likely to have one of these less professional email addresses. However, without access to the applicants' age or gender, I could not make any conclusions regarding what types of applicants are more or less likely to have inappropriate email addresses.

Future Research

The possibilities for future research in this area are vast and exciting. Researchers could examine topics such as recruiters' impressions, hiring decisions, and job performance in relationship to applicants' email addresses. Research on recruiters' impressions could be done by giving subjects equivalent resumes sent from different email addresses and testing recruiters' preferences. Examining hiring decisions in relation to applicants' email addresses would allow researchers to determine whether applicants with appropriate email addresses are selected at a higher rate than applicants with less appropriate email addresses. Finally, testing the relationship between applicants' email addresses and their on-the-job performance would allow researchers to

determine whether it is valid to select or screen out applicants based on their email address.

Conclusion

Exploring the relationship between applicants' email addresses and various personnel selection measures and metrics will allow researchers and practitioners to better understand the differences between applicants with professional versus unprofessional email addresses. Moreover, conducting further research related to applicant email addresses may allow practitioners to validly incorporate applicant email addresses into a selection system, including a weighted application blank.

References

Back, M. D., Schmukle, S. C., & Egloff, B. (2008). How extraverted is

    honey.bunny77@ hotmail.de? Inferring personality from e-mail addresses.

    Journal of Research in Personality, 42, 1116-1122.

Baker, L. (January 24, 2007). *Google receives 1,000,000 job applications a year*.

    Retrieved from http://www.searchenginejournal.com/google-receives-1000000-

    job-applications-a-year/4308

Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job

    performance: A meta-analysis. *Personnel Psychology*, 44, 1-26.

Barrick, M. R., Mount, M. K, & Strauss, J. P. (1993). Conscientiousness and

    performance of sales representatives: Test of the mediating effects of goal

    setting. *Journal of Applied Psychology*, 78, 715-722.

Bertrand, M. & Mullainathan, S. (2004). Are Emily and Greg more employable than

    Lakisha and Jamal? A field experiment on labor market discrimination. *The

    American Economic Review*, 94, 991-1013.

Careerbuilder, (2011). About us. Retrieved from http://www.careerbuilder.com/share/

    AboutUs/ default.aspx

Careerbuilder, (2011). Company profile: History. Retrieved from http://www.

    careerbuilder.com/share/aboutus/profile_history.aspx

Ganster, D. C., Hennessey, H. W., & Luthans, F. (1983). Social desirability response

    effects: Three alternative models. *Academy of Management Journal*, 26, 321-

    331.

Hunter, J. E., & Hunter, R. F. (1984). Validity and utility of alternate predictors of job

      performance. *Psychological Bulletin*, 96, 72-98.

Landrum, R. E., Hettich, P. I., & Wilner, A. (2010). Alumni perceptions of workforce

      readiness. *Teaching of Psychology*, 37, 97-106.

Lindgaard, G., Fernanades, G., Dudek, C., & Brown, J. (2006). Attention web designers:

      You have 50 milliseconds to make a good first impression! *Behavior and*

      Information Technology, 25, 115-   126.

Remillard, B. (January 18, 2010). *How recruiters read resumes in 10 seconds or less*.

      Retrieved from http://www.impacthiringsolutions.com/careerblog/2010/01/18/

      how-recruiters-read-resumes-in-10-seconds-or-less/

Schudson, M. (1984). Embarrassment and Erving Goffman's idea of human nature.

      Theory and Society, 13, 633-648.

SHL PreVisor (2011). Test manual technical appendices.

Spector, N. D., Matz, P. S., Levine, L. J., Gargiulo, K. A., McDonald, M. B., &

      McGregor, R. S. (2010). e-Professionalism: Challenges in the age of

      information. *The Journal of Pediatrics*, 156, 345-346.

Swick, H. M. (2000). Toward a normative definition of medical professionalism.

      Academic Medicine, 75, 612-616.

Utz, S. (2004). Enter your e-mail address: How German Internet users manage their e-

      mail addresses. *CyberPsychology & Behavior*, 7, 241-246.

Womack, B. (February 3, 2011). *Google gets record 75,000 job applications in a week*.

      Retrieved from http://www.businessweek.com/news/2011-02-03/google-gets-

      record-75-000-job-applications-in-a-week.html

Table 1. Subjective Ratings by Objective Codes

Objective code	Inappropriate	Questionable	Appropriate	Total
Not Antisocial & Not Unprofessional	4	2983	8285	11272
	"MOMMADOG94"	"markmcswine"	"jameshanson90"	
Antisocial	394	27	12	216
	"badazz1624"	"mad_matt1985"	"breed_williams71"	
Unprofessional	588	2423	2	3013
	"bigdaddyflapjack"	"drummergirl17"	"mrs_shellyslater"	
Total	986	5433	8299	14718

Table 2. Number of email addresses in each objective theme and subtheme

Overall Theme	Subtheme	Total Number	Percentage of total	Example
Antisocial		433	2.9%	
	Craziness/insanity	73	0.5%	"insanekid2011"
	Sexual	180	1.2%	"free2rocku"
	Demonic/devil	38	0.3%	"lilwhitedevil"
	Drugs/alcohol	54	0.4%	"eightballjunkie"
	Bad/mean/tough	136	0.9%	"megabeastzombie"
Otherwise Unprofessional		3230	21.9%	
	Self-promotion	737	5.0%	"bballstud_23"
	Self-deprecation	24	0.2%	"imatool1"
	Odd/immature	522	3.5%	"tummyfart"
	Interest/hobby	1000	6.8%	"beatles4ever"
	Relationship to other	163	1.1%	"bestdadever12"
	"Love"	49	0.3%	"onelove67"
	Inspirational	116	0.8%	"servent4christ"
	Money	26	0.2%	"moneyhungry783"
	Funny	512	3.5%	"mykidcanbeatupyourkid"
	Popular Culture	184	1.3%	"ilovelamp45"
	"Dog" or "Dogg"	35	0.2%	"pdogg7"
	"Big"	64	0.4%	"bigpapameatloaf"
	"Baby"	44	0.3%	"babyjay619"
	"Boy" or "boi"	60	0.4%	"doughboy1224"
	"Girl"	53	0.4%	"phatgirlallie"
	"Lil" or "Little"	66	0.4%	"lilquiz101"
	Sci-Fi	46	0.3%	"cyborg8679"
	Geeky/Nerdy	106	0.7%	"bluephoenix85"
	Cutesy	419	2.8%	"teddybear2135"

*Total number of subthemes outnumbers total for overall theme due to emails containing more than one subtheme code

Table 3. Means and standard deviations for pre-employment measures

Measure	Mean	SD	Possible Range	Actual Range
Cognitive ability	42.30	28.17	0-100	0-99
Conscientiousness	45.59	28.67	0-100	0-100
Professionalism	36.57	27.79	0-100	0-100
Work-related experience	39.68	30.50	0-100	0-100
Overall score	45.31	28.21	0-100	0-100

Table 4. Group differences on the cognitive ability measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Sexual	180	40.56	44.09	.239
Bad/mean/tough	136	44.92	41.89	.362

Table 5. Group differences on the conscientiousness measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Sexual	180	39.97	43.42	.249
Bad/mean/tough	136	43.79	49.65	.098

Table 6. Group differences on the professionalism measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Sexual	180	34.47	38.90	.123
Bad/mean/tough	136	31.93	35.12	.330

Table 7. Group differences on the work-related experience measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Sexual	180	30.03	42.76	.000***
Bad/mean/tough	136	36.26	37.82	.662

***$p < .001$.

Table 8. Group differences on overall measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Sexual	180	37.66	49.47	.000***
Bad/mean/tough	136	42.59	45.34	.436

***$p < .001$.

Table 9. Group differences on cognitive ability measure between code groups and random sample of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Self-promotion	737	42.48	43.13	.661
Odd/immature	522	42.32	42.12	.914
Interest/hobby	1000	44.01	42.34	.184
Relationship to other	163	41.97	42.88	.773
Love/inspirational	165	40.34	43.29	.338
Popular Culture	184	43.35	43.38	.991
"Juvenile"	211	41.31	40.33	.717
Sci-Fi/ Geeky/Nerdy	141	40.36	44.52	.197
Cutesy	419	40.60	43.25	.183

Table 10. Group differences on conscientiousness measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Self-promotion	737	42.64	45.30	.077
Odd/immature	522	45.85	47.00	.518
Interest/hobby	1000	43.65	45.90	.080
Relationship to other	163	49.18	43.96	.100
Love/inspirational	165	41.12	45.38	.184
Popular Culture	184	43.46	45.82	.432
"Juvenile"	211	37.55	44.99	.007**
Sci-Fi/ Geeky/Nerdy	141	44.92	46.75	.562
Cutesy	419	42.19	44.47	.246

** $p < .01$.

Table 11. Group differences on professionalism measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Self-promotion	737	35.98	35.56	.773
Odd/immature	522	35.19	38.95	.028*
Interest/hobby	1000	37.01	36.77	.844
Relationship to other	163	39.82	38.44	.660
Love/inspirational	165	32.90	36.85	.198
Popular Culture	184	35.24	39.34	.159
"Juvenile"	211	30.95	41.13	.000***
Sci-Fi/ Geeky/Nerdy	141	32.57	41.45	.007**
Cutesy	419	32.52	35.48	.113

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 12. Group differences on work-related experience measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
Self-promotion	737	34.75	41.82	.000***
Odd/immature	522	37.06	41.35	.024*
Interest/hobby	1000	37.62	41.27	.008**
Relationship to other	163	36.89	41.71	.168
Love/inspirational	165	32.97	41.28	.016*
Popular Culture	184	36.25	42.17	.069
"Juvenile"	211	28.55	43.25	.000***
Sci-Fi/ Geeky/Nerdy	141	39.26	45.85	.070
Cutesy	419	34.72	42.18	.000***

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 13. Group differences on overall measure between code groups and random samples of professional group

Code Group	N	Code Group Mean	Professional Group Mean	Significance Value
"Juvenile"	209	36.21	46.29	.000***
Sci-fi/Geeky/Nerdy	136	42.27	51.83	.004**
Love/inspirational	157	38.26	46.83	.006**
Cutesy	416	40.21	45.63	.006**
Self-promotion	724	42.63	46.42	.012*
Odd/immature	518	43.22	47.15	.026*
Popular Culture	182	43.00	48.35	.085
Interest/hobby	994	44.09	46.06	.125
Relationship to other	162	45.35	45.71	.911

*p < .05; **p < .01; ***p < .001.