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Final Thesis

**THE EFFECT OF SCENTS ON PERCEIVED
EMPLOYABILITY OF JOB APPLICANTS**

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1. Introduction

Imagine you finally got the call for a job interview in that company you have always aimed to work for. You are pleased, but very anxious about the face-to-face interview you will have with HR in a couple of days. You immediately decide to plan how to best address the interview: it is a one-shot game, and you do not want to give a negative first impression. You will probably start by reading the job description and person specification the company posted on LinkedIn again, then you will try to learn something more about the company or maybe you will attempt to gain insights from some connections of yours that work for that firm. Finally, because you really believe you are having an important opportunity for your future career, you will make sure to have the most appropriate outfit and, why not, to wear your favourite perfume.

These are actions that everyone of us will likely repeat several times in their career, sometimes successfully, sometimes not. Sometimes we will blame the interviewer for our failure, sometimes we will blame our anxiety or our poor attire. For sure, we would never think that smells could play a role in the decision made by the company's recruiter.

While scholars are increasingly studying the role smells and perfumes play in social contexts, there is still little evidence on the impact odours have in the workplace and in the personnel selection process. The aim of this master's dissertation is to investigate the effect scents may have on employability of job applicants, through a review of the existing literature on the topic and the analysis of the result of an experiment designed at the University of Western Australia, Perth.

The discussion of the topic will begin in the first chapter (2. Literature Review) with an exhibition of the existing literature, comparing and contrasting the main findings of the minimal previous research conducted on this topic.

Following, section "3. Experiment Design and Test" will present the research project featured in this dissertation: an experiment that tries to add new knowledge on the role scents play on the perceived employability of job applicants. The aim of this experiment is to investigate whether pleasant or unpleasant smells do or do not have an impact on the way recruiters make their hiring decision. This experiment designed in collaboration with prof. A. Timming was part of a research

project I undertook during Semester 1, 2019 at the Business School of the University of Western Australia. The study was designed following the guidelines given by Dr. N. Roulin of the Saint Mary's University, Canada, and subsequently adapted to our research needs.

Section "4. Results Analysis" will then discuss the main findings of the experiment I ran in Perth, Western Australia between April and June 2019. Interestingly, while as expected unpleasant scents negatively impacted a candidate's employability score, it seems like pleasant scents (e.g. perfume, cologne, aftershave) did not increase the chances the applicant had of getting a job. Moreover, we investigated the relationship between scents and personality of the recruiter and how that might impact a candidate's employability score during a first-time face-to-face interview.

The following chapter (5. Considerations on Methodology and Criticalities) will report the main issues faced during this research project and will discuss in depth advantages and disadvantages of the experimental approach to social sciences. The discussion of the topic will be done reporting the contrasting opinions of scholars, also considering the potential application of their advice to our research project.

The conclusive chapter of this dissertation will highlight the key implications of the findings for both recruiters and job applicants, followed by some ideas for a further investigation of the role scents play in the selection process. Moreover, this section will present some of the challenges I encountered at the University of Western Australia, with a focus on the new knowledge I gained thanks to this research experience.

Before starting with the first chapter, there is one question that might arise in the reader's mind: why should this topic be worthy of being examined?

In fact, scientific literature regarding personnel selection is increasingly interested in determining how to find the best fit for a job position avoiding the influence of factors irrelevant to job performance. For example, appearance of a candidate (e.g. age, gender, race or even attire) has been often proven to influence hiring decision of recruiters, most of the times in an unconscious way. Therefore, it is important for recruiters to be aware of these biases during face-to-face interviews, in order to avoid risks of discrimination and suboptimal hiring decision.

While some topics have been investigated in depth, scholars seldom studied how scents could bias recruiters. Nevertheless, risks of hiring discrimination led by our olfactory system could be as dangerous as the ones given by our sight or our hearing (see Timming A. 2015, 2017). Consider this situation: we can imagine that some recruiters might decide not to hire an applicant just because of their smell of tobacco cigarette, since smokers are increasingly perceived as having higher absenteeism and lower productivity. This behaviour also opens a discussion on whether it is ethical or unethical making such discrimination, since national regulations do not protect smokers from hiring biases.

Finally, the topic discussed in this dissertation is quite peculiar and therefore has not been previously investigated by scholars using an experimental approach: it will be interesting to understand to what extent our assumptions about the effect of scents on perceived employability will be validated or not by experimental results.

2. Literature Review

Scents are the first sensory cues to have a direct neural pathway to the limbic system of our brain (Doucé and Janssens, 2011). The limbic system is one of the oldest parts of the brain and also responsible for memory and emotion (Shepherd, 2005) with regions closely connected to the olfactory system (Swenson, 2006). In fact, according to Doucé and Janssens (2011), about 75 percent of our emotions are influenced by smell. During a job interview, the initial emotional reaction of the recruiter is critical as people base their first impressions of others on whatever information is available to them within the first 39 milliseconds (Bar et al. 2006). While odour has been studied very little by social psychologists so far, the few existing studies by Baron (1981, 1983, 1986), Sczesny et al. (2002) and Riach et al. (2015) found that our sense of smell plays an important role in person perception during job interviews.

This Literature Review will expose the few existing studies on the topic, trying to answer the following questions:

Do males and females have a similar feeling for smells in the working context? Some studies and articles I have read while designing the experiment (i.e. Baron 1983, 1986; Sczesny and Stahlberg 2002) have proved that males and females judge perfumes in diverse ways in relation to job applicants. According to Baron (1983), males assign lower ratings to job applicants that wear perfume or cologne, but the opposite is true for females. Moreover, the same study highlights that males present greater difficulty in ignoring applicants' appearance (smells included) when judging a person's job-related characteristics (see section 2.1.2).

Do distinct cultures and work contexts affect the way smells are perceived? An interesting qualitative research by Riach et al. (2015) suggests that the working context deeply affects the way an employee should "smell". In white collar jobs, usually the strengths of perfumes and aftershaves should enable a "neutrality of smells" in the workplace, that in simple words means always fit within the context and avoid excesses of perfumes. As no earlier studies have considered a restaurant environment, it will be interesting to see if participants in our experiment considered wearing cologne an appropriate behaviour for a waiter. Interestingly, one participant in the experiment conducted for this dissertation suggested that he deliberately considered the applicant wearing cologne as less suited for a role as waiter: "I would prefer to be served by someone with a neutral

odour: I wouldn't like to have the aroma of my food being covered by someone's perfume!". Besides working culture, ethnic background could also play a significant role in defining how the same scent is perceived by individuals with different geographical origin. During the collection of data, I had the chance to run the experiment with UWA students having diverse ethnic backgrounds: when not Australian, many of them were Asians. It will be interesting to understand if there is a statistically significant difference in how these two ethnical groups react to scents (see section 4.2).

One last question: *do personality traits impact how recruiters make their choices?* To test that, we decided to insert a 44 items personality questionnaire at the end of the experiment. The Big Five Inventory test (B.F.I.), developed by O.P. John at the University of Berkley, California assesses the personality of an individual based on "Big Five" traits: openness, conscientiousness, extraversion, agreeableness and neuroticism (see section 2.3).

2.1 Perfume and Cologne in Personnel Selection

Does perfume help candidates in getting the job position they applied for? Or, on the contrary, is it better to have a "no-perfume condition" during a job interview?

To answer these questions, the previous literature written on the topic will be exposed taking a broad perspective first, to get an idea of what role perfume plays in human social relations (paragraph 2.1.1). The subsequent paragraphs (2.1.2 & 2.1.3) will contextualise the role artificial scents play in the recruitment process.

2.1.1 The role of artificial smells on attraction and social perception

According to Baron (1981), scent has an effect on at least two aspects of social interaction: the first one is attraction, the second one is social perception. About the first aspect, research suggests that it is likely that pleasant aromas enhance interpersonal attraction, since positive stimuli have an impact on the liking of individuals (Byrne & Clore, 1970). Baron experiment's findings only partly support the previous literature, since he found out that during a first meeting perfume increases attraction toward others only when confederates dressed informally. When confederates dressed neatly, in contrast, the presence of perfume seemed to reduce attraction toward the counterpart.

Turning to social perception, Baron tried to figure out if perfume has an influence on other confederate's traits that in turn impact the social acceptance (i.e. their liking) during a first meeting. Results on social perception were similar to the ones on attractiveness suggesting correlation between the use of scents and the liking for the counterpart. Anyways, the relationship between perfume and attractiveness/liking of a person is not straightforward, but it appears to be mediated by other factors, such as the attire.

Table 1. Mean Ratings of Liking for the Confederates and of the Confederates' Attractiveness

Mode of Dress	<i>Liking for the Confederates</i>		<i>Confederates' Attractiveness</i>	
	No Perfume	Perfume	No Perfume	Perfume
Informal	5.09 _a	5.87 _b	4.87 _a	5.50 _b
Neat	5.58 _b	5.00 _a	5.67 _b	4.91 _a

Note: Means within each dependent measure that share a common subscript do not differ significantly ($p < .05$) by Duncan multiple-range test.

SOURCE: BARON, 1981

In conclusion, according to Baron perfume has an important role on the first impression we make of a person we do not know. But this impression is mediated by other factors (e.g. the attire) in a complex game. One possible explanation could be that when we are in front of a person that is both wearing a pleasant scent and dressing neatly, we tend to perceive s/he as “too much of a good thing”. This English expression is used when we want to say that something pleasant becomes unpleasant because someone has too much of it (Cambridge Dictionary, 2019), such as the case of a person both being dressed formally and wearing a pleasant scent: some recruiters might judge her as overly concerned with her appearance in a job interview situation. Thus, “unquestioned faith in the benefits of perfume and cologne [...] does not seem justified” (Baron, 1981).

2.1.2 The role of pleasant artificial scents in personnel selection

The findings mentioned in the previous paragraph could also be applied for face-to-face job interviews, when the choice of a candidate of wearing perfume or not could have an impact on their perceived employability. Again, Robert A. Baron is one of the few academics that before us studied

the role scents have in work-related settings: on this matter, he wrote a paper in 1983 entitled "Sweet Smell of Success? The Impact of Pleasant Artificial Scents on Evaluations of Job Applicants".

In this research, he tested how the use of perfume/cologne could alter the recruiter's perception of a job applicant. According to the author, while it is true that advertisements indicate among the benefits of perfumes their ability to enhance one's attractiveness and thus contribute to both personal happiness and career success, there is no empirical proof of such a relation.

While in his 1981 paper Baron analysed the role of perfume in social settings and in combination with attire, in his 1983 paper he investigated the use of perfume during employment interviews focusing on the sex of the recruiter. According to his article, past research on related topics suggests that scents could impact the recruiter in two dissimilar ways:

First, because perfume and cologne are pleasant, they may induce positive moods among interviewers. These reactions, in turn, may enhance liking for interviewees (Clore & Byrne, 1974). Second, the use of artificial scents may lead interviewers to make negative attributions about the traits of people who use them (see Harvey & Weary, 1981). For example, individuals who wear perfume or cologne to a job interview may be perceived as overly concerned with their appearance or as manipulative.

BARON, 1983

But Baron did not find any evidence of the patterns stated above, on the contrary he believes that males and females interviewers are affected in conflicting ways by pleasant scents worn by job applicants. In fact, results of his experiment on job-related dimensions demonstrate that male interviewers rated significantly lower interviewees when they were wearing perfume/cologne, compared to females.

It looks like female interviewers are positively impacted by pleasant scents not only when judging job-related dimensions, but also when assessing personal characteristics of the applicant, such as their intelligence or friendliness. In fact, female recruiters rated interviewees significantly higher on personal dimensions when wearing scents ($M=5.3$ on a 1 to 7 scale) compared to when not wearing them ($M=4.08$). The opposite can be said for males: $M=5.44$ with scents and $M=6.1$ without scents.

Consistently with the previous findings, the rating of self-performance as interviewers differs between genders too, since males were less satisfied with their choice when assessing a candidate wearing perfume or cologne.

Moreover, males on average reported being affected to a greater degree by applicants' personal appearance ($M=4.47$) than did females ($M=3.88$).

How can we connect all these contrasting findings? Scents used in the experiment were judged as pleasant by both males and females: therefore, it is not the scent itself that shapes the opposite reaction seen among the two genders, but the overall role scent plays in the selection process. According to Baron's view, male interviewers seem on average more concerned by the risk that perfume could interfere with their hiring decision: this in turn caused them to experience annoyance or resentment toward the applicants for making use of these substances, and so to downgrade these candidates on several key dependent measures.

In conclusion, the author found that on average the gender of the interviewer has an impact on the way pleasant scents are perceived. This meaning that wearing perfume or cologne during a job interview could be an advantage if the recruiter is a female but could be a disadvantage if it is a male.

2.1.3 The role perfume plays in exacerbating gender stereotypes

While the research mentioned so far consider how gender of the recruiter and use of artificial scents can impact the hiring decision, one article written by S. Sczesny and D. Stahlberg (2002) discusses the possible influence of perfume and cologne in exacerbating gender stereotypes during the selection process.

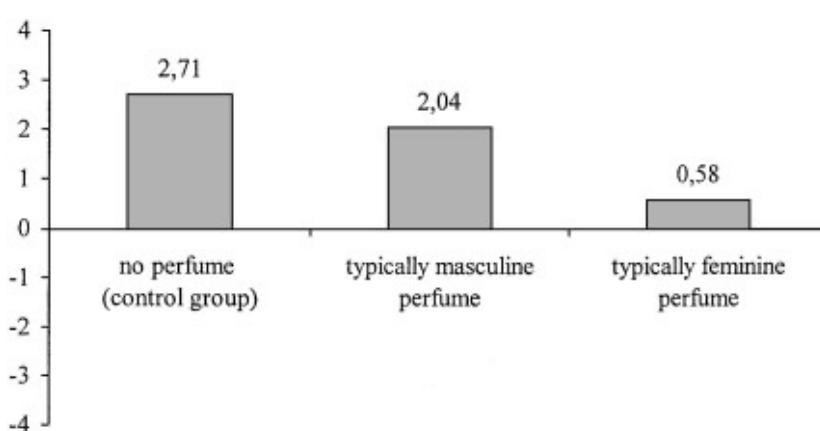
They design two different experiments to investigate if scents have the same role that biological sex and other physical cues have in activating genders stereotypes, such as the one about being an effective leader. Many researchers found that the phenomenon called "think manager—think male" is real and has an impact on the way leadership position are filled in organisations (e.g. Brenner, Tomkiewitz, & Schein, 1989; Massengil & DiMarco, 1979). Therefore, in their experiments Sczesny and Stahlberg expected stereotypically masculine and stereotypically feminine perfumes to trigger significantly different responses by perceivers. Applicants associated with a typically masculine perfume should be employed with a higher degree of certainty than applicants associated with a

typically feminine perfume, because of the activation of the male stereotype and in correspondence with the phenomenon ‘think manager—think male’. Moreover, they investigated if the use of scents has a positive effect in the employment of applicants compared to a no-perfume situation.

In the first of their two experiments, participants had to make a hiring decision for an entry level management role only assessing the CV and Cover Letter of the job applicants, without meeting them directly or without having a chance to hear from them. Perfume was sprayed directly on the paper sheets the participants had to read and evaluate¹. The experiment was based on a 3 (perfume: typically masculine versus typically feminine versus no perfume) X 2 (sex of stimulus person: female versus male) design. The CV and Cover Letter used were containing the exact same information for both male and female applicants, the only difference was in the name and gender of the candidate written on top of it.

The results (Figure 1) are partially validating the hypothesis made by the two academics: participants in the experiments were more favourable to hire a job applicant when in presence of a typically masculine cologne ($M=2.04$ on a scale ranging from -4= high certainty of refusal, to +4= high certainty of employment) rather than in presence of a typically feminine perfume ($M=0.58$).

Figure 1. Main effect of perfume in Experiment 1 (application papers): means of certainty of employment decisions (scale ranging from -4=high certainty of refusal to +4=high certainty of employment)



SOURCE: SCZESNY AND STAHLBERG, 2002

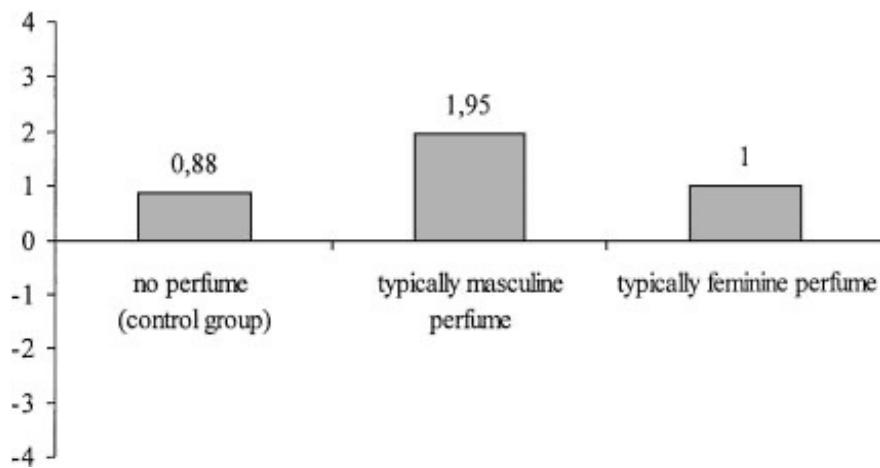
¹ The design of Sczesny and Stahlberg’s experiment is similar to the one adopted by our own experiment, that will be presented in the second part of this dissertation.

One unexpected finding was regarding the fact that the absence of any scents was the most favourable condition for the job applicants ($M=2.71$), even if the comparison reached no statistical significance. This result is in line with the findings of some previous research, especially the one by Baron (1981) that pointed out how fragrance may be seen sometimes as “unprofessional” or “too much of a good thing”. This perception could have been amplified by this first experiment by Sczesny and Stahlberg, because scents were used in isolation from other cues (such as physical appearance of the job applicant) rather than in combination with them.

Moving to the second part of this research, the two academics decided to simulate face-to-face job interviews using one male and one female actors as candidates for an entry level managerial role. The aim was to study how other physical cues interact with perfume and gender in hiring decisions.

As postulated, persons with a typically masculine perfume ($M=1.95$) were employed with a higher degree of certainty than persons with a typically feminine perfume ($M=1$). Regarding the comparisons of perfume versus non-perfume condition, applicants wearing a typically masculine perfume were employed with a higher degree of certainty than applicants without perfume ($M=0.88$), while the comparison between the no perfume versus typically feminine perfume condition did not reach statistical significance (see Figure 2).

Figure 2. Main effect of perfume in Experiment 2 (job interviews): means of certainty of employment decisions (scale ranging from -4=high certainty of refusal to +4=high certainty of employment)



SOURCE: SCZESNY AND STAHLBERG, 2002

Interestingly, in this second experiment it looks like the use of typically masculine scents in combination with other physical cues, as it is the case in real-life job interviews, has a positive result for male applicants. This result is opposite to the one we saw in the previous experiment, in where perfume sprayed on CVs has been proved unfavourable to candidates.

In conclusion, according to Sczesny and Stahlberg's article, it is clear that artificial scents have a role in the selection process: wearing a masculine scent helps the candidate in getting a more positive evaluation by the recruiter. Anyways, there was an inconsistency among their 2 experiments when it comes to assess if wearing or not a perfume helps a candidate during a job interview. From their findings, the use of perfume during a face-to-face interview (experiment 2) clearly showed a benefit of wearing a scent versus not wearing it (see Figure 2).

Summing up, the articles cited above discuss different aspects of the role scents play in the selection process. However, these studies get to different conclusions when it comes to assess whether perfume benefits or not candidates. There is one last quantitative study in the literature of the subject that deserves to be mentioned, and once again it is an article published by A. Baron, the academician who has most studied the role scents have in personnel selection.

2.1.4 When perfume is “Too much of a good thing”

In his 1986 academic article, Baron further investigates the “too much of a good thing” paradigm.

As several previous studies suggest (e.g. Cash, 1985; Dipboye et al., 1977), physically attractive persons and those who adopt a professional style of dress or grooming do often gain an important edge in hiring decisions. Moreover, individuals seeking employment frequently attempt to emit positive nonverbal cues during job interviews. In this way, they hope to transmit an impression of friendliness or personal warmth to the interviewer. Empirical evidence suggests that if used with care, such cues can strongly enhance the ratings received by applicants (Imada & Hakel, 1977).

However, wearing perfume in combination with other positive cues as a tactic to enhance self-presentation (i.e. changes in grooming or attire, emission of positive non-verbal cues) can be detrimental for the job candidates. If these tactics are too evident, the target person might recognise these procedures for what they are: they may view such actions as attempts at ingratiation, and attribute manipulativeness or other negative traits to the person who uses them

(cf. Wortman & Linsenmeier, 1977). Under such conditions, the ratings received by job applicants may be reduced rather than enhanced by their efforts at impression management.

Baron used a 2 (cues: positive versus neutral) X 2 (pleasant scent: present versus absent) X 2 (sex of interviewer: female versus male) design in his experiment. A female confederate acted as candidate for an entry level managerial position, while participants (both males and females) played the part of recruiters and had to assess her on multiple job-related dimensions.

Results displayed in Table 2 below only partially validate the so called “too much of a good thing” hypothesis.

Table 2. Mean Ratings of Applicant's Potential for Success as a Function of Nonverbal Cues, Presence or Absence of Scent, and Sex of Subject.

Sex of subject	Scent absent		Scent present	
	Neutral cues	Positive cues	Neutral cues	Positive cues
Male	4.50 _{ac}	5.50 _{bd}	5.29 _{bcd}	4.90 _{bc}
Female	4.80 _{acd}	5.70 _{bd}	3.89 _a	5.67 _{bd}

Note. Means that do not share a common subscript differ significantly ($p < .05$) by Duncan multiple-range test.

SOURCE: BARON, 1986

As predicted, the use of scents in isolation had on average a positive impact on the perception of the candidate, without noticeable distinction for male and female interviewers (for males: Positive Cues $M=5.5$ vs. Neutral Cues $M=4.5$; for females: $M=5.7$ vs $M=4.8$ for females). But the “too much of a good thing” effect was recorded only for male interviewers ($M=4.9$ vs $M=5.29$), while was absent for female ones ($M=5.67$ vs $M=3.89$).

In conclusion, male interviewers often react more negatively than females if a candidate uses self-presentation tactics to enhance their personal appeal. According to the author, male recruiters realise that they have struggle in coping with such tactics and they also believe that efforts of a candidate at self-presentation may unfavourably affect their performance as interviewers.

Therefore, they lower the score of applicants who they perceive as “too much of a good thing”. In contrast, females are less likely to experience such reactions and may respond more favourably to attempts at self-enhancement.

2.2 Odours and unpleasant smells in the everyday working environment

This dissertation has only written of pleasant scents so far, but this work would like to include a discussion about unpleasant scents too. Furthermore, this is what this thesis intends to add to the academic literature on the topic, which up to now has been particularly scarce.

What is the role unpleasant scents have in the workplace? How does unpleasant body odour affect the impression we create ourselves on our colleagues?

These are some of the questions an academic article by Riach and Warren (2015) tries to answer.

Rather than being a quantitative research, as the case of the papers discussed so far, this is a qualitative study of everyday smells in UK offices.

Participants in this study were white collar workers, who shared their experiences and opinions about workplace odours. Looking at their answers, the authors identified that workplaces should be like “white canvases”, an odourless space: “the intercorporeal bodily exchanges that were undoubtedly present should be suppressed through a shared cultural recognition that work should not smell” (Riach and Warren, 2015).

Participants in this study therefore identified themselves as accountable for reducing smell that may distract them from their business, even in case smell was not caused by themselves. Examples included getting rid of unpleasant smells made by people, such as from food being prepared, or smell of toilets.

Riach and Warren's research continues saying:

On a personal odourising level, participants also referred to choosing a quantity and strength of perfume and aftershaves that would fit in with or enable a return to the apparent neutrality of workplace. However, since office spaces rarely allowed for the control of air flow owing to centrally controlled air conditioning and an inability to open windows or doors, this may involve using room spray, air freshener or a scented candle.

SOURCE: RIACH AND WARREN, 2015

The interesting finding here is that on average employees believe that the working environment should be free of any smell, with the aim of making the workplace blank from any sensorial distraction. Therefore, perfume and aftershave should be used only to re-establish an odour free landscape.

On the other hand, smells made by "living" people can be perceived as the counterpart of the disembodied "dead" smell of the organisation. The act of using a room fragrance or wearing a perfume is animated by a "living" person and is a way used by workers to interact with the "dead" organisation. Sensory regulation thus formed part of the work involved in being a professional body, constituting the experience of organization itself.

Unpleasant smells can sometimes be considered in relation to a legitimate work-related behaviour: if a smell is directly connected to a legitimate job activity, it may be judged differently and carry fewer negative connotations. One example could be smelling of sweat after a stressful or physical activity, or smelling of food for restaurant workers.

In conclusion, what the authors highlight is that a well identified subset of perfumes and smells codifies the experience of being at work, and this subset of odours is different from one workplace to another. Therefore, out-of-place smells such as sweat odour in an office environment can be a signal of lack of care and professionalism by a co-worker.

What is interesting in this research's findings is that every workplace seems to have a different "smell etiquette", meaning that odours and scents judged in an unfavourable way in one context could be judged favourably in another one. In fact, the experiment designed for this dissertation

concerns the hiring of personnel for a restaurant: will participants in the experiment judge the use of cologne appropriate for a waiter?

HYPOTHESIS 1: job qualifications will be overlooked for resumes subjected to the smell manipulation. Resumes with a positive scent or neutral/no scent will receive higher evaluations compared to resumes with an unpleasant scent, leading to hiring discrimination.

HYPOTHESIS 2: job qualifications will be overlooked for resumes subjected to the smell manipulation. Resumes with a neutral/no scent will receive lower evaluations compared to resumes with a pleasant scent, leading to hiring discrimination.

2.3 The Influence of Personality in the hiring process

The few existing studies on scents listed so far used gender as a discriminating factor in results and evaluations. In particular, as Baron found out, it appears that males may be more influenced by scents than females during their decision-making process.

We believe that for the type of research we are conducting in this dissertation, the best way to evaluate the decision-making process of participants is through the evaluation of their personality.

In fact, personality of recruiters may have a central role in their hiring decisions. In fact, the evaluation of CVs and cover letter and the subsequent interviews with candidates are inevitably subject to the discretion and personal interpretation of an interviewer. The study conducted by Griffin and Wilson (2010) found out that, during a medical student selection interview, the same applicant was judged differently by employers with dissimilar personality traits, even if the selection criteria were exactly the same. The two authors concluded that an evaluation conducted by an employer who scores high on agreeableness will result in more tolerance during the assessment of employee's skills, whereas employers with higher levels of neuroticism are associated with harsher judgments.

In recent years the importance of personality has constantly grown in the field of social psychology, especially after John, Donahue and Kentle came out with a test to easily self-predict personality traits (BFI test). The test assesses the personality of the respondent considering five dimensions: Openness to experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism. This test is made of 44 items in total, which have to be answered on a scale ranging from 1 (=completely disagree) to 5 (=completely agree).

According to Griffin and Wilson's research (2010), an employer scoring high in Agreeableness and low in Neuroticism makes their decision in a different way when compared to an employer scoring low in Agreeableness and high in Neuroticism.

Individuals scoring high in Agreeableness generally have an optimistic view of human nature: they are mostly considerate, kind, generous, trusting and trustworthy (Rothmann et al., 2003). Sentences like "I'm considerate and kind to almost everyone" or "I like to cooperate with others" are used in the BFI test to assess this trait of personality.

Contrariwise, individuals scoring high in Neuroticism are emotionally unstable and have the tendency to experience negative emotions such as anxiety, anger, or depression (Rothmann et al., 2003). They also show higher level of stress and they tend to be flippant in the way they express their emotions. The BFI test includes sentences like "I tend to be depressed, blue" or "I worry a lot" to evaluate Neuroticism.

According to previous research on the topic, we predict that in our experiment individuals scoring high in Neuroticism will be more affected by scents than individuals scoring high in Agreeableness.

HYPOTHESIS 3: Those who are high in Agreeableness will be less likely to penalise job applicants for their unpleasant odour and will base their hiring decision solely on resume qualifications. Those who are high in Neuroticism, however, are hypothesised to criticise the unpleasant odour more harshly and contemplate it negatively during the decision-making process.

In line with the previous research on personality, we expect H3 to be validated by the results of the experiment subsequently shown in this dissertation. However, there is not much research that links neuroticism and positive stimuli, such as the case of pleasant scents. Media advertisements picture scents as bringing benefits to people wearing them, such as being more attractive and having a greater potential for success (Cash, Gillen, & Burns, 1977). Consequently, we expect people with high level of Neuroticism to be more influenced by the positive stimuli of perfume.

HYPOTHESIS 4: Those who are high in Agreeableness will be less likely to judge job applicants for their pleasant odour and will base their hiring decision solely on resume qualifications. Those who are high in Neuroticism, however, are hypothesised to consider the pleasant odour more and contemplate it positively during the decision-making process.

3. Experiment Design and Test

As previously said, the goal of the research project is to find out if scents have an impact on the perceived employability of job applicants. As identified by Prof. Timming, the experiment wanted to survey if two different smells-one good and one bad-modify the job applicant's employability during the first contact between the recruiter and the candidate himself.

To design the experiment, I partially relied on the experimental design previously used by the Saint Mary's University of Canada, changing it to our needs when necessary.

The experiment was divided into 2 parts:

3.1 Experiment Part One

After the welcoming, participants were told they had to act as restaurant managers, looking for a new member for the wait staff. Following this short introduction, they received a paper sheet with the job description and person specification for the vacant position (see Annex 1). The document had to be used as a guideline for their choice.

The paper sheet simulated a job advertisement, with the name of the restaurant "Moxie's Bar and Grill" at the top of the page, a brief description of the role and bullets points for the Key Responsibilities and Person Specifics (Experience & Key Attributes). The ad for the position was relatively standard:

"We are looking for a dedicated, hardworking and trustworthy individual to fill the role of a server for our dining service. As an ambassador for our restaurant, you will carry out the exceptional service and cuisine which are the hallmarks of our customer experience. You will be required to take orders and deliver them to our guests while maintaining and enhancing the quality of their environment. Working in close collaboration with colleagues, you must have the ability to synthesize and perform well with others under pressure. Established health and safety standards must be followed by servers and all other employees. The goal is to accelerate our business development by providing customers with a memorable encounter."

Examples of requirements listed in the bullet points are “Table service for guests”, “Ability to organize and plan”, “Excellent verbal communication” and “Be enthusiastic, outgoing, positive and upbeat”.

3.1.1 Experiment Design

The first part of the experiment consisted on evaluating three different resumes of three candidates applying for a position as a wait staff in a restaurant (see Annex 2). This study followed a 3 (applicant resume smell: cologne versus unpleasant smell versus no smell) x 3 (applicant resume qualifications: very qualified versus moderately qualified versus least qualified) experimental design (see Table 3 below).

Table 3. Different smell patterns used in the experiments

Experiment Number (into brackets: participants recruitment method)	Job Applicant Name (into brackets: skills level)		
	Robert Johnson (Low Skills)	James Smith (Mid Skills)	Thomas Brown (High Skills)
Exp. 1,2&3 (SONA)	Cologne	Neutral	Sweat Odour
Exp. 4,5&6 (SONA)	Neutral	Sweat Odour	Cologne
Exp. 7,8&9 (MBA)	Sweat Odour	Cologne	Neutral

The resumes are similar in layout and descriptions to avoid any possible bias introduced by participants: the three imaginary job applicants are males, with common Australian names, graduated at the University of Western Australia and currently living in comparable neighbourhoods of Perth (WA). No picture nor birthdate of the candidates has been included, since it is typical to omit this information in Australian CVs, and also to avoid any biases connected with age or physical appearance of applicants.

In the resumes, the only thing that was notably different among the candidates was their level of skills:

- Low Skilled: Robert Johnson, with no experience as a waiter in restaurants. He is described as “a team player, efficient and capable of sustained physical effort”. Under “Work Experience”, he worked only in clothing stores as sale assistant or cashier;

- Mid Skilled: James Smith, experienced as a staff member in fast food chains. He is described as “Self-motivated and highly reliable, positioned to contribute strongly to customer service operations demanding tact, enthusiasm, and an exemplary work ethic”. He has been working since 2013 in fast food restaurants: McDonald’s first, and Starbucks afterwards. The candidate is also certified for Safe Food Handling Practices, First Aid and RSA (Responsible Service of Alcohol) as required by Australian regulations;
- High Skilled: Thomas Brown, with earlier experiences as a waiter in a couple of restaurants in Perth. Described as an “Enthusiastic and courteous food service professional with just over 5 years of experience. Excellent proficiency in table serving with an extensive knowledge of food, wine and spirits”. Thomas worked as waiter in a restaurant and is currently employed by a Catering Company. The candidate is also certified for Safe Food Handling Practices, “Serve Right”, First Aid, RSA (Responsible Service of Alcohol) as required by Australian regulations.

Considering that the three Job Applicants have three distinct skill levels, we would expect that on average the participants in our experiment would rank them giving the highest employability rate to Thomas and the lowest to Robert. The experiment wants to investigate if the introduction of smells has a measurable and significant influence in the pattern of choices.

To isolate the smell stimuli from other aspects that could bias the decision-making process of the participants in the experiment, we decided to spray with scents the three job applicants’ paper resume. The same method was used in the experiment held by the Saint Mary’s University of Canada, where instead of using bad and good odours, they tested cigarette versus cannabis smoke.

In the experiment we ran at UWA Business School, the three possible smells the resumes could have were the following:

- Good Smell: 1 spray of male cologne on the back of the paper resume;
- Bad Smell: 2 sprays of a chemical liquid that reminds of body odour (sweat) on the back of the paper resume. This smell is a prank for kids that was purchased online;
- Neutral Smell: in this case, no smell was applied to the paper resume. This served as control in the experiment.

As will be explained in the following paragraph (3.1.2), the choice and the amount of scent (number of sprays for each resume) used during the experiment was carefully tested in advance, to ensure consistency in the experiment administrated to participants over different time periods.

3.1.2 Experiment Test

Much time was spent testing the experiment designed in collaboration with Prof. Timming. This was a relatively delicate step of the process: we had to identify issues in the actual carrying of the experiment and assess how smells were perceived by participants.

To test the experiment, I involved some UWA students and ran part one individually with them, asking some questions at the end of it and recording their answers. The test was designed to assess how participants perceive smells (see Annex 3 for details).

The first question was a general one, I was asking if they were feeling anything “unusual” while manipulating the resumes: most of them identified the different smells on the sheets of paper and were able to remember the order in which the smells were presented.

The following question asked was to describe the smell, its strength and whether they liked/disliked it. This question was central to ensure consistency of scents strength: I had to make sure participants could smell something when reading a resume, but at the same time avoid the effect of too much odour. As previously said, the intensity of a scent could impact the outcome choice of participants: too much perfume could be perceived as not adequate for the workplace (Riach et al., 2015), so I had to make sure to avoid this eventuality, and that has been a great challenge during the execution of the lab experiment.

All the participants in this phase of the experiment found the chemical body odour as unpleasant, while most of them described the men cologne as pleasant and “masculine”. It was not easy to find a way to make both smells having a similar strength during the experiment: the chemical body odour was more unreliable than the cologne, it required more sprays (3 instead of 1) and also needed to be re-administered again after 2 hours from first use. To solve this issue, I decided to use new sheets every time I was running the experiment and spray them 1 hour before the participants came, to allow the paper enough time to dry.

Moreover, the results of the test suggested that the best way to run this first part of the experiment was using different rooms for the different CVs, in order to avoid perceiving all the scents in the same environment. This issue was triggered by the male cologne, that had a persistent smell in the air, even in the case that the envelope containing the perfumed CV had been resealed a while before.

3.1.3. Final Design of Part One

In the final design of the first part of this experiment, participants had to assess the three CVs of the applicants changing room each time they had to evaluate a CV (so three CVs means they had to change room three times). This decision was taken to avoid the risk of candidates perceiving more scents at the same time, since out of the three documents one was manipulated with sweat odour, one with cologne and one did not have any scent. As described in the experiment testing phase, the cologne had a quite persistent smell, that could had overcome the other scent.

Before starting the CV assessment, the participants had 3 minutes of time to read the Job Advertisement, containing a Job Description and Person Specification of the ideal resource for Moxie's Bar and Grill (see Annex 1).

Afterwards, the participants had 2 minutes to assess each one of the three CVs dislocated in three contingent rooms. They had to enter the rooms alone, and assess each CV on three dimensions on a scale ranging from 1= "not at all" to 7= "completely". The three dimensions were:

- I. To what extent the job applicant was qualified;
- II. To what extent the job applicant was competent;
- III. To what extent the job applicant was employable.

These three questions served to the purpose of focusing the attention of the participant on the different areas of the CVs. The qualification question (I.) was used to focus the participant on the different education and work experience the job applicant had. The competency question (II.) was designed to make the participant reflect on the skills and strengths the job applicant highlighted in his CVs. The last question on employability (III.) served to drive the final decision by the participant on the overall qualities of the candidate, on the basis of the previous two answers.

After completing the CVs assessment, the candidate was ready for the second and final part of the experiment: a multi-dimension questionnaire.

3.2 Experiment Part Two

The second part of the experiment designed to assess the effect of scents on perceived employability was an anonymous questionnaire that includes some demographic details and a 44-items personality questionnaire (BFI test).

This second part of the experiment was designed to answer the last question posed at the beginning of section 2: *Do personality traits impact how recruiters make their choices?* As stated in Hypothesis 3 and 4, we expect personality to play a role in the way recruiters evaluate candidates during their first meeting.

Moreover, we believe demographics have an impact in smell perception and evaluation. Consequently, the questionnaire given to participants also contained 7 multiple-choice questions on demographics, alongside with the 44 items Big Five Inventory Test.

The questionnaire administrated to the participants was online based, to avoid the use of paper and the potential risk of data loss, but also to avoid the time-consuming task of transferring data from paper to computer-based software.

3.2.1 Questionnaire Design

The computer-based questionnaire was designed using an online software called “Qualtrics”, freely available to UWA students and staff.

The initial design of the experiment administrated at the Saint Mary’s University of Halifax, Canada consisted in its first part of a paper-based questionnaire with some multiple-choice questions on demographics and tobacco/cannabis use, plus the 44 items BFI Test in its second part.

For the experiment at the University of Western Australia, we decided to opt for an online questionnaire to speed up the result analysis process, and to obtain a better randomisation of the questions in the BFI test.

Unlike the Canadian experiment, our questionnaire had different queries in its first part, with specific questions on the use and perception of perfume/cologne and unpleasant smells.

The questions in the questionnaire were the following:

A. Demographics

- I. What is your age?
- II. How do you self-identify?
- III. What is your ethnic group?

B. Perception of smells

- I. Are you wearing perfume/cologne?
- II. How often does people wear perfume/cologne around you?
- III. Do you think wearing perfume has an impact on an individual's ability to meet job quality standards?
- IV. How often do people have an unpleasant odour around you?
- V. Do you think having an unpleasant odour has an impact on individual's ability to meet job quality standards?

C. BFI test (*see Annex 4 for all the questions*)

The purpose of this first part of questionnaire was to collect data on the demographics and scents perception by our sample. The results on demographics (A.) could be useful in many ways, e.g. to assess if different ethnic groups show significant different perception of pleasant or unpleasant smells. Previous research on the topic shows that different ethnic groups have different perception of pleasantness or unpleasantness of foods smells (Ayabe-Kanamura et al., 1998) and body odours. About the latter, one research by Schleidt et al. (1981) discovered that:

"men and women in Japan judge the odours in general less positively, i.e., they classify all odour categories less often as pleasant and more often as unpleasant [compared to Mediterranean cultures]. This might reflect a more negative attitude towards personal odours in Japanese society (Adachi, 1903). In Japan there is a strong cultural pressure to suppress obvious body odours. This attitude is also reflected by the old tradition of taking a ritual bath almost everyday."

SOURCE: SCHLEIDT ET AL., 1981

A possible explanation might be the fact that Mediterranean cultures (but the Indian culture even more) are typically contact cultures, while the Japanese culture is a non-contact culture: hence, the suppression of body odours is a way to maintain that distance and impersonality much appreciated by the Japanese culture (Schleidt et al., 1981).

Moving on to why we asked the “perception of smells” questions (part B.), answers to these questions might be used to identify to what extent people perceive that pleasant or unpleasant odours can impact a worker’s ability to meet expected results. As previously discussed in paragraph 2.2, Riach and Warren (2015) pointed out the different role smells play in diverse contexts, such as the fact that people in an office environment are generally expected to be neater compared to workers employed in the food industry or doing manual labour. Since our experiment involves hiring a waiter for a restaurant, smells could have impacted participants’ decision-making process differently than if they were asked to assess a candidate for an office job.

The second part of the questionnaire was the 44 items BFI test, designed in Berkeley in the 90s. As explained in paragraph 2.3, the questionnaire has 44 questions, to be answered on a scale ranging 1 to 5 to assess the personality of an individual on five dimensions: Openness to experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism.

A facsimile of the form can be found in Annex 4 below. This questionnaire takes about 5 minutes to be completed, and should be filled by participants in a short time in order to allow high quality answers. Each question is designed to assess only one personality trait, and each trait is predicted by calculating the average score of 8 or 9 different answers. Some questions are asked in a reverse fashion, so they need to be computed in the total using a reverse scale (see Annex 4-Scoring for details).

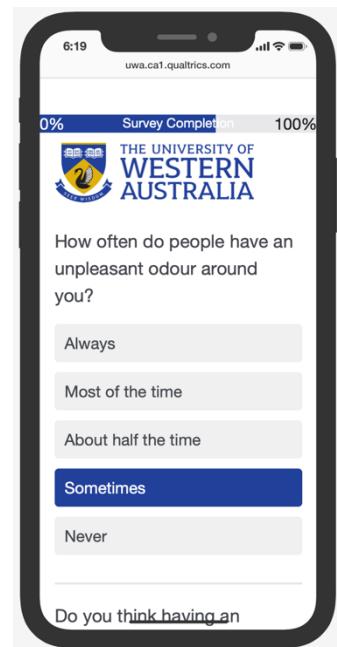
3.2.2 Questionnaire Test and Final Design

The testing phase of the questionnaire was less time consuming compared to the experiment testing. The questions asked to participants in parts A. and B. were quite straightforward and related solely on the experiment previously administrated. None of the UWA students taking part in the testing phase showed any difficulties in understanding these questions.

Regarding the BFI test (part C.), a standard set of questions was used to assess participants’ personality. This test is not in the public domain per se, however it is freely available for researchers

to use for non-commercial research purposes (University of California, Berkeley website; 2019). The test has been designed to be easily understandable and free of contradictory questions. Again, there were no main comprehension issues for the UWA students that took part in the test.

One main decision taken during the testing phase was to have a computer-based questionnaire rather than a paper-based one. The availability of a reliable survey tool such as Qualtrics has made it easier to distribute the test to participants. Since we needed to have between five and eight computers available simultaneously to allow participants to complete the survey, I decided to make the survey available on participants' smartphones through a QR code and password. The survey design was optimised for smartphones and its user-friendliness was much appreciated by participants (see picture on the right).



3.3 Lab Management

Managing the Lab for the experiment was one of the most challenging tasks; first of all because I had to replicate the experiment every time exactly in the same way to avoid any possible bias, then because I had to collect and store information from different sources (sheets of paper and online forms), with the risk of losing data or incorrectly associating the data coming from different sources (i.e. risk of incorrectly matching the paper-based survey with the online-based survey). This section will explain in detail how I performed the experiment.

Setting up the laboratory and meeting with participants took approximately one hour for every 30 minutes of experiment. The lack of students did not allow me to perform the experiment more than once a day, so the preparation and cleaning of the laboratory were activities I had to repeat the most. I also had to spray the CVs 45 minutes before starting the experiment, because the paper sheets needed some time to dry inside the envelopes.

The reception of participants was in the main lobby of the Business School, while the lab used for the experiment was in the office area of the same building. After welcoming the participants, I had

to administer a Participant Consent Form (Annex 6) and a Participant Information Form (Annex 7) to them. The Participant Information Form provided all necessary details about the study, including possible risks, the purpose of the research project and instructions for the experiment. The Participant Consent Form had to be signed before the starting of the experiment, to make sure the participants approved the collection of personal information for research purposes. After collecting all the modules, I personally repeated the instructions of the experiment.

The experiment required three rooms, and each participant had to enter individually in every single room to evaluate the three resumes that were previously manipulated with scents. A fourth room was used by me to coordinate the experiment, give instructions to participants and carry out the second part of the study (the online questionnaire).

Before starting the first part of the experiment, I dispensed the Job Advertisement for the vacant position at Moxie's Grill and Bar (see Annex 1) and allowed the participants 2 minutes to read it. After that, I randomly chose the order in which participants had to enter the rooms, and gave them the evaluation form with the three questions to answer on a scale from 1= "not at all" to 7="completely":

- I. To what extent the job applicant was qualified;
- II. To what extent the job applicant was competent;
- III. To what extent the job applicant was employable.

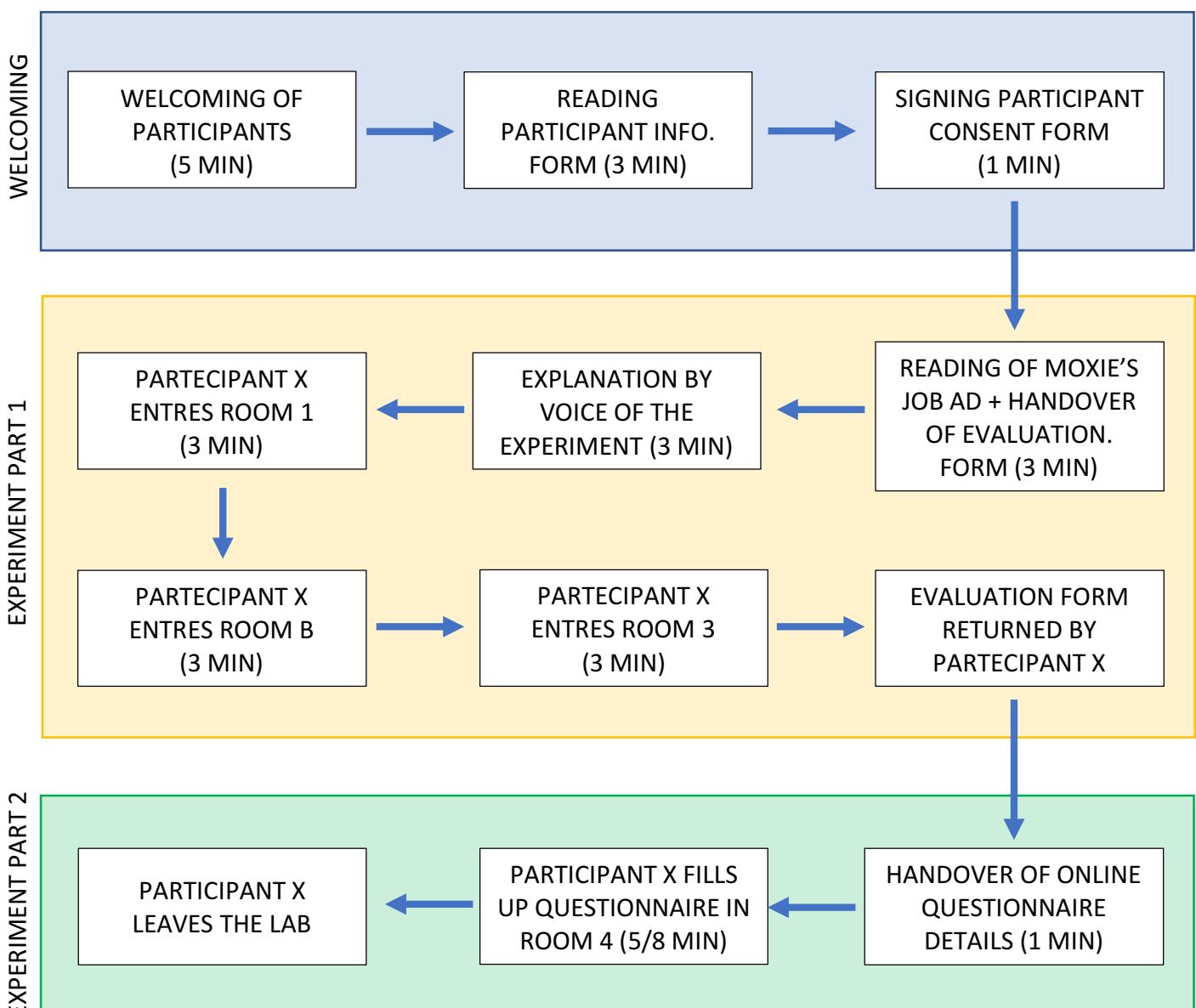
Each participant could spend a maximum of 3 minutes inside each of the three rooms, and every room contained one of the three job applicant's CVs to be evaluated (see annex 2). The CV was kept inside a red envelope, to avoid dispersion of odours in the room. I changed the order in which participants had to enter the different rooms every time I ran the experiment, in order to reduce the risk of biases. Moreover, I also changed the scent associated with the different resumes to see if changes in smells significantly affect how participants rate the three job applicants (see section 3.1.1 for details).

After a participant had evaluated the CVs, I collected the answer sheet and escorted him/her to a fourth room for the final questionnaire. The questionnaire on Qualtrics was easily accessible through a QR code and could be answered using a smartphone. I also provided a couple of devices in case of necessity.

After completing the questionnaire, the participants were free to leave the lab or ask any questions they had on the experiment. Some Organisational Behaviour's students were quite interested in the topic and asked me questions about the reasoning behind the experiment and shared their own opinion on the research topic. Some of them pointed out the role scents may have in restaurants. Many participants told me they deliberately considered the applicant wearing cologne as less suited for a wait staff role, as they would prefer to be served by someone with a neutral odour: they do not want pleasant food smell to be covered by a waiter's cologne.

Figure 3 below graphically summarises the experiment step by step, with an indication of the average duration of each phase.

Figure 3. Graphical representation of the experiment's steps



4. Results Analysis

The experiment was run in the lab located at the UWA Business School building in Perth (Western Australia) from mid-April 2019 until the end of May 2019. A total of 44 students took part in the research, 43 of them answered all mandatory questions, 1 paper-based questionnaire was rejected because incomplete.

A SPSS dataset with the results of the Experiment Part 2 (the questionnaire) was downloaded from Qualtrics, while the resulting scores for the employability of the three job applicants were manually computed on Excel. The student number of each participant was used to match the paper-based questionnaire with the correspondent one on Qualtrics. Finally, all data was entered in a SPSS spreadsheet for results analysis.

4.1 Results on the Effect of Scents on Employability

First of all, the results on the average employability score for each job candidate (when not controlling for scent used) match expectations. We were expecting participants to assign on average a lower score to a candidate with no experience in food service and a higher score to a candidate with experience as waiter. In fact, when not considering the effect of scents, Johnson is on average the least employable ($M=4.98$), and Brown is the most employable ($M=5.91$). The results are in line with the three different skill levels proposed by the resumes, since Johnson was low skilled and Brown high skilled (see Table 4).

Table 4. Average answer for the question: "How employable the candidate is?" (scale 1=not at all, to 7=completely)

Report			
	Johnson, employable	Smith, employable	Brown, employable
Media	4,9767	5,6047	5,9070
N	43	43	43
Deviazione std.	1,26281	1,34765	1,39410

However, results taking into account the role of scents showed mixed outcomes, partially supporting the hypothesis stated in section 2.3.

The average scores for the question “How employable the Job Applicant is?” seem to be impacted by the type of scents the paper resumes have (see Annex 6 for the complete SPSS report). The experiment results are the following:

Table 5. Average answer for the question: “How employable the candidate is?” Considering scents. (scale 1=not at all, to 7=completely)²

How employable the Job Applicant is?	Job Applicant Name (into brackets: skills level)		
	Robert Johnson (Low Skills)	James Smith (Mid Skills)	Thomas Brown (High Skills)
Pattern A (Exp. 1,2&3)	Cologne 5.12	Neutral 6.00*	Sweat Odour 5.38
Pattern B (Exp. 4,5&6)	Neutral 4.87	Sweat Odour 5.06*	Cologne 6.13

**The difference of means is significant with p=0.05 (95% confidence level)*

- **Robert Johnson, low skilled** in food service, received on average a higher score when his resume was sprayed with cologne ($M=5.12$), compared to when it had a neutral odour ($M=4.87$). The average score of this job applicant was the lowest of the sample, in line with our expectations. However, the results for Johnson are not significant at a 95% confidence level.
- **James Smith, mid skilled** in food service, got a higher employability score when his resume was not having any odour ($M=6.00$), compared to when it was sprayed with the liquid reminding of sweat odour ($M=5.06$). In this case, the difference among the two means was significant at a 95% confidence level ($F=1.042$; $p=0.05$). This means that the odour of the resume (the only variable that changed between Pattern A and B) has likely impacted the evaluation of this candidate made by the participants/recruiters.

² Before proceeding to a comparison of means with SPSS, we decided not to consider the results of Experiment 7,8&9: these experiments were run with MBA students instead of undergrads, so we believe it is better to study the results separately to avoid any possible biases reflecting a different decision-making process or mindset possessed by undergraduate and MBA students.

- **Thomas Brown, the most skilled** in food service among the three applicants, received an average employability score of $M=5.38$, when his resume was sprayed with sweat odour and $M=6.13$ when his CV was sprayed with cologne. The evaluation of the resume sprayed with cologne showed the highest average answer in the questionnaire, as expected from our assumptions. The results for Brown closely approached significance but did not reach a 95% confidence level.

In conclusion, the results analysis showed some interesting findings, partially supporting Hypothesis 1 (H:1) and Hypothesis 2 (H:2).

H:1 states that "*job qualifications will be overlooked for resumes subjected to the smell manipulation. Resumes with a positive scent or neutral/no scent will receive higher evaluations compared to resumes with an unpleasant scent, leading to hiring discrimination*". Results of the experiment showed that both Mr. Smith and Mr. Brown resumes got lower scores when the paper sheet was manipulated with the unpleasant scent, compared to when the sheet had a neutral or positive odour. Moreover, arithmetic mean for both groups reached (Mr. Smith) or was close to (Mr. Brown) statistical significance. We could conclude that H:1 was supported by the findings of this experiment, although further data collection should be carried out to support stronger statistical evidence of the results.

H:2 states that "*job qualifications will be overlooked for resumes subjected to the smell manipulation. Resumes with a neutral/no scent will receive lower evaluations compared to resumes with a pleasant scent, leading to hiring discrimination*". In this case, results of the experiment are not as clear as in case of H:1. In particular, the results for Mr. Johnson (Cologne vs. Neutral Smell) highlighted a slight preference for the cologne by participants ($M=5.12$ vs $M=4.87$). Anyways, the difference between the average scores is not statistically significant ($F=2.205$; $p=0.57$), meaning that it is likely caused by random fluctuation rather than by a clear influence by cologne on the decision-making process. Therefore, it can be said that H:2 is not supported by the findings of this experiments.

4.2 Questionnaire Results

Answers to demographic and scents preference questions are useful to understand if there are some relationships between this results and employability scores in the first part of the experiment. The number of participants in the second part of the questionnaire was 43 in total, during the 9 days in which the experiment was performed.

The questionnaire had 9 questions, here below is an analysis of the answers:

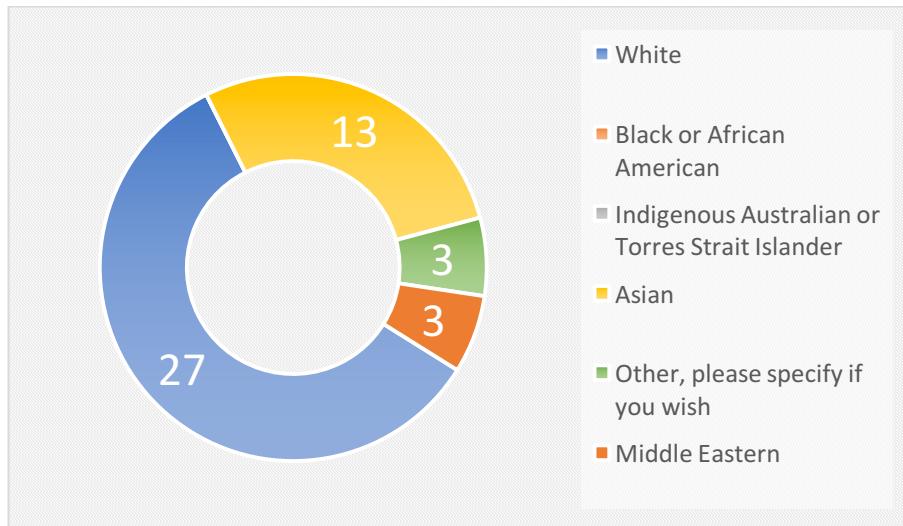
- **Question 1. What is your age?** The average age of participants was 23.5 years, with a minimum age of 17 and a maximum of 39 years. The modal age was 18, reflecting the high number of first year undergraduate students of Commerce enrolled in the experiment through the SONA system. Anyways, we also had 7 participants in their 30s, enrolled in the second wave of the experiment that targeted MBA students.
- **Q2. How do you self-identify?** About 30% of participants in the experiment were males, while 69.5% were females. All participants in the experiment came on a voluntary basis, so there was not a selection based on gender. Anyways, the presence of a majority of females might have impacted on the experiment's results (see section 2.1.3 above).

Table 6. Results for "How do you self-identify?"

Answer	Response	%
Male	14	30.43%
Female	32	69.57%
Other, please specify if you wish	0	0.00%

- **Q3. What is your Ethnic Group?** Results show that a good portion of respondents (58%) is part of the White Ethnic Group (European, North American or Australian). Moreover, about 28% of respondents are Asians: this is in line with the strong presence of an Asian ethnic group within the Australian population.

Figure 4. Results for "What is your Ethnic Group?" (number of answers for each category)



The discussion on ethnic groups is of high importance in this dissertation, because as highlighted by previous studies (i.e. Ayabe-Kanamura et al., 1998 and Schleidt et al., 1981; *see section 3.2.1*), people with different cultures could have different perceptions of perfume and also different tolerance to unpleasant odours. Anyways, SPSS results on the average answers in Experiment Part one when isolating the two main ethnic groups (White and Asians), did not show any statistical evidence of these cultural differences (*see Annex 7 for SPSS details*). In conclusion, it seems that the ethncal group of the recruiter does not have a role in the way scents interfere with the final assessment of the three job applicants.

- **Q4. Are you wearing perfume/cologne?** Half of respondents (23) answered “yes, I am” and the other half “no, I’m not”.
- **Q5. How often do people around you wear perfume/cologne?** This question, together with the previous one is designed to understand what is the relationship between our sample and perfume. With these questions, participants became “aware” of what the object studied by the experiment was (i.e. odours).

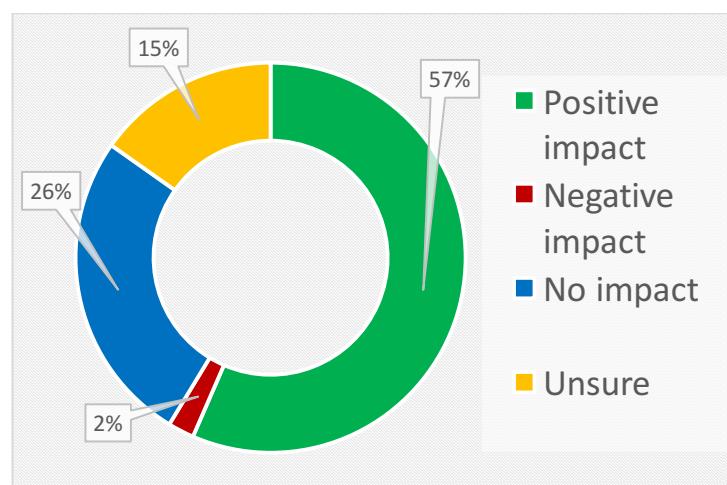
Table 7. Results for "How often do people around you wear perfume/cologne?"

Answer	Response	%
Always	5	10.87%
Most of the time	16	34.78%
About half the time	10	21.74%
Sometimes	12	26.09%
Never	3	6.52%

If we look at the answers given to this question (table 7), the majority of respondents answered that people around them wear perfume or cologne “most of the times” (35%), “about half of the time” (22%) or “sometimes” (26%).

- **Q6. Do you think wearing perfume has an impact on an individual's ability to meet job quality standards?** This is a crucial question in our experiment, and should somehow reflect the hiring decision participants made in the first place. However, the decision taken in the first part was “blind”, since participants did not know they were being assessed in relation to scents. Interestingly, the overall majority of respondent (57%) answered that in their opinion, wearing scents positively influences an individual’s ability to meet job standards. Only the 26% answered that perfume does not have an impact on quality standards, and about 15% that they are unsure on what to answer (figure 5). This circumstance that a majority of participants support perfume having a positive impact on worker’s ability to meet job requirements could partially relate to some recent studies done on the working environment. These studies point out how personnel, especially within the service sector, is seen as the image of the company they work for; therefore, their appearance and personality must always reflect the company’s values, and firms are increasingly considering employees’ look as a valuable asset (J. Karlsson, 2012).

Figure 5. Results for “Do you think wearing perfume has an impact on an individual's ability to meet job quality standards?”



- **Q7. How often do people around you have an unpleasant odour?** After asking participants their opinions on perfume, we asked them what experience they had with unpleasant body odours. Again, participants did not know that one resume they had previously assessed in

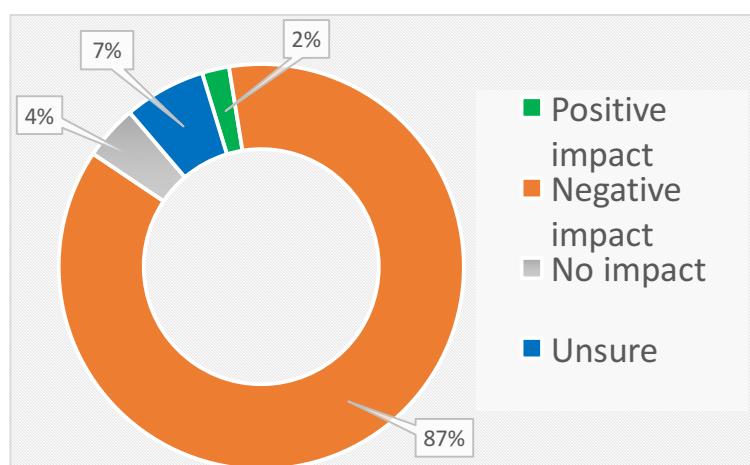
the first part of the experiment had been sprayed with a liquid simulating sweat odour. A vast majority of respondents chose to answer “sometimes” (78%) or “never” (17%), and nobody answered “always” (table 8). If we compare results to the ones given for question 5, in question 7 we see a much higher polarization of the responses.

Table 8. Results for: “How often do people around you have an unpleasant odour?”

Answer	Response	%
Always	0	0.00%
Most of the time	1	2.17%
About half the time	1	2.17%
Sometimes	36	78.26%
Never	8	17.39%
Total	46	100.00%

- **Q8. Do you think having an unpleasant odour has an impact on individual's ability to meet job quality standards?** This last question, similarly to question 6 for perfume, wants to investigate the relationship between unpleasant odours and job performance according to respondents. Looking at the pie chart below (figure 6), we can see that participants have a quite clear opinion on this matter, since 87% of them identifies unpleasant body odour as having a negative impact on worker's ability to meet job quality standards. In line with explanations provided for Q6, since workers are increasingly seen as the personification of company's values, the majority of respondents might classify unpleasant smells as an “unprofessional” behaviour or lack of personal care (see section 2.2).

Figure 6. Results for: “Do you think having an unpleasant odour has an impact on individual's ability to meet job quality standards?”



4.3 The role of Personality in the selection process

The last aspect this research wanted to study, is the impact smells have on hiring decision in relation to the respondent's personality. As previously highlighted in section 2.3, we hypothesised that people possessing some particular traits of personality might be positively or negatively influenced by scents, when making their hiring decision. In particular, we expect recruiters scoring higher in Neuroticism to be more inclined to judge resumes based on scents, rather than on candidate's skills.

H3 states: "*Those who are high in Agreeableness will be less likely to penalise job applicants for their unpleasant odour and will base their hiring decision solely on resume qualifications. Those who are high in Neuroticism, however, are hypothesised to criticise the unpleasant odour more harshly and contemplate it negatively during the decision-making process*".

To understand if these assumptions were accurate, an indicator of personality was computed for each participant using the answers given in the second part of the questionnaire (the BFI test, see Annex 4-scoring for the calculation method). The answers to the BFI test were then clustered into the five dimensions of personality (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism), uploaded on SPSS and matched with the answers given on employability during the experiment part one.

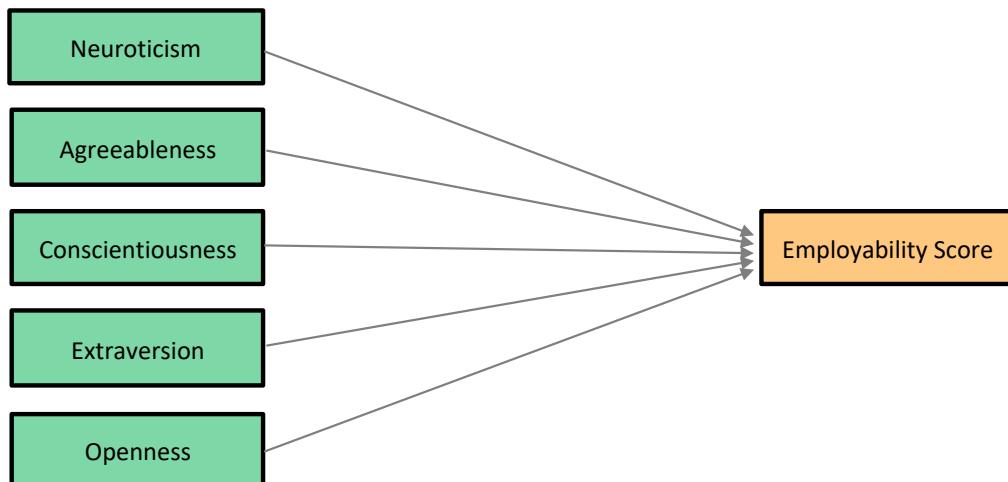
A linear regression model³ was developed to verify the existence of a statistical correlation between the participant's personality traits (Independent Variables) and the employability score attributed to job applicants (Dependent Variable). Unfortunately, due to the lack of data collected between April and June, 2019 it is not possible to study this relation using SPSS in an accurate way.

An example of how this statistical analysis could be done can be find in Annex 11. Using SPSS, I tried to predict the answer for "How employable Robert Johnson is?" (DV=Johnson, employable) in experiments Pattern B (4,5&6) using the five personality traits of the participants as predictors (IVs= Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism).

³ Although using a linear regression model is technically incorrect, because the ID is ordinal data, answers given on employability will be treated as continuous data for the purpose of analysis. This is an accepted praxis in case of categories that can be ordered on a scale, such as for the question "How employable the applicant is?", to which an answer must be given on a scale from 1= "not at all employable" to 7= "extremely employable".

If we present the predictive model as a diagram, when we run the multiple regression equation the model would look like Figure 7:

Figure 7. Diagram of the regression model predicting Employability Score from the Big Five of Personality Traits



The resulting equation of the linear regression model is the following:

Johnson, Employable

$$\begin{aligned}
 &= a(\text{constant}) + b_1(\text{Neuroticism}) + b_2(\text{Agreeableness}) \\
 &\quad + b_3(\text{Conscientiousness}) + b_4(\text{Extraversion}) + b_5(\text{Openness})
 \end{aligned}$$

If we translate the model results (see Annex 11 for the full SPSS model) to a raw regression equation, we have the following:

Johnson, Employable

$$\begin{aligned}
 &= 9.984 + 0.057(\text{Neuroticism}) - 2.052(\text{Agreeableness}) \\
 &\quad + 1.176(\text{Conscientiousness}) - 0.3(\text{Extraversion}) - 0.103(\text{Openness})
 \end{aligned}$$

The resulting linear model was actually significant ($F=4.059$; $p=0.02$; $r^2=0.696 \rightarrow 70\%$ of the variance in employability scores for Robert Johnson is explained by the model), with two statistically significant IVs (Agreeableness: $p<0.05$ and Conscientiousness: $p<0.05$). However, the significant result for this regression model cannot be considered a valid support to H3 or H4, since the result relates solely to one case (i.e. Robert Johnson in experiment's pattern B) of the six regression models developed (see table 9).

Table 9. Statistical significance ($p<0.05$) for the regression models with DV=employability and IVs= big five traits of personality.

Applicant Experiment \	Robert Johnson	James Smith	Thomas Brown
Pattern A	Not Significant	Not Significant	Not Significant
Pattern B	Significant	Not Significant	Not Significant

In conclusion, it can be said that the statistical analysis of results does not seem to support in any way the assumptions formulated by Hypothesis 3 and 4. Nevertheless, a re-examination of the role personality plays in the selection process should be done after a further collection of data, since the number of participants so far was too little to draw reliable conclusions.

5. Considerations on Methodology and Criticalities

Before jumping to conclusions, this chapter describes in greater detail what the main criticalities connected with the management of the experiment were, followed by a discussion on the main Advantages and Disadvantages of the experimental approach to social sciences. Indeed, whether the experimental method is universally accepted for the study of exact sciences, it is often stigmatised by social scientists.

5.1 Selection of Participants and Criticalities

After having successfully tested the experiment, especially the first part, I started searching for participants in the experiment. Unfortunately, I had to deal with some issues during this step of my research project.

In the first place, I relied on an online tool the University of Western Australia uses to connect researchers with students interested in taking part in experiments (SONA system). Prof. Andrew Timming put me in contact with the administrator of this online system (Ms. W) and the coordinator of the undergrad unit of Organisational Behaviour at UWA Business School (Dr. R). I was confident that through this system it would have been easier to gather participants for my experiment, also thanks to the large pool of students taking part in the SONA system (more than 600 Bachelors of Commerce students).

To use this online tool, I had to enter the details and description of the experiment in the system and to add some timeslot for students to sign up (see Annex 5). In total, the experiment takes around 30 minutes with 6 participants and 45 minutes with 10. I decided to run it with 6 people at the time to have a better management of the lab.

The SONA system itself is a powerful tool to connect researchers with participants, because ideally allows researcher to have free and abundant number of participants. Each Organisational Behaviour bachelor's student had to take part in multiple experiments during the semester to gain 5 exam points: SONA gave one credit for every experiment taking less than 60 minutes, while longer experiment gave 2 or 3 credits. My experiment, with a length of 30', was worth 1 credit point.

I uploaded the research details in the online tool and I also created multiple time slots each week when the OB students could come and take the experiment. The title of the study was: "*Evaluating Job Applicants*" and the Description was: "*Act like an HR Manager and select the best job applicant. Participants will be invited to act as the supervisor for a restaurant. You will be given three resumes and assigned to hiring a new employee based on the provided job description. You will then complete a short survey in response to your decision and fill out a 44-item personality questionnaire. The experiment should take between 20-30 minutes in total*".

When I started using the SONA tool in mid-April 2019, I had a quite good response by OB students and I managed to have around 25 participants before the end of the month. Unfortunately, during May 2019, the number of students enrolled via SONA dropped consistently. One of the main causes was the increased number of experiments available to students on SONA (more than 10 different options), that decreased the average number of participants in each experiment.

Personally, I consider the poor management of the system as one of the determinants of the lack of students enrolling in my study. In particular, many of the other experiments available on the SONA platform were online surveys. These surveys, taking on average 10 to 15 minutes to be done, were giving the same amount of credits as my lab experiment, which was more time consuming. While my experiment was struggling to get 30 participants, some online surveys enrolled between 200 and 300 answers each.

With the helping of Mr. W and Dr. R, some measures were taken with the aim of making SONA system fairer. Unluckily, when these changes were introduced most students had already gained most of their credit points needed to complete their OB unit, making my efforts less effective. With these improvements, I managed to have another 10 students taking part in my study before the end of semester 1, 2019.

At that point in time, with only 30 people participated in the study, I had to consider other strategies to increase our sample. Prof. Timming and I decided to give away a \$250 gift card to be spent in technology to increase the interest of students in the experiment. We thought this could have been a good strategy and I started to advertise it in the SONA system and some Facebook groups for bachelor students.

I mentioned in the experiment description that the \$250 gift card was going to be drawn at the start of June 2019 and only 35 students would be able to take part in the drawing. This new strategy was not as successful as I expected: I managed to gather only a couple of students via the Facebook groups (even if these groups are reaching more than a thousand UWA students) and 10 other participants presenting my project in person in two of my units. I believe that one of the reasons why I was not able to subscribe enough students in my research was the wrong timing of the experiment: I started to collect data only in the second part of the semester, when students have more deadlines for their units. This likely affected their willingness to take part in extra commitments alongside their already full university schedule.

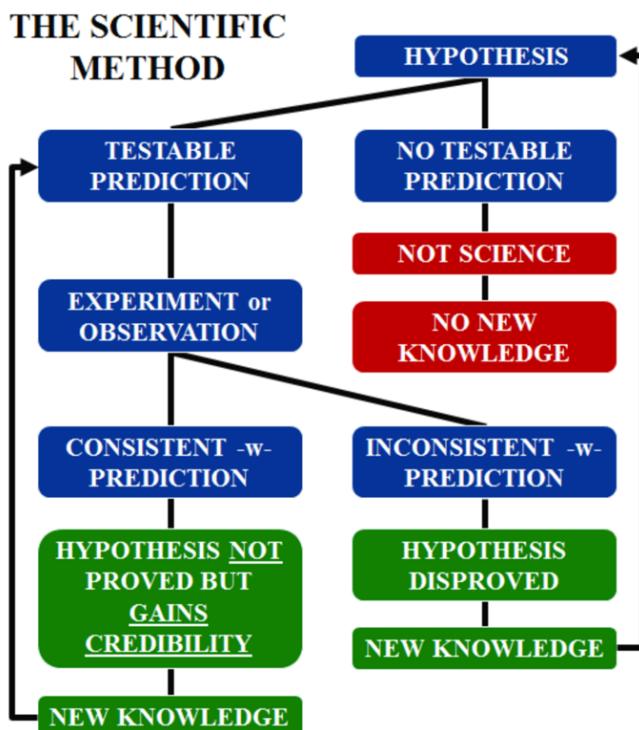
Finally, following the suggestion proposed by Prof. Robinson, I decided to target a new group of participants: MBA students. Because they have a different system based on trimesters rather than semester, they were less busy with tight deadlines during the first half of June 2019. I presented my research project to the MBA Organisational Behaviour class in late May and I was positively surprised to have more than 50% of the students in the unit enrolled in my experiment: this could partially confirm my thoughts about the fact that timing is a crucial factor in the success of a research in terms of participants. Unfortunately, I was not able to continue the data collection with MBA students after the first half of June 2019, because my research period was ending.

5.2. The Experimental Approach to Social Sciences

Beside the analysis of the results on the effect of scents on employability, another aspect that this master's dissertation wants to highlight is the role of experimental research in social sciences.

Indeed, natural sciences (i.e. biology, chemistry, physics, etc.) have a long tradition of empirical experiments, which are often able to provide reliable results on the studied subject. The so called "Scientific Method" historically dates back to the 16th Century, when for the first time Galileo Galilei (1564-1642) developed a rigorous experimental procedure (see Figure 8). The "Galilean Method" consists of a series of compulsory steps to follow in order to create and conduct a rigorous scientific experiment (or observation). This method has been used to get to the most important scientific discoveries, from Galileo and Newton until nowadays.

Figure 8. The Scientific Method originally proposed by Galileo Galilei



SOURCE: UNIVERSITY OF NORTH CAROLINA, 2012

Focusing again on Social Sciences, only quite recently academics started to investigate issues using an experimental approach. Social Sciences are by definition “the study of human society and of individual relationships in and to society” (American Heritage Dictionary, 2016), and include subjects such as Anthropology, Economics, Psychology and so on. This dissertation used an experimental approach to deal with Human Resources Management topics, which can be classified within the Social Sciences.

Historically, empirical social sciences have largely been considered as non-experimental, that is, based on the observation of natural occurring situations. Nowadays many social scientists are still reluctant to rely on laboratory research, and this claim is widely supported by the analysis of academic articles published in some prestigious journals: if we consider economics, only about 4% of articles published between 2000 and 2008 in *American Economic Review*, *Econometrica*, and *Quarterly Journal of Economics* are based on experimental research (A. Falk et al., 2009). Somebody may argue that experiments are not be the most appropriate way to investigate on macroeconomic trends, which have many complex variables that are difficult to replicate in experiments (E. Fehr, 2013). But other subjects, such as microeconomics and business, are starting to increasingly rely on experiments to study and understand people’s behaviour. A prime example of the increasing

importance of experiments in social sciences can be identified in a branch of economics called “Behavioural Economics”, which consistently uses the experimental approach to study how individuals make their choices in contexts of uncertainty (behaviouraleconomics.com, 2019). According to E. Fehr (2013), Experimental Economics (EE), together with Behavioural Economics (BE) could be used to study neurological, psychological and sociological forces in many important economic contexts such as in experimental markets and bargaining experiments. However, until today the majority of mainstream economists have neglected these insights by Experimental Economics and Behavioural Economics.

Table 10. Advantages and Disadvantages of Lab Experiments for Social Sciences

ADVANTAGES	DISADVANTAGES
Tight control over variables	Participants behaviour affected by the experiment (Hawthorne effect)
Experiment is easy to replicate	Low Realism, artificial environment, difficult to generalise findings (low ecological validity)
Enable the use of complex equipment	Homogeneous group of participants
Cheaper and less time-consuming than other methods	Bias effect when experimenter's behaviour and expectations affect participants' behaviour

5.2.1 Advantages of Lab Experiments

The following are some of the major Advantages of lab studies:

- I. One of the major advantages of lab studies is the possibility of **tightly control the Independent Variables** and easily comment on cause-effect relationships. In fact, in a laboratory context, it is easier than in a field study to isolate and manipulate the variables to be investigated. In our study of scents, the use of a laboratory allowed prof. Timming and I to control the type of stimuli the participant was exposed to: paper resumes were used instead of real candidates to avoid any possible role played by other factors, such as candidates' physical appearance. Similarly, having three resumes comparable in layout but with different skill levels on food service, instead of three candidates answering to participants' questions, made it possible to avoid the risk of other factors influencing participants' answers. Therefore, isolating the two dependent variables (smells and skills) permits an easier interpretation of the final results of the experiments, since the only

parameter that varied between groups of participants was their exposure to different scents. We could establish a cause-effect phenomenon: the manipulation of smells (cause) lead to different evaluation of the candidates on their employability level (effect).

- II. Another main advantage of the lab experimental approach is that it can be **easily replicated** in a reliable way. This could be both a strength and a weakness of one particular experiment: an experiment that is not correctly replicated could lead to results that are misleadingly significant on statistic basis. This is why it is important to test the experiment before running it with participants, and maybe have it reviewed by another academic, to get suggestions on possible improvements. As highlighted by E. Fehr (2013), replicability provides the basis for statistical tests, additionally critics can run their own experiments to compare the results. The risks underlying replicability are emphasised by A. Falk et al. (2009) in their academic article, but according to their view benefits of the experimental approach are greater than risks: other main benefits are the fact that the experimenter knows and controls the material payoffs, the order in which the different parties can act, the information parties possess when they make choices, and whether the game is repeated or one shot. These advantages all together make it easier for academics to study social sciences phenomena through experiments rather than through field studies. In conclusion, Falk et al. (2009) suggest social scientists to do not underestimate the importance of the experimental approach in their job. In the case of our experiment, I designed it bearing in mind the importance replicating it easily. Since I needed to run the experiment many times with the same conditions, during the testing phase I reported the number of sprays necessary for each paper resume and also when it was necessary to repeat the sprays to have a consisted odour (not too much, not too little) with all the participants. Moreover, the facilities used for the study were always the same ones; I was also trying to replicate the speech/explanation at the beginning of each session in the same way every time I did it. At the end of my research I carefully wrote down all the instruction, since the experiment is going to be replicated by prof. Timming in the upcoming months. The experiment described in this dissertation is also a replica of another experiment: even if I introduced some changes, the study was initially designed at the Saint Mary's University of Halifax, Canada.
- III. Furthermore, another core advantage of lab study is **enabling the use of complex equipment**, that could not be easily moved form the laboratory. This could for example include computers or other special equipment or settings that must not vary, so the

participants are always tested in the same environment. This aspect was less dominant in my experiment, since there was not really a need for special equipment. Anyway, it could have not been possible to run the experiment in the open air, since the smells would have been less perceived by the participants. About the use of complex equipment, I had the chance during my Economics studies at the University of Trento to take part in some Behavioural Economics lab experiments: these experiments required a special software and complex network of computers to be run, that is why a lab environment was the only way to design the research.

- IV. One last reason why lab experiment should be used more often is because they are **relatively cheap and less time consuming** compared to field studies (Falk et al, 2009). Personally, I only partially agree with this statement: even if, thanks to the University of Western Australia, I managed to get participants in my experiment for free, I found quite time consuming the lab management. As reported above in section 5.1, the SONA system allowed me to “hypothetically” recruit many undergraduate students for the experiment, but they actually were fewer than expected. For every occasion I ran the experiment much time was dedicated to setting up the lab, rather than actually performing the study. Anyways, I can imagine how much more time consuming and expensive could have been setting up a field study to investigate the same subject, with real candidates and recruiters. Some lab studies can become quite expensive, if the candidates are receiving a monetary reward for their participation. I took part in some BE experiments where monetary compensation was based on the outcome of my choices: according to Fehr (2013) this is important to motivate the participant and thus enhance the external validity of the experiment.

5.2.2 Disadvantages of Lab Experiments

Moving to the drawbacks of experiments in social sciences, we can list:

- I. The risk that **participants' behaviour is impacted by the experimental setting**. Some participants may act differently than in real life because they know they are subject to experimenter control, and as a result they could avoid taking choices that could be seen as unethical. Participants could also act following common behavioural rules rather than taking their personal decisions, especially if they are acting in a context where other participants could judge their choices. Another risk during experiments is the so-called “Hawthorne

effect”, which occurs when individuals modify an aspect of their behaviour in response to awareness of being observed (McCarney et al., 2007). The name of this effect comes from a research done by Hawthorne in the 20s in an electric factory of Illinois, U.S. He studied the variations in workers’ productivity due to changes in the lighting system of the factory and working hours. But in 1958 Henry A. Landsberger analysed again this research and discovered that these variations in productivity happened not because of changes in timing of breaks or lighting system, but because the novelty for workers to be subjects of research and the visible presence of researchers in the plant lead to temporary increases in workers’ productivity. What happened is that workers felt they were subject to observation, so they changed their behaviour during the experiment; this eventually undermined the integrity of Hawthorne’s research.

- II. Another issue with lab experiments is the **low realism of the environment**, that often looks artificial. Ecological validity, in psychology, is the measure of how test performance predicts behaviours in real-world settings (Britannica.com, 2019). The environment of a lab can deeply impact the way participants make their choices, and in case of low ecological validity, the experiment findings cannot be generalised to real life situations. This could be a main risk for the study conducted by prof. Timming and I, since the participants were asked to assess some resumes in a context that was unusual for them. To overcome the low realism of the lab environment, when giving the experiment instructions we asked participants to imagine to be managers of a restaurant. As restaurant managers, they were responsible for the hiring of a new member of the wait staff. However, according to A. Falk et al. (2009) the real issue is not how realistic the lab environment is compared to a field study setting, but what is the best way to isolate the causal effect we want to investigate. Charles R. Plott (1982) also pointed out the importance of the experimental approach in social sciences against the critics about lab studies: *“While laboratory processes are simple compared to natural occurring processes, they are real processes in the sense that real people participate for real and substantial profits and follow real rules in doing so. It is precisely because they are real that they are interesting”*.
- III. Also having a **homogeneous group of participants** could be an issue for the validity of the experiment. Some academics suggest it would be better to conduct experiment with a representative pool (Fehr et al. 2003), or to increase the number of participants in the study (Isaac and Walker, 1994). In the academic arena, it is difficult to find experiments actually

conducted with a representative pool. A representative sample is a group or set chosen from a larger statistical population or group of factors or instances that adequately replicates the larger group according to whatever characteristic or quality is under study (Britannica.com, 2019). But representative samples can be quite difficult and usually expensive to create. In the case of our study, we opted for a sample of undergraduate students, as it is usual for academic studies. We also targeted MBA students for the Pattern C of the experiment (see Table 3), but we did not plan to conduct the experiment with a representative pool. If we had to run the experiment with real recruiters, it would have taken much more time and money than with college students.

- IV. Lastly, another critic moved to experimenters is that their **behaviour during the experiment could influence choices participants make** (Falk et al., 2009). This happens when a scholar designs the experiment in a way that advantages the expected results, or when the experimenter does not present the experiment in a consistent manner to all participants. One researcher could for example design an experiment in a way that gives hints to participants on what decision to take or on what is actually assessed by that study. The experiment prof. Timming and I carried out was designed to avoid any possible comprehension by participants of what was investigated. Participants did not know that scents were sprayed on resumes: this avoided the risk of participants acting to “please” the researcher, for example assigning lower scores to unpleasant odours and higher to pleasant ones.

6. Conclusions

In the previous section (5.2) we have seen that a discussion about the external validity of experimental research is still an undergoing topic in social sciences. Personally, I consider the experimental approach an interesting way to study human behaviour in social contexts. I furthermore believe the design and conduction of the experiment realised for this dissertation took into deep consideration the recommendations listed in section 5.2 in order to avoid biases.

The conclusive chapter of this dissertation will highlight the possible implication for the findings in the recruitment process (section 6.1), and some ideas for a further investigation of the role scents may play in the selection process (6.4). Moreover, paragraph 6.2 will present the different people I collaborated with during my research at the University of Western Australia; and paragraph 6.3 will focus on the new knowledge I gained thanks to this research experience.

6.1 Main implication of the findings for recruiters and job applicants

Even though experiment results only partially reflect the predictions made in our hypothesis, the finding can still be used to underline some interesting implications for both recruiters and job applicants.

Firstly, Hypothesis 1 was validated by the results of the experiment: holding constant all other variables, candidates wearing a pleasant scent or not wearing a scent are more likely to be hired compared to candidates having an unpleasant odour (e.g. sweat odour). This outcome was in line with expectations, since unpleasant smells are not well tolerated in workplaces and indicate a lack of self-care (Riach et al., 2015; see section 2.2.). The importance of this finding is emphasised by the fact that in our simulation we were looking for a new member for the wait staff of a restaurant, so an employee that is in direct contact with the customers and might be seen by patrons as the “image” of the restaurant (J. Karlsson, 2012).

While Hypothesis 1 has been validated by results, Hypothesis 2 did not show statistical evidence of the preference by participants for cologne versus neutral scents in the assessment of a job applicant. This finding could be seen in light of Riach et al.’s research (2015) on workplace odours, where the

authors reported the preference by the majority of employees for neutral odours rather than perfumes. However, our experiment reported a slight preference by participants for job applicants wearing cologne rather than not wearing it, but this finding did not reach statistical evidence. A previous study on scents by Baron (1986) reported preference of recruiters for pleasant scents, during an experiment similar to the one designed by prof. Timming and I. As exposed throughout this dissertation and summarised here, it is not easy to understand the role perfume plays in the selection process. The data collected in my research was not sufficient to establish a relationship between these two variables, even if looking at some previous research on the topic (Riach et al., 2015) we could conclude that perfume does not lead to discrimination during the selection process.

While it is possible to conclude that during an in-person job interview it is of crucial importance to avoid having an unpleasant odour (e.g. body or food odour), the opposite cannot be said for pleasant scents. It could be the case that during a first meeting with the job applicant, recruiters subjectively judge perfume or cologne worn by the candidate. Some recruiters could bond perfumes with positive values, such as more self-care and attention to details of the candidate; while some other recruiters might connect scents with negative values, such as an excessive self-esteem or manipulative intents of the applicant. This assumption could actually have been represented in our experiment by the high variance of answers given by participants when evaluating the employability for Robert Johnson (see Annex 6): in fact, the variance in the answers was higher when the candidate resume was sprayed with cologne compared to when it had a neutral odour. Maybe, wearing cologne has been considered desirable by some recruiters (our participants) who assigned a higher employability score to Robert Johnson; while some other recruiters were negatively influenced by cologne, and they eventually gave Robert a lower employability score. In spite of these reflections, the size of our research sample was not large enough to draw any valid conclusions on that, leaving room for further research.

However, since we just suggested the idea that the evaluation of job applicants might be linked to personal preferences of recruiters regarding scents, it could also be that the personality of the recruiter has an influence on how their evaluation is impacted by scents. With Hypothesis 3 and 4 we assumed that recruiters who show some specific personality traits would be more inclined to assess candidates based on their scent rather than solely on their skills. In particular, we supposed that participant scoring high in Agreeableness would be less likely to judge job applicants for their odour, while participants scoring high in Neuroticism would consider odours more in their decision-

making process. But results of our research did not find any evidence of the role personality of recruiters might play in the assessment of job applicant (see Section 4.3 for details). Nevertheless, the small sample of candidates we reached in the experiment does not allow us to come to a definitive conclusion, and the debate on how personality influences the decision-making process in personnel selection is interesting yet complex to untangle, since it requires a thorough knowledge of psychological and sociological theories. In light of these considerations, I limited the discussion of this topic to a review of previous literature (section 2.4) and to the development of a regression model for the statistical analysis of BFI test results (section 4.3).

In conclusion, the main implication for job seekers of this research is that they should always avoid having unpleasant odours around them when having a job interview, because the image (we could say “the smell”) they give of themselves is often as important as their skills. Furthermore, since we do not know personal tastes of the recruiter, it would be more prudent to avoid wearing any type of perfume or aftershave, because they could impact—even unconsciously—the recruiter’s decision. In light of the new findings of this research, recruiters should also be aware of the critical role some simple drops of perfume might have on the first impression that a prospective employee makes, potentially leading them to wrong hiring decisions or to hiring discrimination.

6.2 Collaboration and Problem Solving

During this project, I had the chance to discover the world of academic research, facing many unexpected issues and trying to solve them with a great degree of freedom.

The main person of contact for the project was Prof. Andrew Timming: he gave me guidelines on how to prepare the research and helped me with every issue I faced during the assignment. I enjoyed the fact that I had much room to make the choices I wanted: the supervisor has been present when I needed advice, but I still had the responsibility to decide how to proceed with every step of the project. I can honestly say that I had my say on most of the work I have done and on most of the challenges I faced, too. I appreciated the good amount of trust and the many responsibilities prof. Timming left to me.

I believe many of the issues I faced relate to the fact that I had never run a research project before. The lack of expertise and the lack of a social network with UWA scholars may have played a

significant role in the slow development of the project and consequently in the insufficient amount of data collected at the end of my 100 hours of research project. However, I consider my internship as a remarkably interesting insight in a complex world that I did not know before.

Moreover, I had to deal with a number of different offices to make this research happen at the University of Western Australia. One step in particular took quite a lot of time: the approval of the experiment by the Human Ethics Office. In fact, research at the University of WA must be reviewed and approved by an ethics committee before the interaction with participants. This review is usually done by a formally constituted Human Research Ethics Committee (HREC) which meets once a month. In the case of our experiment the approval of its final design took about 20 days, but we had an issue concerning under-age students, so we needed to wait two more weeks for an emendation by the HREC. This significantly delayed data collection for the experiment, impacting the total number of participants recruited.

Finally, this project helped me understand how important it is to have not only a well-crafted experiment, but also to have a good network of researcher and lecturers that can give you suggestions and can help you in finding participants for the study. In particular, I had the chance to connect with the lecturers of the OB units in the undergraduate courses (Dr. R) and in the MBA courses (Dr. B). I was glad to discover a great community of academics inside the UWA Business School, always eager to help researchers in their projects: thanks to their support, I managed to recruit many of the students that took part in my study.

6.3 New and reinforced knowledge

My dissertation was built around an organic research project that I managed from the beginning to its end. This put me in contact with many different issues, that allowed me to build new knowledge during each of the research steps.

Firstly, I learnt how to design an experiment in a rigorous way, considering all the details to replicate it in the exact same way with each participant. This is a crucial step to ensure high quality research data and avoid any risk of biases or errors due to variable conditions while running the experiment. My supervisor taught me how to test the experiment, paying attention to details that are more likely to fluctuate during time, such as the intensity of scents sprayed on papers. It was necessary to

exactly determine how many sprays were enough for each paper sheet and how long the smell was lasting for. I have learnt that designing and running an experiment it is not an easy job: as reported in section 5.2, scholars must be particularly rigorous if they want to avoid biases in the results that could invalidate moths of work.

I also built new knowledge on how to craft surveys, particularly using the Qualtrics online platform. This is a software freely available to UWA staff and it is an easy and reliable way to collect answers of participants in the study. I decided to make the experiment “friendlier” to students, allowing them to take the survey directly on their smartphone instead of relying on computers. The smartphone online survey decreased the necessity of hardware to perform the experiment and decreased the time I had to spend in data entry, too.

Finally, I had to put into practice some of the skills I have learnt this semester during the lectures of unit HRMT5504 HR Analytics with Dr. C. Leighton. That unit was fundamental in teaching me how to use SPSS, one of the most common statistical software for analysis of data in social sciences. After collecting the results, I checked using SPSS if there was any significant difference in how scents impact choices in employee selection. This was not an easy task: data collected using the online survey, had to be cleaned before running any further analysis. That required a good understanding of SPSS, which I could not have had without HRMT5504.

6.4 Ideas for topic development in future research

I personally found this study particularly interesting not only because it gave me an insight on the world of academic research, but also because I had to investigate an unusual topic. The existing literature on this subject was poor and often controversial, so I had to figure out most of the steps to build the experiment by myself.

Scholars are still far from completely understanding the role played by scents in the recruitment process. However, looking at recent research, the theory of “aesthetic labour” could deeply relate to the findings of this experiment. This theory bases on the idea that employees, especially the ones directly in contact with customers, always have to “look good and sound right” to clients (D. Nickson, 2007). There are many definitions of ‘aesthetic’, but in general, aesthetic involves knowledge

originating from our senses – sight, hearing, smell, taste or touch – and the meaning of this knowledge to us. Therefore, scents could also play a role in shaping the appropriate image of the company conveyed by an employee. For example, employees of a high end boutique could wear perfume to improve customers shopping experience, while the wait staff of a restaurant should possibly avoid using perfume to prevent covering the aroma of the food being served. One future research line could investigate the role of perfumes in different working contexts, to uncover when artificial scents should be used and when they should not.

Moreover, another interesting stream of research is the one studying the role of scents in relation to the discrimination of smokers in the workplace. According to Roulin et al. (2016), keeping smoking habits hidden during an interview will increase an individual's chances of being hired. In fact, smell of tobacco and especially of marijuana, could influence the recruiter's opinion during a job interview. It is not surprising that many organisations have avoided hiring smokers based on perceptions of greater risk of absenteeism (Houle et al., 2009). Dr. Roulin is currently running an experiment in Canada similar to the one proposed in this dissertation, to find out if job applicants smelling of tobacco or marijuana are subject to hiring discrimination.

One last topic worthy of a closer look is the relationship between scents and recruiter's personality. Unfortunately, the experiment presented in these pages did not find any statistical evidence of correlation between employability and personality traits. However, the sample of answers collected until today is insufficient to conclude that a relationship does not exist. Moreover, there is not a universal opinion regarding "pleasantness" of perfumes, that are perceived differently by different subjects and by different cultures and societies, too. That said, the relationship between personality and hiring discrimination will be particularly difficult for scholars to untangle.

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8. Annex Documents

Annex 1. Job Advertisement for Moxie's Bar and Grill

Moxie's Bar and Grill

Job Type: Part-time

Role: waitstaff

We are looking for a dedicated, hardworking and trustworthy individual to fill the role of a server for our dining service. As an ambassador for our restaurant, you will carry-out the exceptional service and cuisine which are the hallmarks of our customer experience. You will be required to take orders and deliver them to our guests while maintaining and enhancing the quality of their environment. Working in close collaboration with colleagues, you must have the ability to synthesize and perform well with others under pressure. Established health and safety standards must be followed by servers and all other employees. The goal is to accelerate our business development by providing customers with a memorable encounter.

KEY RESPONSIBILITIES

- Be enthusiastic, outgoing, positive and upbeat.
- Must have a well-groomed appearance at all times.
- Accommodating and willing to go the extra mile.
- Ability to build professional relationships with guests and create an air of familiarity.
- Prompt table greeting.
- Learn and maintain knowledge of food and beverage menus.
- Table service for guests (taking orders, answering menu and beverage inquiries, explaining daily features, placing orders with the kitchen.)
- Running food to tables.
- Quality checks.
- Processing bills and taking payment.
- Handling guest concerns with the support of the management team.

EXPERIENCE & KEY ATTRIBUTES

- Attention to detail.
- Remains calm under pressure.
- Ability to organize and plan.
- Sales ability.
- Excellent verbal communication.
- Product Knowledge.
- Ability to maintain a sense of urgency and keep momentum.
- Desire to be part of a team and contribute as such.
- High level of self-confidence.
- Sincere desire to please others and do a great job.

Annex 2. Resumes of the three candidates for the wait staff job

Robert Johnson

333 Robie Street, Perth, WA | 0402222222 | email address: robertjohnson@gmail.com

PROFILE

A team player who is hands-on, can adapt to the situations quickly and can fulfill a variety of roles as and when required. Efficient and capable of a high level of sustained physical effort and able to respond to a demanding workload. Able to work to tight deadlines & use initiative within a pressurized environment. Willing to work evenings, nights and weekends, all at short notice.

EXPERIENCE

Supplement King, Park Lane Mall, Perth, WA- Sales/Cashier Sept. 2017-Present

- Educate customers about supplements, health, nutrition, and exercise
 - Demonstrated engaging customer service skills and a solid work ethic.

The GAP, Mic Mac Mall, Perth, WA- Sales Assistant **Summer 2016**

- Greeted customers and helped in product selection, check-out, and merchandising.
 - Willingly stepped up to work overtime to ensure adequate staffing during sales events.

EDUCATION

University of Western Australia

Sept. 2016 - Present

- Bachelor of Science, Major in Biology.

Citadel High School, Perth, WA.

Sept. 2013 - June 2016

- Obtained high school diploma.

VOLUNTEER WORK

Nova Scotia Health Care Volunteer, Perth, WA.

Sept. 2016 - Present

- Monitored patient flow in the waiting room, operating room, and emergency room.
 - Made patient rounds and visited with about 35 patients each day in order to assess needs and status.

Hope Cottage Volunteer, 2435 Brunswick St, Perth, WA.

Dec. 2014-Aug. 2016

- Distribution of donated food.
 - Assisted in stocking of merchandise and updating inventory.
 - Trained new volunteers in pantry policies and procedures.

REFERENCES

- Available upon request

James Smith

123 Wellington Street, Perth, WA | 0403333333 | james_smith@hotmail.com

PROFILE

Self-motivated and highly reliable university student positioned to contribute strongly to customer service operations demanding tact, enthusiasm, and an exemplary work ethic. Able to utilize strong problem-solving skills, team orientation, and interpersonal strengths to ensure the provision of great customer service within fast-paced environments.

EDUCATION

University of Western Australia, Perth, WA

Sept. 2015 - Present

Bachelor of Arts, Major in Sociology.

- Extensive experience with customer service and interpersonal communication
- Proficient in Microsoft Office programs, including Word, Excel, Outlook, and PowerPoint
- Strong sense of ethics and personal drive
- Dean's List 2016-2017

Citadel High School, Perth, WA.

Sept. 2012 - June 2015

- Obtained high school diploma
- Honours throughout the three years

WORK EXPERIENCE

Starbucks, 5640 Spring Garden Rd #301, Perth, WA-*Barista*

Sept. 2015- Present

- High attention to detail in order to accurately measure and mix ingredients and create desired drinks for customer consumption.
- Familiar in dealing with money and cash register
- Strong interpersonal skills and communication skills when dealing with customers.
- Able to handle the pressure of a busy work environment, and can calmly complete multiple duties at one time.

McDonald's, Quinpool Rd, Perth, WA-*Shift manager*

Jun. 2013 - Aug. 2015

- Took accurate food orders
- Prepared the world famous McDonald's food
- Ensured items were well-stocked
- Motivated crew members to do well in their current positions so they can move on to new roles

APPLICABLE TRAINING SKILLS

Knowledgeable of and ability to comply with:

- Safe Food Handling Practices
- National Sanitation Code
- CPR/First aid
- RSA Certification

REFERENCES

- Available upon request.

Thomas Brown

2121 Tower Road, Perth, WA
040444444
thomasbrown_@outlook.com

Profile



Enthusiastic and courteous food service professional with just over 5 years of experience. More than able to create a good first impression with customers, and has a genuine passion for delivering exceptional service. Excellent proficiency in table serving with an extensive knowledge of food, wine and spirits.

Work experience

Catering Company, Perth, WA - Busser/Food Runner **Nov. 2016 - Present**

- ◆ Delivered food to the dining area, delivered checks to customers
- ◆ Cleaned tables and performed other tasks to assist servers
- ◆ Answered guests questions about the menu & facility

Cora's, Perth, WA - Waiter **Dec. 2013 - Nov. 2016**

- ◆ Provided menus to customers and detailed specials as well as information on all entrees
- ◆ Served drinks, food and took orders
- ◆ Relayed orders to the cooks and ensured that all orders were delivered accurately and on time
- ◆ Provided customers with checks and took payments
- ◆ Kept the restaurant organized and clean

Education

- ◆ **University of Western Australia, Perth, WA** **Sept. 2016 - Present**
 - ◆ Bachelor of Business Administration
- ◆ **Citadel High School, Perth, WA** **Sept. 2013 - Jun. 2016**
 - ◆ Obtained high school diploma.

Skills

- ◆ Serve Right Certification (Western Australia Tourism Human Resource Council)
- ◆ Safe food-handling certificate
- ◆ First Aid /CPR Certification
- ◆ RSA Certification

References

- ◆ Available upon request.

Annex 3. Results of the testing on Experiment Part 1

PROCEDURE:

- *Bad smell: 3 sprays on the back of the paper sheet, 11am*
- *Male cologne: 1 spray on the back of the paper sheet, 11am*

AIM: to highlight the strength and pleasantness/unpleasantness of scents.

TEST: 3-5pm, random allocation of CVs and scents.

1. *Candidate 1*
 - a. *Neutral, Good, Bad*
 - b. *Both smells were perceived. Bad smell associated with wind*
2. *Candidate 2*
 - a. *Neutral, Bad, Good*
 - b. *Bad smell perceived as body odour/sweat*
 - c. *Good smell perceived as feminine perfume, less intense than bad smell*
3. *Candidate 3*
 - a. *Neutral, Good, Bad*
 - b. *Both smell perceived, bad more intense than strong*
 - c. *Bad smell associated to vomit, not to a person but to a situation*
4. *Candidate 4*
 - a. *Good, Neutral, Bad*
 - b. *No smells perceived as directly related to the experiment, the candidate was too concentrated in the analysis of the resumes*
 - c. *Bad smell described as relating to “bad quality envelopes provided by the university for the experiment”*
 - d. *Bad smell reminds of unclean toilet or faeces. It doesn’t remind her of a person (ie sweat) but of a room/situation*
5. *Candidate 5*
 - a. *Neutral, Good, Bad*
 - b. *Both smells perceived. Reminds the candidate of dog excrement.*
 - c. *Good smell associated with a candidate that wanted to “give a personal touch to his curriculum, so decided to spray it with perfume”*
6. *Candidate 6*
 - a. *Bad, Good, Neutral*
 - b. *Only bad smell perceived, related to toilet/faeces*

Considerations:

- *In general, the smell was perceived most of the times by candidates, especially if the bad was before the strong one. The smells hit a plateau after an hour from the spraying.*
- *Problem with perfume: after some time, the room was smelling quite a lot of perfume, so the candidates were not able to distinguish the difference when manipulating the paper sheets → run the experiment in different rooms for different smells*
- *Problem with bad smell: most of the times not associated with sweat or body odour, but just with an unpleasant situation sometimes not directly related to the job applicant*

Annex 4. The Big Five Inventory Test, with scale scoring

▪ TEST:

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

1	2	3	4	5
Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

I see Myself as Someone Who...

- 1. Is talkative 23. Tends to be lazy
- 2. Tends to find fault with others 24. Is emotionally stable, not easily upset
- 3. Does a thorough job 25. Is inventive
- 4. Is depressed, blue 26. Has an assertive personality
- 5. Is original, comes up with new ideas 27. Can be cold and aloof
- 6. Is reserved 28. Perseveres until the task is finished
- 7. Is helpful and unselfish with others 29. Can be moody
- 8. Can be somewhat careless 30. Values artistic, aesthetic experiences
- 9. Is relaxed, handles stress well 31. Is sometimes shy, inhibited
- 10. Is curious about many different things 32. Is considerate and kind to almost everyone
- 11. Is full of energy 33. Does things efficiently
- 12. Starts quarrels with others 34. Remains calm in tense situations
- 13. Is a reliable worker 35. Prefers work that is routine
- 14. Can be tense 36. Is outgoing, sociable
- 15. Is ingenious, a deep thinker 37. Is sometimes rude to others
- 16. Generates a lot of enthusiasm 38. Makes plans and follows through with them
- 17. Has a forgiving nature 39. Gets nervous easily
- 18. Tends to be disorganized 40. Likes to reflect, play with ideas
- 19. Worries a lot 41. Has few artistic interests
- 20. Has an active imagination 42. Likes to cooperate with others
- 21. Tends to be quiet 43. Is easily distracted
- 22. Is generally trusting 44. Is sophisticated in art, music, or literature

- **SCORING:**

BFI scale scoring (“R” denotes reverse-scored items):

Extraversion: 1, 6R, 11, 16, 21R, 26, 31R, 36

Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42

Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R

Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39

Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44

Annex 5. Screenshot of the Sona Webpage, with Experiment Information available to OB Students

The screenshot shows a webpage from the University of Western Australia's Sona system. At the top, there is a header with the university's logo and name, followed by a banner for the Business School MGMT1135 Organisational Behaviour course. Below the header, a navigation bar includes links for 'My Studies', 'All Studies', 'Add New Study', 'My Profile', and 'Logout'. A user profile for 'Giovanni Vivian (Researcher)' is also visible. The main content area is titled 'Study Information' and contains a table with the following details:

Study Name	Evaluating Job Applicants (NOW AVAILABLE FOR UNDER AGE STUDENTS)
Study Type	Standard (lab) study This is a standard lab study. To participate, sign up, and go to the specified location at the chosen time.
Study Status	Visible to participants : Approved Active study : Appears on list of available studies
Duration	30 minutes
Credits	1 Credits
Abstract	Act like an HR Manager and select the best job applicant
Description	WHAT DOES PARTICIPATING MEAN? (OR WHAT WILL I HAVE TO DO?) Participants will be invited to act as the supervisor for a restaurant. You will be given three resumes and assigned to hiring a new employee based on the provided job description. You will then complete a short survey in response to your decision and fill out a 44-item personality questionnaire. The experiment should take between 20-30 minutes in total.

Annex 6. Participant Consent Form



A/Prof. Andrew R. Timming
UWA Business School, M261
The University of Western Australia
35 Stirling Highway, Crawley WA 6009
Tel: +61 (0)8 6488 2946
Email: Andrew.Timming@uwa.edu.au
www.business.uwa.edu.au

Participant Consent Form

Evaluating Job Applicants at a Restaurant

I, _____ have read the information provided and any questions I have asked have been answered to my satisfaction. I agree to participate in this research project, realizing that I may withdraw at any time without reason and without prejudice.

I understand that all identifiable information that I provide is treated as confidential and will not be released by the investigator in any form that may identify me unless I have consented to this. The only exception to this principle of confidentiality is if this information is required by law to be released.

Participant signature _____

Date _____

Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Ethics Office at the University of Western Australia on (08) 6488 3703 or by emailing to humanethics@uwa.edu.au

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project.

Annex 7. Participant Information Form



Assoc. Prof. Andrew R. Timming
UWA Business School
The University of Western Australia
35 Stirling Hwy, Crawley WA 6009
Tel: +61 (0)8 6488 2946
Email: andrew.timming@uwa.edu.au
www.business.uwa.edu.au

Participant Information Form

Project title: Evaluating Job Applicants at a Restaurant

Name of Researchers: A/Prof. Andrew R. Timming, Dr. Nicolas Roulin and Mr. Giovanni Vivian

INTRODUCTION AND PURPOSE OF THIS RESEARCH

You are being invited to participate in our research study at UWA. The goal of this experiment is to have participants evaluate three resumes of individuals applying for the same job.

Participation in our research study is completely voluntary. Should you wish to no longer participate, you may withdraw at any point of the process without penalty. There will be no personal information collected during this study, therefore, you will remain completely anonymous. Your participation will have no bearing on your current or future employment status. The investigators have no financial interest in conducting this research study.

WHO IS ELIGIBLE TO TAKE PART?

Only adults aged 18 or older are eligible to participate in this study.

WHAT DOES PARTICIPATING MEAN? (OR WHAT WILL I HAVE TO DO?)

Participants will be invited to act as the supervisor for a restaurant. You will be given three resumes and assigned to hiring a new employee based on the provided job description. You will then complete a short survey in response to your decision. Finally, you will be asked to fill out a 44-item personality questionnaire. The experiment should take between 20-30 minutes in total.

WHAT ARE THE POTENTIAL BENEFITS OF THIS RESEARCH?

This study aims to improve the decision-making process for job hiring and lower the possibility for organizations to overlook potentially qualified applicants.

WHAT ARE THE POTENTIAL RISKS FOR PARTICIPANTS?

There is no foreseeable risk associated with participating in the study. Although unlikely, it is possible some participants may feel slightly uncomfortable while assessing the resumes. In the event that this happens, participants will be allowed to withdraw from the study at any time and for any reason.

WHAT WILL BE DONE WITH MY INFORMATION? (OR WHO WILL HAVE ACCESS TO IT?)

Your participation in this study is strictly confidential. The completed surveys will be stored in a locked office at UWA and all other data will be stored on password-protected computers also located at the university. The anonymous data will be retained for a period of 7 years. Only the researchers listed above will have access to the information collected. Data will be used in academic publications or presentations. With your consent to participate in this study, you agree with the publication and presentation of the (aggregated and anonymous) data collected.

WHAT TYPE OF COMPENSATION IS AVAILABLE FOR PARTICIPATION?

No compensation will be paid, although participants may be eligible for credit points through the SONA system.

HOW CAN I WITHDRAW FROM THIS STUDY?

All participants are free to withdraw from the research study at any time with no risk. Data collected up until that point will not be included in the study analyses.

HOW CAN I GET MORE INFORMATION? (OR HOW CAN I FIND OUT MORE ABOUT THIS STUDY?)

Further information about this study may be obtained by emailing the Chief Investigator of the research team using the contact details below.

Contacts

If you would like to participate or discuss any aspect of this study, please feel free to contact the chief investigator at (08) 6488 2946 or Andrew.timming@uwa.edu.au.

Thank you very much.

Sincerely,

Associate Professor Andrew R. Timming, Chief Investigator

Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time. In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Ethics office at UWA on (08) 6488 4703 or by emailing to humanethics@uwa.edu.au. All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project.

Annex 8. Independent T test results on the difference of means for experiment 1,2&3 vs. experiment 4,5&6

Experiments 1,2,3 → johnson=good smell, smith=neutral, brown=bad

Experiments 4,5,6 → johnson=neutral, smith=bad, brown=good

Skills → Johnson=low, Smith=mid, Brown=high

T-Test

Group Statistics

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Johnson, employable	Exp. 1,2,3	16	5.1250	1.45488	.36372
	Exp. 4,5,6	16	4.8750	.95743	.23936
Smith, employable	Exp. 1,2,3	16	6.0000	1.09545	.27386
	Exp. 4,5,6	16	5.0625	1.48183	.37046
Brown, employable	Exp. 1,2,3	16	5.3750	1.66833	.41708
	Exp. 4,5,6	16	6.1250	1.36015	.34004

Independent Samples Test

		Levene's Test for Equality of Variances			t Test for Equality of Means			95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Johnson, employable	Equal variances assumed	2.205	.148	.574	30	.570	.25000	.43541	-.63923	1.13923
	Equal variances not assumed			.574	25.940	.571	.25000	.43541	-.64510	1.14510
Smith, employable	Equal variances assumed	1.043	.315	2.035	30	.051	.93750	.46069	-.00336	1.87836
	Equal variances not assumed			2.035	27.624	.052	.93750	.46069	-.00677	1.88177
Brown, employable	Equal variances assumed	.231	.634	-1.394	30	.174	-.75000	.53813	-1.84901	.34901
	Equal variances not assumed			-1.394	28.830	.174	-.75000	.53813	-1.85088	.35088

Annex 9. Independent T test results on the difference of means for experiments 4,5&6 for White vs. Asian respondents

Experiments 4,5,6 → johnson=neutral, smith=bad, brown=good

Skills → Johnson=low, Smith=mid, Brown=high

➡ Test t

Statistiche gruppo

What is your Ethnic Group? - Selected Choice		N	Media	Deviazione std.	Media errore standard
Johnson, employable	White	8	4,6250	1,06066	,37500
	Asian	7	5,2857	,75593	,28571
Smith, employable	White	8	4,6250	1,30247	,46049
	Asian	7	5,4286	1,71825	,64944
Brown, employable	White	8	6,5000	1,41421	,50000
	Asian	7	5,7143	1,38013	,52164

Test campioni indipendenti

		Test di Levene per l'egualanza delle varianze			Test t per l'egualanza delle medie			Intervallo di confidenza della differenza di 95%		
		F	Sign.	t	gl	Sign. (a due code)	Differenza della media	Differenza errore standard	Intervallo di confidenza Inferiore	Superiore
Johnson, employable	Varianze uguali presunte	,365	,556	-1,369	13	,194	-,66071	,48260	-1,70331	,38188
	Varianze uguali non presunte			-1,401	12,551	,185	-,66071	,47144	-1,68292	,36149
Smith, employable	Varianze uguali presunte	,274	,609	-1,029	13	,322	-,80357	,78081	-2,49042	,83327
	Varianze uguali non presunte			-1,009	11,137	,334	-,80357	,79613	-2,55322	,94607
Brown, employable	Varianze uguali presunte	,487	,498	1,085	13	,297	,78571	,72384	-,77804	2,34947
	Varianze uguali non presunte			1,087	12,817	,297	,78571	,72257	-,77758	2,34901

Annex 10. Online questionnaire part one/demographics (with answers)

2. How do you self-identify?

#	Answer	Bar	Response	%
1	Male		14	30.43%
2	Female		32	69.57%
3	Other, please specify if you wish		0	0.00%
	Total		46	100.00%

3. What is your Ethnic Group?

#	Answer	Bar	Response	%
1	White		27	58.70%
2	Black or African American		0	0.00%
3	Indigenous Australian or Torres Strait Islander		0	0.00%
4	Asian		13	28.26%
5	Indian		0	0.00%
6	Other, please specify if you wish		3	6.52%
7	Middle Eastern		3	6.52%
	Total		46	100.00%

4. Are you wearing perfume/cologne?

#	Answer	Bar	Response	%
1	Yes		23	50.00%
2	No		23	50.00%
	Total		46	100.00%

5. How often do people wear perfume/cologne around you?

#	Answer	Bar	Response	%
1	Always		5	10.87%
2	Most of the time		16	34.78%
3	About half the time		10	21.74%
4	Sometimes		12	26.09%
5	Never		3	6.52%
	Total		46	100.00%

6. Do you think wearing perfume has an impact on an individual's ability to meet job quality standards?

#	Answer	Bar	Response	%
1	Positive impact		26	56.52%
2	Negative impact		1	2.17%
3	No impact		12	26.09%
4	Unsure		7	15.22%
	Total		46	100.00%

7. How often do people have an unpleasant odour around you?

#	Answer	Bar	Response	%
1	Always		0	0.00%
2	Most of the time		1	2.17%
3	About half the time		1	2.17%
4	Sometimes		36	78.26%
5	Never		8	17.39%
	Total		46	100.00%

8. Do you think having an unpleasant odour has an impact on individual's ability to meet job quality standards?

#	Answer	Bar	Response	%
1	Positive impact		1	2.17%
2	Negative impact		40	86.96%
3	No impact		2	4.35%
4	Unsure		3	6.52%
	Total		46	100.00%

Annex 11. Statistics for the Linear Regression Model in experiments 4,5&6.

(Dependent Variable: Johnson, employable. Independent Variables: Big 5 of personality traits.)

Regressione

Variabili immesse/rimosse^{a,b}

Modello	Variabili immesse	Variabili rimosse	Metodo
1	Openness, Extraversion, Conscientiou sness, Neuroticism, Agreeablene ss ^c	.	Inserisci

a. Variabile dipendente: Johnson, employable

b. I modelli sono basati solo su casi per cui Groups = Exp. 4,5,6

c. Sono state immesse tutte le variabili richieste.

Riepilogo del modello

Modello	R Groups = Exp. 4,5,6 (selezionato)	R-quadrato	R-quadrato adattato	Errore std. della stima
1	,834 ^a	,696	,543	,64703

a. Predittori: (costante), Openness, Extraversion, Conscientiousness, Neuroticism, Agreeableness

ANOVA^{a,b}

Modello	Somma dei quadrati	gl	Media quadratica	F	Sign.
1	Regressione	9,564	5	1,913	4,569
	Residuo	4,186	10	,419	
	Totale	13,750	15		

a. Variabile dipendente: Johnson, employable

b. Selezione dei soli casi per cui Groups = Exp. 4,5,6

c. Predittori: (costante), Openness, Extraversion, Conscientiousness, Neuroticism, Agreeableness

Coefficienti^{a,b}

Modello		Coefficienti non standardizzati		Coefficienti standardizzati		
		B	Errore standard	Beta	t	Sign.
1	(Costante)	9,984	3,389		2,946	,015
	Neuroticism	,057	,463	,023	,122	,905
	Agreeableness	-2,052	,638	-,627	-3,218	,009
	Conscientiousness	1,176	,398	,549	2,953	,014
	Extraversion	-,300	,346	-,158	-,866	,407
	Openness	-,103	,698	-,030	-,147	,886

a. Variabile dipendente: Johnson, employable

b. Selezione dei soli casi per cui Groups = Exp. 4,5,6

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