**The Effect of Work-Attire on Perceptions of Competency of Women in the Workplace**

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# Table of Contents

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Author

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# 1.0 Abstract

**Purpose** - The purpose of this experiment was to examine whether manipulations to the provocativeness or conservativeness of female work-attire could impact perceptions of competency.

**Design/methodology/approach** – The experiment used a repeated measures design where New Zealand full-time employed participants responded to three conditions. The experiment measured six competencies using ratings on work competency scales to capture participants' competency perceptions of a model wearing conservative and provocative work-attire, and a control condition. Three traditionally masculine: assertiveness, leadership, achievement striving, and three traditionally feminine: agreeableness, dependability, and sociability competencies were measured. Hypotheses were empirically tested though repeated measures analysis of variance and post hoc contrasts via the Tukey's test.

**Findings** – The findings show a statistically significant main effect of attire, as well as a statistically significant interaction between attire condition and competency ratings. Participants were found to perceive the model as higher in assertiveness, achievement striving and leadership masculine competencies when dressed in conservative work-attire, as compared to agreeableness and sociability feminine competencies. Moreover results showed the masculine conservative condition was significantly different from the control condition with participants rating the conservative condition significantly higher in assertiveness, achievement orientation, leadership, sociability, and dependability when compared to the control condition. The provocative feminine condition mean ratings were found to be significantly different from the control condition. However, post hoc analysis reviled that none of the six competencies tested reached significance when compared to the competency mean ratings for the control condition.

**Practical implications** – By manipulating work-attire, women may be able to increase perceptions of advantageous competencies that are not commonly attributed to women. Thereby reducing the person-role-fit disparity, often attributed to women in traditional masculine roles.

**Social implications** – Competencies that are stereotypically associated with women in the workplace are often associated with less than favorable outcomes in leadership positions. By examining the factors that contribute to gender stereotyping, we can provide more insight into the disparity between the number of women in the New Zealand workforce and the number of women in senior leadership roles.

**Originality/value** – Previous research has focused on perceptions of extreme attire-provocativeness which provides little insight to the traditional work setting. Therefore, examining the effect of more realistic manipulations to work-attire provides more practical value. Previous research has also relied on vague Likert type scales to measure competencies. This study is the first to utilize robust work competency scales. Moreover, this study examined the effect work-attire had on perceptions of traditional masculine and feminine competencies. To the authors knowledge this is the first time this interaction has been examined.

## 2.0 Introduction

### 2.1 Overview

As the new decade begins, we are given a unique opportunity to reflect on women's position in the labour market today, as compared to ten years ago. At first glance things appear optimistic. Fortune boasting record numbers of female CEO's on the Fortune 500 list, 33 out of the 500 respectably (Zillman, 2019). In 2019, New Zealand celebrated a pay gap of 9.3% between male and female employees in the same role, the third smallest percentage since 1998 (Stats.NZ, 2019). New Zealand also experienced record numbers of women in the work force, women now making up the majority of the workforce when all forms of employment are included (NZ.Stat, 2019). The number of New Zealand women in full-time work has also increased, with 775,000 women now working full-time, compared to 584,000 a decade ago (NZ.Stat, 2019). Despite these glowing statistics however, there is still an overwhelming lack of New Zealand women in senior leadership positions (Austin, 2016). In 2015, the proportion of New Zealand women in senior leadership roles dropped from 31% to 19%, with this figure remaining steady over the last six years (Davies, 2018). Thus, New Zealand's exponential growth of women in the workplace is not being reflected in the number of females in senior management positions.

It stands to reason then, that there may be variables hindering women's career progress in New Zealand workplaces. One area that may provide some insight into women's progression, or lack thereof, is the realm of work-attire. Clothing is used as a social tool for indicating roles, expressing the self, and perceiving others (Ericksen, & Sirgy, 1992; Piacentini, & Mailer, 2004). While it is generally accepted that clothing plays a large and important role in our day-to-day lives, there is still relatively little known about its role in the workplace. Despite this, organizations spend thousands of dollars yearly providing, and maintaining dress codes and work uniforms (Soloman, 1987).

What is already understood is that women have a unique relationship with their appearance. Women spend more time thinking about, and maintaining their appearance (Abbey, Cozzarelli, McLaughlin, & Harnish, 1987 ; Sinclair, 2011), are more likely to experience negative affect due to their appearance (Glick, Larsen, Johnson, & Branstiter, 2005; Kwon, 1994), and are objectified and dehumanized based on appearance by both men and other women (Awasthi, 2017; Kellie, Blake, & Brooks, 2019 ; Vaes, Paladino, & Puvia, 2011). Thus, it is reasonable to predict women may also experience similar hardships with regards to their appearance in the workplace. This experimental research paper will therefore examine whether manipulations to the provocativeness or conservativeness of women's work-attire can impact perceptions of work related competency. Specifically, how will these manipulations effect perceptions of traditionally masculine and feminine competencies?

The introduction will begin with a brief historical overview of the role of clothing in the workplace, followed by an explanation of the competency perception process. A theoretical framework drawing on symbolic interaction, cognitive theory, gender bias, and stereotyping literature is proposed. These theories are then applied to person-role-fit judgments and competency perception outcomes to complete the theoretical framework. Finally, relevant parallel research will be drawn on, and hypotheses proposed. A review of the strengths and limitations of previous research in this field will also be given. The social and practical contributions of the current experimental research will be examined throughout.

*2.2 History of Clothing in the Workplace*

The first academic to examine clothing as more than a protective feature was Veblen (1953). His theory suggested women wore clothing to express social status and core values of society (Veblen, 1953). Later, academics came to understand clothing was much more complex.

Clothing was shown to be an essential social tool used for indicating roles, expressing the symbol of the self, and developing perceptions of others (Ericksen, & Sirgy, 1992; Kaiser, 1983; Piacentini, & Mailer, 2004). For women in particular, clothing has had a unique, all be it restrictive history. While male attire has developed through practicality, female attire has developed through various phases of sex-distinction (Gilman, 2002). Thus, men's clothing has come to inherently represent many roles and identities such as; athlete, judge, businessman, lawyer, doctor, academic, and more. While women, have been ascribed one: Feminine. This label persisting even now and undercutting women's potential.

Sixty years ago, workplace attire was unmistakable. A suit, tie, hat, and a white shirt was the iconic uniform of all white collar workers (primarily male at this time). Their attire not only identifying their occupation, but also their social status (De Casanova, 2015). The white-collar uniform was iconic in that it also represented the widespread social and occupational conformity present at that time. As the western world begin to move away from a sense of conformity and more towards the individual imperative, work attire followed suit. By the late 1980s causal Fridays had become common place, initially believed to have resulted from 'Aloha Fridays' in Hawaii where workers were permitted to wear the traditional Hawaiian shirt during the warmer part of the year (De Casanova, 2015).

In the 1990's the traditional understanding of work attire was challenged even further (Karl, McIntyre Hall, Peluchette, 2013; Peluchette & Karl, 2007). During this time, many technological organizations traded traditional corporate attire in favor of casual attire altogether (Karl, McIntyre Hall, Peluchette, 2013), this trend endured and spread to multiple industries in the current decade. This shift can partially be explained by the millennial generation preference for casual attire (Karunarathne & Hettiarachchi, 2019). With millennials now making up the majority

of the work force, millennial attire preferences have heavily influenced work-attire trends. Karunarathne and Hettiarachchi (2019) noted this change, and investigated recent work-attire preferences in South Africa. They found that 80% of the participants preferred causal work attire over business causal and formal, citing promotion of productivity as participant's central reason for preference (Karunarathne & Hettiarachchi, 2019). Other academics have argued that casual work attire can reflect an egalitarian workplace, and can help foster positive cultures in the workplace (Littlefiled, 1994). Others believe it may increase perceptions of friendliness, as demonstrated by Karl, McIntyre Hall, and Peluchette (2013). Using a self-report method, MacIntyre Hall and Pelcuchette surveyed 260 public workers who had experience with casual and formal attire in the workplace. Respondents indicated that they felt more trustworthy when wearing casual attire, but more competent and authoritative when wearing formal work attire.

Thus, despite the increase in causal work attire popularity, it still cannot be said that casual work attire is more effective than business formal attire. Furthermore, there seems to be many factors that can influence causal or formal attire preference. For example, the economic condition (De Casanova, 2015). During periods of economic growth such as the technology boom of the 1980's, work attire became more causal. Conversely, during the 2008 finical crisis work attire moved back to formal (De Casanova, 2015). This suggests formal work attire is used as a tool to increase individual's confidence, motivation and determination, in times of economic instability. In a sense, formal work attire can be thought of as a 'power suit'.

The study of formal attire in the workplace has received markedly more attention than casual attire, potentially due the 'power suit' phenomenon (De Casanove, 2015; Kwon, Johnson-Hillery, 1998). As demonstrated by Brase and Richmon (2004) formal work attire has been shown to increase authority and trustworthy perceptions of others (Brase & Richmond, 2004; Peluchette,

& Karl, 2007; Sebastian & Bristow, 2008). Brase and Richmond (2004) investigated the effect of formal attire by examining perceptions of doctors donning formal and informal attire. Seventy eight participants viewed and rated pictures of doctors in formal and casual attire, with and without a white coat. The results indicated that patients perceived doctors as more authoritative and trustworthy when wearing formal attire and a white coat. Counter to previous research, Brase and Richmand also discovered that casual attire reduced patient perceptions of friendliness and trust, especially for female viewers (Brase & Richmond, 2004).

However, what this body of research has failed to target and understand, is the unique impact work-attire has on women. Specifically, could traditional masculine formal work-attire increase perceptions of a females competence? Thus, the current study aims to identify how manipulations to woman's work-attire can complement or devastate perceptions of woman's competencies in the workplace. The framework shown in Figure 1, adapted from Rafaeli and Pratt (1993) has been proposed as means of explaining this process.

**Figure 1: Influencing factors, work-attire choice, and outcomes for women in the workplace. Adapted from Rafaeli and Pratt (1993).**
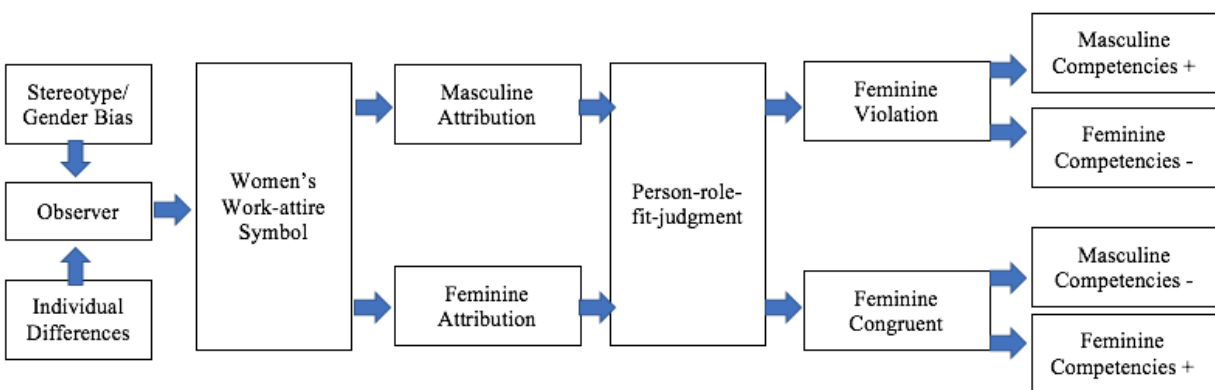
*2.3 Theoretical Framework*

Based on the theoretical underpinnings discussed in detail below, the author offers the following framework as shown graphically in Figure 1. Firstly, observer individual differences such as; personality, experiences, knowledge, gender biases, and other enduring schemas influence what cues are selected, and what meanings are ascribed when observing an individual's attire. To illustrate, the observer may select 'blazer' and 'trousers' to ascribe a masculine attribution to target female. Once cues have been selected, the observer makes a person-role-fit judgment. For example, do the cues 'blazer' and 'trousers' fit the role of 'female'. When the answer is no, a violation occurs and the observer perceives the women to possess less feminine competencies such as; social ability, agreeableness, and dependability. Conversely, the author argues perceived masculine competencies such as; assertiveness, achievement striving, and leadership could increase.

*2.4 Perceptions and Observations*

Clothing is an important tool for formulating initial judgments of others (Kasier, 1983; Kwon & Johnson-Hillery, 1998) as well as communicating information about the self (Bem, 1972; Kellerman & Laird, 1982; Kwon, 1994; Ruoh-Nan, Yurchisin, & Watchravesringkan, 2011). Peluchette, Karl and Rust (2006) examined the impact and value individuals placed on work-attire and discovered that individuals use workplace attire to manage impressions of others, while also utilizing personal attire to increase positive self-perceptions (Peluchette, Karl & Rust, 2006). The process by which clothing effects perceptions however, requires a much larger explanation. A synthesis of symbolic interactionist and cognitive theoretical perspectives will be used for the

purposes of this research as per the recommendations of Kaiser (1983). This synthesis will allow for a holistic understanding of the way in which an individual forms interpersonal perceptions.

Symbolic interaction theory suggests individuals define and interpret symbols based on prescribed meanings assigned to the symbol (Forsythe, 1987; Kaiser, 1983). Therefore, in the context of clothing, individuals draw on the meaning assigned to the clothing symbol. For example, Kellerman and Laird (1982) conducted an experiment in which participants were instructed to wear a pair of eyeglasses while completing an intelligence test. As a result, participants believed they had performed better on the intelligence testing, despite their actual results showing no improvement (Kellerman & Laird, 1982). Thus, the eyeglasses acted as a symbol of 'intelligence' and by wearing the eyeglasses the individual experienced a change in self-perception.

Cognitive theory also plays an important role in the formulation of attire based perceptions. Cognitive theory suggest that individuals select situational cues as a means to make sense of their world (Kaiser, 1983). Furthermore, in order to engage in efficient perception making, individuals select and amplify cues based on their ability to be useful in making inferences about traits or probable behaviors (Forsythe, 1990; Kaiser, 1983). Attribution theory explains this process further. Attribution theory concerns the specific type of inferences a perceiver selects in order explain the outcome of an interaction (Kaiser, 1983; Kelley & Michela, 1980). Perceivers 'attribute' inferences that are consistent with the clothing cues observed (Kaiser, 1983). This often leads to the perceiver relying on stereotypes to inform their judgments. For example, observing a male in a suit may lead to the perceiver relying on the traditional masculine stereotype. Thus, the individual maybe perceived as being a manager, as the role of manager is consistent with the cues of 'man' and 'suit' (Forsythe,1990; Kaiser 1983; Kelley & Michela, 1980).

Applying attribution theory and symbolic theory to the framework of this research is reasonable as the cues selected have prominent and easily identifiable constructs. The effect of clothing on perceptions can be varied due to the dynamic and fast paced nature of fashion trends, fortunately work-attire has a rather stable narrative. Although there have been fluctuations between casual and formal attire preference in the workplace, the general understanding of 'what' work attire looks like has largely remained unchanged (Franz & Norton, 2001; Karl, McLntyre Hall, Peluchette, 2013; Saiki, 2013). Participants from a range of backgrounds including HR managers, fashion experts (Franz & Norton, 2001) and low-income job seekers (Saiki, 2013), have demonstrated the ability to firmly identify men's formal (suit, shirt, and tie) and women's formal (pants/skirt, shirt, dress) business attire. As such, business formal attire will be utilized for the purposes of the current experiment. This will ensure measurement of perceptions as related to work-attire are less likely to be influenced by changes and preferences in fashion. Moreover, appearance related sex stereotypes have a long and enduring history with ascribed masculine and feminine business attire (Abbey, Cozzarelli, McLaughlin, & Harnish, 1987; Kaiser, 1983) this history and its implications in the formulation of perceptions are considered hereunder.

*2.5 Gender Bias, Stereotyping and Person-Role-Fit Judgments*

When making observations, individuals select particular cues in order to make sense of an interaction (Kaiser, 1983; Kelley & Michela, 1980). Perceivers 'attribute' inferences that are consistent with the clothing cues observed (Kaiser, 1983), often resulting in the use of gender biases. Gender biases are a simple way our brain can connect past experiences and make sense of current or future events, allowing for quick perception making. It is defined as "common, culturewide beliefs about how men and women differ in personal qualities and characteristics"

(Haslett, Geis, & Carter, 1992, p. 29). Both males and females experience gender bias in many contexts, yet in the workplace, it is disproportionately women who are left at a disadvantage (Abbey et al., 1987; Dennis, & Kunkel, 2004; Drydakis, Sidiropoulou, Bozani, Selmanovic, & Patnaik, 2018; Heliman, & Stopeck, 1985; Kellie, Blake, & Brooks, 2019). Moreover, the occurrence of gender stereotyping of women in the workplace has been shown to be influenced by the appearance of the individual (Abbey et al., 1987; Dennis, & Kunkel, 2004; Drydakis, Sidiropoulou, Bozani, Selmanovic, & Patnaik, 2018; Heliman, & Stopeck, 1985). In 1987, Abbey et al., examined male and female perceptions of male and female targets wearing revealing and non-revealing work clothing. They found that male participants rated the female targets higher on sexual traits than the parallel male targets. This research highlighted how misrepresentation of sexual intent increases the risk of sexual harassment and assault in the workplace.

Thus, women are disadvantaged and endangered by common culture wide beliefs about how women should dress and behave. In addition, women's competency in the workplace can be diminished based on gender associations. Traditional female qualities, cataloged under communality, are often associated with empathy, social sensitivity and loyalty (Dennis, & Kunkel, 2004; Heliman, 2012; Drydakis et al., 2018). These traditional feminine qualities are often marked as disadvantageous in a leadership positions (Drydakis et al., 2018; Howlett et al., 2015). Conversely traditional male characteristics catalogued under agency, are associated with highly advantageous outcomes. These include: achievement orientation, assertiveness, leadership, emotional control, and technical competence. All competencies that have been identified as valuable in leadership positions (Dennis, & Kunkel, 2004; Heliman, 2012; Drydakis et al., 2018).

As noted, the occurrence of gender stereotyping of women in the workplace has been shown to be influenced by the appearance of the individual. This was examined further by Heilman

and Stopeck (1985), who suggested attractiveness could increase performance evaluations of a woman in a traditional feminine role; such as a secretary, or administrator. This was because the gender stereotype associated with a woman 'fit' the role ascribed. Conversely, attractiveness decreased performance evaluations of a woman in managerial roles (Heilman & Stopeck, 1985). This is because the gender stereotype of a sensitive, empathetic woman clashes with traditional masculine role of manager (Heilman & Stopeck, 1985). This double-edged relationship can be further explained by the person-job fit model (Heilman, 1983). As attractiveness is associated with traditional femininity, it 'fits' feminine work roles. Managerial positions however, are traditionally masculine. Therefore, the presence of feminine characteristics of a female manager creates a disparity between the traditional masculine role, and the individual's gender biased fit. This disparity, eventuates in perceptions of competency inadequacy (Heilman, & Stopeck, 1985).

Appearance itself however, can be influenced by many variables. Namely, clothing. When women are perceived as being dressed inappropriately the observer makes a person-role-fit judgement, when a disparity occurs, perceptions of inadequacy follow. Gurung and Chrouser (2007) examined perceptions of prestigious female athletes who were portrayed provocatively in sports magazines. Their findings highlighting that even Olympic female athletes were perceived as less intelligent and less physically capable when dressed in revealing clothing (Gurung & Chrouser, 2007). Clothing provocativeness and competencies have also been examined in the political realm. Smith, Liss and colleagues (2018) used eye tracking technology on 191 participants who were asked to view pictures of a female politician in different outfits. They found that participants viewed the provocative outfit for longer, and made more negative judgments the longer they looked. Female candidates wearing revealing clothing were perceived as less; honest, trustworthy, competent, and electable (Smith, Liss, Erchull, Kelly, Adragna, & Baines, 2018). In

a traditional business setting, Glick, Johnson and Branster (2005) examined perceptions of women dressed in sexy clothing in regards to high and low status job compatibility. Their research suggesting women dressed in sexy clothing in high status roles were perceived as less intelligent, competent, and capable. While perceptions of sexually dressed women in lower status roles did not change (Glick, Johnson & Branster, 2005). But perhaps the most alarming research was that of Graff, Murnen and Smolack (2012) who found pre-teen girls dressed in a sexualized manor were rated as less accomplished, intelligent, competent, self-efficacious, and moral than their conservatively dressed counterparts (Graff, Murnen, & Smolak, 2012). To conduct their study Graff et al asked 162 male and female students to rate one of 3 pictures of girl in the 5th grade. In each picture the clothing of the target was manipulated to either represent; childlike, somewhat sexualized, and sexualized attire. Attire significantly impacted ratings of the young girl's competencies (Graff, Murnen, & Smolak, 2012).

These studies suggest that sexualized attire can create a sizable disparity between the person-role-fit regardless of the female's age, status, or context. Any indication of femininity in a traditional masculine role can lead to person-role-fit disparity, further extending to perceptions of competency inadequacy. Not because of any real evidence, but simply because of the stereotypical cues signaled by appearance. So what then might occur when a women reduces perceived femininity by increasing the masculinity of her attire? Could this reduce the person-role-fit disparity between women in leadership positions?

*2.6 Previous Research and the Current Study*

This research paper will now examine previous literature as a means of rationalizing the theoretical framework of the current experiment. Previous research on the effects of attire on

perceptions has largely been limited to contrasts between extreme provocativeness and conservativeness. This research can only provide small practical contributions to the business context, as the majority of working individuals do not dress extremely provocatively at work. As known to the author, only three studies have examined realistic manipulations of clothing on perceptions in the workplace. Glick, Larsen, Johnson and Branstiter (2005), were the first to examine realistic manipulations of attire on participant emotion and perception. Participants evaluated a videotape of a women in two attire conditions: feminine or traditional business attire. The feminine condition was made up of a knee length skirt, a V-neck blouse and a cardigan. The traditional attire was made up of suit pants, a turtle neck, and a blazer. Results indicated that on average the 66 participants viewed the woman in the feminine attire more negatively and as less competent as compared to the same woman in traditional attire (Glick, Larsen, Johnson & Branstiter, 2005). Ten years later Howlett, Pine and colleagues examined perceptions associated with women in varying levels of provocative clothing in the United Kingdom. They found that unbuttoning two buttons on a blouse and wearing a skirt just above the knee was enough to decrease female participants' perceptions of the targets competency (Howlett et al., 2015). Gurung, Punke and colleagues also successfully replicated this study in the United States, and expanded it further by detecting changes in competency ratings for both male and female participants (Gurung, Punke, Brinker, & Vincezio, 2017). However, it is important to note the dependent variables used in Howlett's (2015) and Guring's (2017) design were all traditionally masculine. This likely inflated the effect thus, it cannot be said that the significant effect found was only due to perceptions of the status, gender, and attire of the target. Thus, the current experimental research will expand on Howlett's (2015) design by measuring a balanced set of masculine and feminine competencies. Accordingly, the following hypotheses are tested:

**Hypothesis 1:** manipulations of work-attire will interact with participants' perceptions of traditional masculine competencies. Conservative, masculine attire will elicit higher traditional masculine competency (assertive, achievement oriented and leadership) ratings.

**Hypothesis 2:** manipulations of work-attire will interact with participants' perceptions of traditional feminine competencies. Provocative, feminine work-attire will elicit higher traditional feminine competency (agreeable, sociable and dependable) ratings.

Previous research has focused on a number of competencies with relation to clothing perceptions. However, empirical rational for choosing said competencies is few and far between. Many studies have used disproportionate numbers of masculine and feminine competencies, some have not identified the masculine or feminine orientation of the competencies being measured, and others have used only a single 'competence' scale. Thus, this current study will provide a robust, empirically driven set of masculine and feminine competencies, that can be used in future research. Care was taken for selection of each of the competencies for the current study. The BEM Sex-Role Inventory was the first tool employed to identify appropriate masculine and feminine competencies. The BEM Sex-Role-Inventory is an empirically proven, robust tool used to measure an individual's identification with traditional masculine and feminine qualities (Donnelly & Twenge, 2016). Since its creation in the 1990's it has remained one of the most frequently used sex-role measurements in psychology (Donnelly & Twenge, 2016). Thus, the BSRI was used to reduce the potential competency pool down to 20 masculine and 20 feminine. This list of competencies was then compared against the list of competencies in Fleishman Job Analysis Survey (FJAS) to provide a second line of screening.

The FJAS is along established job analysis tool used as a common taxonomy for work related competencies (Fleishman & Reilly, 1992). Matching the competencies identified in the BSRI against the FJAS taxonomy allowed for the identification of specific work-related masculine and feminine competencies thus, supporting the validity of the study. An examination of competencies measured in previous perception literature was then used to identify the top three most characteristic masculine and feminine competences. Traditional masculine competencies: assertiveness, leadership and achievement striving were selected based on consistent evidence that assertiveness, achievement striving and leadership were defining characteristics of masculinity (Abbey et al., 1987; Dennis, & Kunkel, 2004; Drydakis et al., 2018; Heilman, 2012; Heilman & Saruwatari, 1979). Traditional feminine competencies were less stable across the literature. However, variations of agreeableness, dependability, and social ability were the most consistent across perception research (Dennis, & Kunkel, 2004; Drydakis et al., 2018; Howlett et al., 2015; Karl, McLntyre Hall, & Peluchette, 2013).

Previous research has also failed to provide any practical solutions to contest sex-role-fit disparities. While there is only a handful of studies regarding women's work attire and perceptions of competency, all have failed to offer a practical suggestion to how the sex-role-fit violation can be mitigated. One potential answer to this conundrum, is to increase perceptions of women's masculine characteristics, as suggested by Drydakis, Sidiropoulou and colleagues (2018). Drydakis examined the way organizations responded to female job applicants who exhibited masculine or feminine qualities. In this study, job applications were formulated to either display masculine or feminine qualities of the applicant. Interestingly, they found women who exhibited masculine characteristics were 4.3% more likely to be hired in both traditional masculine and feminine roles. Moreover, women who exhibited masculine characteristics received a 10% higher

wage offer compared to those who displayed feminine qualities (Drydakis et al., 2018). If conveying masculine qualities in a job application is able to increase the likelihood a women is hired for a traditionally male role, could conveying masculine qualities in the workplace also increase women's growth into leadership positions? Hypothesis 1 of the current experiment will seek to answer this question. Furthermore Sánchez and Lehnert (2019) examined the effect of perceived competency on leadership aspirations of women in America. Sánchez surveyed 599 university faculty, finding women's leadership aspirations positively correlated with perceptions of competency (Sánchez, C. M., & Lehnert, K. (2019). Consequently, as traditional female competencies are perceived as less advantageous in leadership positions, many women do not feel competent enough to aspire for senior leadership roles. Moreover, the aforementioned study showed that women in middle management who had aspired for top level management when they first entered the work force, reported losing interest after facing barriers to top leadership positions deeply rooted in discrimination and socialization (Sánchez, C. M., & Lehnert, K. (2019). Thus, could conveying masculine leadership qualities in the workplace increase women's competencies, facilitating their growth into leadership positions?

In summary, based on the previous literature in the realm of work-attire and perceptions, the current experiment aimed to: expand on the understanding of the role women's attire on competency in the workplace, provide a robust set of masculine and feminine workplace competencies for future research, and to provide an empirically driven strategy for reducing person-role-fit disparity's for women in the workplace. Drawing from Howlett (2015) and Gurnug's (2017) design, the current experiment used a repeated measures design where participants responded to three conditions. An online questionnaire was used to capture participants' competency perceptions of a model wearing conservative and provocative work-

attire, and a control condition. No previous research has included a control condition thus, this experiment has provided future research with a more reliable, and valid design. The current experiment has also expanded on previous literature by measuring six different competencies using work competency scales. Three traditionally masculine: assertiveness, leadership, achievement striving, and three traditionally feminine: agreeableness, dependability, and social ability. Thus, providing a new robust set of competencies to be used for future work competency research.

To the author's knowledge, this experiment was the first to examine the effect of manipulations of work-attire provocativeness and perceptions of competencies in New Zealand. Moreover, this experiment examined how work-attire provocativeness interacts with perceptions of traditional masculine and feminine competencies. To the author's knowledge, this was the first research of its kind in New Zealand, or elsewhere.

## 3.0 Method

*3.1 Design*

Data were collected from a questionnaire to capture New Zealand participant's perceptions of a women in her late 20's, dressed in different work-attires. A full copy of the questionnaire can be found in Appendix A and B. The experiment used a repeated measures design where participants viewed and rated three photographs of the model wearing one of three outfits presented in a randomized order. Participants rated each photo (condition) on perceived traditional masculine competencies: leadership, assertiveness, and achievement striving, and traditional feminine competencies: agreeableness, social ability, and dependability (rating order randomized). The clothing categories used in the experiment are shown in Figure 2 and are described as:

- Conservative: masculine work-attire (suit pants, buttoned shirt, blazer)

- Provocative: feminine work-attire (camisole, knee length skirt)

- Control: unisex work-inappropriate-attire (Ankle length bathrobe)

*3.2 Participants*

A potential pool of 115 participants were gathered from a large public sector Government run organization. This organization was selected due to availably however, it proved advantageous due to its large staff size and its varying business units. A total of 45 responses were obtained, thus a response rate of 39% was achieved. Unfortunately, 16 rows of data were removed using listwise deletion due to incomplete responses and satisficing bias. Satisficing bias is when participants respond to questions based on ease, rather than giving the best answer (Krosnick, Narayan, & Smith, 1996). Responses that contained satisficing bias could not be applied due to identical responding for every scale. In addition, incomplete responses were not salvageable by means of mean substitution due to the large amount of missing ratings. Thus, a total of 29 suitable responses were included in the analysis for this experiment, still meeting the power analysis criteria. G*power was used to determine sufficient sample size. To achieve a power of .95, with an effect size of 0.3, a minimum total N of 20 was deemed satisfactory. The sample obtained was made up of 14 males and 15 female New Zealand employees currently in full-time work (0.85 FTE or more). The average age of male participants was 48, while the average age of female participants was 41.

*3.3 Photographs*

Photographs of the same female in each of the work-attire and control conditions were taken specifically for the study (see Figure 2). The female was a European New Zealander in her late 20's, of average height and build. Photographs of the provocative, conservative and control attire conditions were taken with the same white background. A professional photographer with a

tripod and floor markings were used to ensure each photograph had the same amount of background shown behind the model. Specializing lighting was used to control lighting, ensuring each of the photographs had the same amount of exposure. The models pose and facial expression were photoshopped to ensure they were identical in each photo. The control condition photograph was taken in the exact same setting as the provocative and conservative condition.

*Figure 2.*



*3.4 Manipulation check*

A manipulation check was used prior to the release of the experimental questionnaire, to ensure the photographs chosen for the two experimental conditions accurately reflected the intended masculine conservative and feminine provocative conditions. Twenty individuals participated (6 male, 19 female). The mean age of the male sample was 27.2, while the female sample mean age was 30.7. A short Qualtrics questionnaire was used to measure perceived level of masculinity, femininity, conservativeness, and provocativeness of the two photographs used for the experimental conditions. Each photo was rated on gender role association and attire-type.

Gender role association was measured with two scales: masculinity and femininity. Masculinity was measured using a seven point scale ranging from 'not at all masculine' to 'very masculine'. Similarly, femininity was measured using a seven point scale ranging from 'not at all feminine' to 'very feminine'. A seven point scale was also used to measure attire type, ranging from: very conservative to very provocative. The order of the photographs and scales were randomized, with an approximately equal order of each. Participants were recruited using a convenience sampling method.

A paired-samples t-test was conducted to compare assigned masculine and feminine orientation to the provocative and conservative attire conditions. There was a significant difference between the scores for perceived masculinity (M= 4.33, SD= 1.24) and femininity (M= 3.13, SD= 1.19) for the conservative attire condition; $t(25)= -2.34$, $p <.005$. As expected, conservative clothing was perceived as significantly more masculine than feminine with a Cohens $d$ of 0.48 indicating a medium effect. Additionally, perceived femininity (M= 5.30, SD =0.82) was also significantly different than perceived masculinity (M= 2.78, SD= 1.47) of the provocative attire condition; $t(25)= -6.48$, $p <.001$, with a Cohens $d$ of 1.73 indicating a very strong effect.

Table 1      **Mean, standard deviation and range for masculinity, feminity, provocative and conservative perceptions of the two experimental conditions.**

| Condition | Conservative | | | Provocative | | |
|---|---|---|---|---|---|---|
| | M | SD | Range | M | SD | Range |
| Feminine | 3.13 | 1.19 | 1-5 | 5.30 | 0.82 | 4-7 |
| Masculine | 4.33 | 1.24 | 1-6 | 2.78 | 1.47 | 1-5 |
| Conservative to Provocative | 1.75 | 0.85 | 1-4 | 3.68 | 1.47 | 1-7 |

*3.5 Experimental Materials*

The experimental materials were presented using Qualtrics software. The first section began with a general information cover page, followed by a descriptive statistic information collection page. All materials can be found in Appendix A and B. Information on participant gender, age, ethnicity, current/ most recent job, level of current/ most recent job, and number of years in current/ most recent job were collected. Consent was also collected in section one. The second section contained the three conditions and their corresponding measurement scales. The photos and scales were arranged as follows: one photo appeared (in randomized order) in the middle of the screen, listed below the photo were each of the seven scales (also in a randomized order). The photos were coded to follow the participant as they scrolled down the page. This allowed the photo and the scale to be fully visible at the same time regardless of the device used. The photos were scaled down to 279px width and 411.21px height using a converter to eliminate distortion. Upon completion of the scales, the participant would navigate to the next page, and generate the next photograph and list of scales. This continued until each of the three conditions were viewed and rated. The order of the three photos was randomized. Thus, there was nine possible orders. The random ordering of photographs were counterbalanced to ensure each condition appeared in each position an equal number of times. The order of the scales listed below each photo were also randomized to control for respondent fatigue.

*3.6 Dependent variables*

Six single item Fleishman's Job Analysis Scales (Fleishman & Reilly, 1995) were used in the experiment to rate individual competencies. Three traditionally associated with masculinity: leadership, assertiveness, and achievement striving, and three traditionally associated with

femininity: agreeableness, social ability, and dependability. Each scale began with a definition of the competency, followed by a sliding scale ranging from one to seven. Given that each construct was measured with a single item scale it was not possible to calculate scale alpha values.

Competency definitions were quoted directly from the FJAS inventory, however the anchored ratings attached the FJAS were removed as the examples used were not relevant to the experiment at hand. Each of the seven point scales were labeled from "not at all [agreeable/ sociable/ dependable/ leader oriented / assertive/ achievement oriented]" to "extremely [agreeable/ sociable/ dependable/ leader oriented / assertive/ achievement oriented]". In addition, the FJAS titles "social sensitivity" and "leadership" were changed. These titles were unsuitable for the Likert type scale as they would read "not at all leadership" and "extremely leadership". Thus, leadership was changed to leader oriented and social sensitivity was changes to sociable.

*3.7 Procedure*

The Qualtrics link was sent out via email (Appendix C) to potential participants. The study was open for a duration of seven days. Once the participant clicked the link, they were presented with a general information page. The page informed participants of the estimated completion time, five to ten minutes respectably. Participants were informed that the study aim was to gather information on perceptions in the New Zealand workplace. A contact email for the supervising professor was given at this time, and participants were prompted to make contact if they that any questions or concerns. Confidentiality of the participant was also ensured at this time. Participants were then informed that completion of the study indicated that they consented to their data being used for the purpose of the study. Navigating to the next page began the study, presenting the first photograph. The photograph appeared in the middle of the screen. Below the photo was the six

competency scales in randomized order. This format continued for each of the three randomly ordered photographs. Once all three photos were rated the participant was thanked and logged off.

## 4.0 Results

The participants ranged in job function and level with 35.7% working in corporate positions, 21.4% in trades and services, and 21.4% in information technology. The remaining 21.5% were made up of construction workers, aviation specialists, and science and technology specialists. 32.1% of participants were in senior management positions, followed by supervisors at 17.8% and managers at 14.2%. The remaining 35.9% was made up of graduate roles, entry level workers, team leaders and chief executive officers. The mean duration of participants most recent or current role was 5.36 years, with a range of 1 to 40 years. These results suggest the sample as a whole had a sufficient exposure to different work attire over time from a range of business units and levels.

Prior to analysis the raw data was examined for bias and errors. Due to the presence of incomplete responses, and satisficing bias 16 rows of data were excluded using listwise deletion. Satisficing bias is when participants respond to questions based on ease, rather than giving the best answer (Krosnick, Narayan, & Smith, 1996). Responses that contained satisficing bias could not be applied due to identical responding for every scale. In addition, incomplete responses were not salvageable by means of mean substitution due to the large amount of missing ratings. Descriptive statistics were then gathered. Mean ratings, standard deviations and ranges for the six competencies scales for each attire condition were calculated are shown in Table 2. Mean competency ratings for each attire condition, at first glance seem to be in line with predictions. The conservative condition elicited the highest mean ratings for assertiveness, achievement orientation and agreeableness. The provocative condition produced the highest mean ratings for

agreeableness, sociability and dependability. The control condition received the lowest mean ratings for each of the six competencies tested.

Table 2      **Mean ratings, standard deviations and ranges for each questionnaire attire condition**

| | Conservative | | | Provocative | | | Control | | |
|---|---|---|---|---|---|---|---|---|---|
| Competency | M | SD | Range | M | SD | Range | M | SD | Range |
| Assertive | 5.25 | 1.21 | 2-7 | 4.43 | 1.26 | 2-7 | 3.64 | 1.77 | 1-7 |
| Achievement oriented | 5.18 | 1.28 | 2-7 | 4.46 | 1.20 | 2-6 | 3.54 | 1.67 | 1-7 |
| Leadership | 5.25 | 1.13 | 2-7 | 4.43 | 1.40 | 2-7 | 3.71 | 1.94 | 1-7 |
| Agreeable | 4.14 | 1.56 | 1-7 | 4.64 | 1.22 | 2-7 | 4.32 | 1.83 | 1-7 |
| Sociable | 4.25 | 1.21 | 1-7 | 4.79 | 1.29 | 2-7 | 3.54 | 1.73 | 1-7 |
| Dependable | 4.79 | 1.37 | 2-7 | 4.46 | 1.23 | 2-7 | 3.64 | 1.83 | 1-7 |

*Note*: All items were rated on a 7-point Likert scale with 1 = not at all (competency) and 7 = extremely (competency).

## 4.1 Repeated Measures Analysis

Repeated measure analysis of variance ANOVA was used to analyze the effect of the three attire conditions (conservative, provocative and control) on perception ratings of the six selected competencies (assertive, achievement oriented, leadership, agreeable, sociable, and dependable). The data was first examined for sphericity using the Mauchly's Test of Sphericity. To meet the assumption of sphericity, the Mauchly's p value must be non-significant at the .05 level. The attire conditions and the attire x competency interaction violated the assumption thus, a repeated measures analysis of variance using a Greenhouse-Geisser correction was performed. After examination of mean rating differences between attire conditions, a statistically significant main effect of attire $F(1.20, 32.35) = 7.58, p = 0.006$) was observed with 21.9% of variance explained due to variations in attire. A statistically significant interaction between attire condition and competency ratings $F(5.59, 150.92) = 8.82, p < 0.001$) was also observed with 20.1% of variance

explained due to the interaction. Thus, a potential large main effect of attire type on competency ratings was plausible as both of these results exceeded the .14 explained variance criteria (Miles & Shevlin, 2001). However, which competencies each condition was effecting required further analysis. Therefore post hoc contrasts were used to examine mean ratings of competencies within and against each condition. The table of significant post hoc results can be found in Table 3, with the complete table displayed in Appendix C.

Table 3       **Attire x competency post hoc contrasts using the Tukey's correction**

| Attire Condition | Competency | | Attire Condition | Competency | Mean Difference | SE | df | P |
|---|---|---|---|---|---|---|---|---|
| Conservative | Assertive | - | Conservative | Agreeable | 1.1071 | 0.226 | 404 | **< 0.001** |
| | | - | Conservative | Sociable | 1.0000 | 0.226 | 404 | **0.002** |
| | | - | Control | Assertive | 1.6071 | 0.350 | 115 | **0.001** |
| | | - | Control | Achievement | 1.7143 | 0.353 | 120 | **< 0.001** |
| | | - | Control | Leadership | 1.4286 | 0.353 | 120 | **0.004** |
| | | - | Control | Sociable | 1.7143 | 0.353 | 120 | **< 0.001** |
| | | - | Control | Dependable | 1.6071 | 0.353 | 120 | **0.002** |
| | Achievement | - | Conservative | Agreeable | 1.0357 | 0.226 | 404 | **< 0.001** |
| | | - | Conservative | Sociable | 0.9286 | 0.226 | 404 | **0.006** |
| | | - | Control | Assertive | 1.5357 | 0.353 | 120 | **0.004** |
| | | - | Control | Achievement | 1.6429 | 0.353 | 115 | **0.001** |
| | | - | Control | Leadership | 1.4642 | 0.353 | 120 | **0.008** |
| | | - | Control | Sociable | 1.6429 | 0.353 | 120 | **0.001** |
| | | - | Control | Dependable | 1.5357 | 0.353 | 120 | **0.004** |
| | Leadership | - | Conservative | Agreeable | 1.0714 | 0.226 | 404 | **< 0.001** |
| | | - | Conservative | Sociable | 0.9643 | 0.226 | 404 | **0.003** |
| | | - | Control | Assertive | 1.5714 | 0.353 | 120 | **0.002** |
| | | - | Control | Achievement | 1.6766 | 0.353 | 120 | **< 0.001** |
| | | - | Control | Leadership | 1.5000 | 0.353 | 120 | **0.005** |
| | | - | Control | Sociable | 1.6786 | 0.353 | 120 | **< 0.001** |
| | | - | Control | Dependable | 1.5714 | 0.353 | 120 | **0.002** |

*4.2 Hypothesis Testing*

Post hoc contrasts were performed using the more conservative Tukey's correction to determine if the provocative and conservative attire conditions had a significant impact on perceived feminine and masculine competencies. Upon examination, it was discovered that the conservative condition was the only condition to demonstrate meaningful differences in competency ratings. In line with predictions, the model in the conservative attire was perceived as; significantly more assertive (M = 5.25, SD = 1.21) leadership oriented (M = 5.25, SD = 1.21) and achievement oriented (M = 5.18, SD = 1.28), when compared to ratings of agreeableness (M = 4.14, SD = 1.56) and sociability (M = 4.25, SD = 1.37). Thus, masculine competency ratings were significantly higher than feminine competencies.

Mean group ratings for the conservative condition (M = 4.73, SD = 1.40) were also significantly different than those for the control condition (M = 3.73. SD = 1.79, *p* = .004). Therefore attributing the difference in ratings to the effect of the masculine conservative attire and not on the effect of the model alone, is plausible. This result was examined further using Tukey's post hoc contrasts, the results showing the conservative condition received significantly higher ratings for assertiveness, achievement orientation, leadership, sociability, and dependability when compared to the corresponding competencies in the control condition. Thus, these results support hypothesis 1, as masculine attire was shown to increase perceptions of all three masculine competencies, as compared to two out of the three feminine competencies.

Table 4     **Post Hoc Comparisons, Attire Conditions**

| Comparison | | | | | | |
|---|---|---|---|---|---|---|
| **Attire** | | **Attire** | **Mean Difference** | **SE** | **df** | **t** | **$p_{tukey}$** |
| Conservative | - | Provocative | 0.268 | 0.286 | 54.0 | 0.935 | 0.621 |
| | - | Control | 1.071 | 0.286 | 54.0 | 3.741 | **0.001** |
| Provocative | - | Control | 0.804 | 0.286 | 54.0 | 2.806 | **0.019** |

However, the provocative condition ratings, did not differ significantly when compared to the ratings for the other conditions. Mean ratings for each of the three feminine competencies (agreeable, dependable and sociable) measured were not significantly different in the provocative condition, nor were any of the three masculine competencies (assertive, leadership and achievement oriented). Despite discovering the control condition was significantly different than the provocative condition (M = 3.73. SD = 1.79, $p$ = .023) no significant difference between competency ratings was observed. Thus, these results did not support hypothesis 2, as there was no significant difference in feminine competency ratings as related to the feminine provocative attire. A discussion around the interpretation and limitations of these results are explored hereunder.

## 5.0 Discussion

The aim of this experimental research was to examine whether manipulations to the provocativeness or conservativeness of women's work-attire could impact working New Zealanders perceptions of a women's masculine and feminine competencies. Specifically, this study explored two hypotheses: Hypothesis 1 proposed wearing masculine, conservative work attire could increase perceptions of women's masculine competencies (assertive, achievement oriented and leadership) as compared to feminine competencies. Hypothesis 2 proposed that wearing feminine, provocative work attire could increases perceptions of women's perceived feminine competencies (agreeable, sociable and dependable) as compared to the tested masculine competencies. Hypotheses were tested using repeated measures analysis of variance using a Greenhouse-Geisser correction due to violation of sphericity. The analysis signaled significant

differences between attire conditions as well as significant interactions between attire and competency ratings.

Post hoc results suggested participants perceived the individual in the masculine conservative attire condition as significantly higher in assertiveness, leadership and achievement orientation as compared to the feminine competency of sociability and agreeableness. In addition participants perceived the conservative masculine condition as significantly higher in assertiveness, achievement orientation, leadership, sociability, and dependability as compared to the corresponding competencies perceptions of the control condition. Thus, these results support hypothesis 1, as masculine attire was shown to increase perceptions all three masculine competencies (assertiveness, achievement orientation and leadership), as compared to two out of the three feminine competencies (agreeableness and dependability). These results are consistent with findings from previous research (Howlett et al., 2015; Glick, Larsen, Johnson, & Branstiter, 2005; Gurung, Punke, Brinker, & Vincezio, 2017). These results suggest women may increase perceptions of key work related masculine competencies by wearing suit pants, a shirt and a blazer. Thus, by dressing in traditional masculine work attire women may be able to reduce the person-role-fit violation that can occur when women are evaluated for or in traditional masculine positions such as a managerial or senior leadership roles.

However, contrary to previous findings, the provocative condition showed no significant effect on any of the six competencies tested. However, participant mean ratings of the feminine competency were trending in the predicted direction. Participants rated the individual in the feminine provocative attire as less assertive, leader oriented and achievement oriented as compared to the conservative masculine attire. Moreover, participants also rated the provocative attire higher in the three feminine competencies as compared to both the control and masculine conservative

attire. However significance differences between mean ratings were not achieved, therefore hypothesis 2 was ultimately rejected.

This finding conflicts with previous research by Howlett et.al (2015) Glick (2005) and Gurung, Punke, Brinker, & Vincezio (2017) who's findings suggest that wearing a blouse with an exposed neckline and a skirt above the knee was enough to significantly decrease perceptions of competency. Reasons this current study may not have reached the same result could be due to cultural differences. These previous studies were conducted in the United Kingdom and the United States of America where the leadership gap is considerably larger than that of New Zealand. New Zealand has had longer exposure and normalization of women in power such as prime ministers; Helen Clarke (1999-2008), and Jacinda Ardern (2017-current). It maybe that femininity is not viewed as such a disadvantage in New Zealand as compared to the UK and USA. The major difference between the current experiment and previous research however, is that Howellt and Gurung summed the means of each competency rating together to create a 'global' competency score. In the case of Howlett, this global score included the mean ratings for 'confidence' which the author later shows to be non-significant. Thus, their findings and how they drew their conclusions may not be justifiable.

*5.1 Implication and Application for this Study*

The findings of this research may help our understanding of competencies that are stereotypically associated with women in the workplace based on their attire. Competencies traditionally associated with women are often cataloged under communality, and are associated with empathy, social sensitivity and loyalty (Dennis, & Kunkel, 2004; Heliman, 2012; Drydakis et al., 2018). These traditional feminine qualities are often marked as disadvantageous in a

leadership positions (Drydakis et al., 2018; Howlett et al., 2015). Conversely traditional male characteristics catalogued under agency, are associated with highly advantageous outcomes. These include: achievement orientation, assertiveness, leadership, emotional control, and technical competence. All competencies that have been identified as valuable in leadership positions (Dennis, & Kunkel, 2004; Heliman, 2012; Drydakis et al., 2018). It is plausible this common association may therefore be a contributing factor to the large and enduring leadership gap in the New Zealand workforce. The findings of this experiment support the notion that by manipulating work-attire, women may be able increase perceptions of advantageous competencies that are not commonly attributed to women. Thereby reducing the person-role-fit disparity often attributed to women in traditional masculine roles.

The results of this study however, also showed that there's no significant advantage of dressing feminine. In this study, feminine attire did not meaningfully effect perceptions of any of the six competencies tested. Thus, contrary to what was hypothesized, dressing feminine did not increase feminine competencies and nor did it decrease masculine competencies. It seems, that the degree of feminine work attire used in this experiment has no competency advantage in the workplace, yet this does not mean there is no disadvantage. A disadvantage in this case is not limited to a reduction in perceptions of competence, rather, a disadvantage is merely a condition that reduces the chances of success. As demonstrated, competency ratings of the control condition were similar to that of the feminine condition. Thus, it is assumed the attire made no impact on perceptions above and beyond what was already attributed to the individual. In line with previous literature, it is possible that men in masculine attire would also not be perceived as anything above and beyond what is already perceived about the individual. The issue here is that men are naturally perceived as more competent than women. Which is why the masculine condition increased

perceptions of competencies, because the masculine cue has a higher baseline of perceived competency as compared to the baseline for feminine cues. Therefore this points to an unconscious bias among New Zealanders that women are women, but men are more.

*5.2 Limitations & Future Research*

This study however, was no exception to limitations. Sample size was much smaller than expected, only exceeding the minimum power criteria by eight responses. One potential explanation for the small sample size was the nature of the questionnaire. In total, 16 responses were either incomplete or subjected to bias. The survey on average took participants less than four minutes to complete so the length of the questionnaire was not unattractively long. Nevertheless, the repetitiveness of the questioning may have caused participants to become fatigued and either exit the questionnaire, or repeat the same rating for every question until the questionnaire was complete. This is not unusual in repeated measure designs thus, future research should explore additional ways of holding participant attention to increase sample size. Perhaps the use of a between groups design with random assignment to groups could be used as an alternative. Thus, participants would only receive one of the conditions for rating, therefore removing the need to answer the same questions three times over, as well as reducing the time of completion, and risk of fatigue.

Another limiting factor that may have impacted the results was the manipulation of the attire conditions. In the current study a non-result was found for the provocative condition. One plausible explanation for the non-result in this current experimental research could be a weak manipulation. Care was taken to test the strength of the manipulation prior to undertaking the experiment. The results indicated that the provocative condition was significantly different from

the masculine condition however, the mean rating for the provocativeness of the condition (M = 3.68, SD = 1.47) was relatively low. This result equated to "slightly conservative" on the seven point scale used which ranged from very conservative (1) to very provocative (7). Although the median rating was slightly higher, reaching 4.0 it was still not high enough to be considered in the provocative domain. The literature used to form the theoretical bases indicated that gender based stereotyping could be triggered by feminine cues. However, it appears provocativeness may play a more influential role in impacting perceptions of competency. Thus, future manipulation should aim to reach a "slightly provocative" level, as well as "very feminine" levels.

The current research was also limited to testing attire manipulation on a comparatively young female model, which may not fit well with the age cohorts applying for senior managerial roles. Thus, future research could expand on practical and social contributions by also examining competency perceptions of an older female model. In addition, future research could also examine males perceived competencies based on attire type. This would allow for more meaningful comparisons of the disadvantages women may experience as a result of gender biases triggered by feminine attire cues in the workplace. Moreover, separation and comparison of male and female participant perceptions could be examined, as previous research shows men and women perceive other women differently (Abbey et al., 1987; Dennis, 2004; Awasthi, 2017). However, in this study the male/female sample sizes were simply too low to include gender as a factor in the analyses.

Finally, like all research conducted in 2020, the generalization of findings of this study are limited to the current climate of the COVID19 pandemic. Representation of powerful women in media has become incredibly common with Prime Minister Jacinda Ardern being nationally broadcast multiple times a day during the worst of the COVID pandemic in New Zealand.  This

normalization of women in powerful traditional masculine roles may have impacted competency ratings in the current study.

*5.3 Conclusion*

The current study gives important insight into how New Zealanders perceive competencies of women in the workplace based on their attire. The results of this study highlight that women may be able to increase perceptions of traditional male competencies by wearing suit pants, a shirt and a blazer. Specifically, by doing this woman may be able to increase perceptions of assertiveness, leadership and achievement orientation. Thus, this research has identified a new tool women can use in the effort to reduce the leadership gap and person-role-fit violations. Additionally this research has highlighted that dressing in a moderately feminine way may not have any competency perceptual advantage, and therefore women maybe at a constant disadvantage as compared to males, who maybe naturally attributed with the same benefits in perceptions observed with the masculine attire condition. Further research could expand on these findings by replicating the study using a male model to determine perception differences. Yet, perhaps the most encouraging finding is that perceptions of women in feminine attire do not significantly decrease like they have in previous minor provocative attire studies, conducted in the UK and the USA. Perhaps New Zealand perceptions of women are changing, and perhaps in the coming decade, New Zealand will finally experience a six year overdue reduction in the leadership gap.

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# An Investigation of Workplace Competency

This questionnaire is used to gather information about workplace competencies. The participant is asked to view, and rate a series of photographs on a range of competencies. Completion of this questionnaire is estimated to take between 5 to 10 minutes. This questionnaire is mobile and desktop compatible.

Completion of the survey items implies consent. The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. All electronic data will be stored in a password protected computer in a locked room, and no person outside of the research team will have access to data. A thesis is a public document and will be available through the UC Library. Data will be destroyed after five years, unless a publication outlet requires extended archiving of the data.

The project is being carried out in partial fulfilment of the requirements for the degree of Master of Science in Applied Psychology at the University of Canterbury by Greer Alsop, under the supervision of Associate Professor Christopher Burt, who can be contacted at christopher.burt@canterbury.ac.nz. He will be pleased to discuss any concerns you may have about participation in the project.

This project has been reviewed and approved under the policy of the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

Appendix B: Perceptions Questionnaire

Please answer the following questions before navigating to the next page

---

Please enter your age.

_____

---

Please indicate your gender identity.

&#9711; Male

&#9711; Female

&#9711; Gender Fluid

&#9711; Prefer not to answer

&#9711; Other _____

Please select the industry that is most similar to your current, or most recent job. (*Note*: If you have not worked before please select "I have not worked before")

○ I have not worked before

○ Construction

○ Hospitality & Tourism

○ Business/ Corporate

○ Education

○ Information Technology

○ Military

○ Farming/ Agriculture

○ Health Care/ Medical

○ Legal

○ Retail & Sales

○ Science & Technology

○ Sports & Recreation

○ Trades & Services

○ Other _____

Please select the work level most similar to your current, or most recent job.
(*Note*: If you have not worked before please select "I have not worked before")

○ I have not worked before

○ Entry level

○ Internship/ Graduate Role

○ Supervisor

○ Team leader

○ Management

○ Senior Management

○ Board of Directors

○ Chief Executive Officer/ Owner

○ Other _____

---

How many years have you worked in your current, or most recent job?
 (*Note:* if you have not worked before please enter NA)

_____

---

Navigating to the next page will begin the questionnaire. Responses will only be recorded upon completion and submission of the questionnaire. The questionnaire will take between 5 to 10 minutes to complete.

---

Page Break ———————————————————————————————

*One of the three randomized pictures*

Using the photograph shown above, please rate the individual on each of the following competencies. Use the 7 point scales provided by dragging the slider to your desired level of competence.

**Sociable**: To be outgoing and participative in social situations. This ability involves a desire and willingness to work with others and facilitate with others.

|  | Not at all sociable | Extremely sociable |
| --- | --- | --- |
|  | 1    2    3    4 | 5    6    7 |
| 1 |  |  |

**Leader Orientated:** To take charge, offer opinions and direction. This ability involves a willingness to lead.

|  | Not at all leader orientated | Extremely leader orientated |
| --- | --- | --- |
|  | 1    2    3    4 | 5    6    7 |
| 1 |  |  |

**Assertive:** To express one's beliefs and opinions boldly and actively. This ability involves speaking up and taking initiative when working with others.

|  | Not at all assertive | Extremely assertive |
| --- | --- | --- |
|  | 1    2    3    4 | 5    6    7 |
| 1 |  |  |

**Achievement Orientated**: To set high standards to do the best possible job. This ability involves exerting extra effort to meet personally challenging goals.

|  | Not at all achievement orientated | Extremely achievement orientated |
|---|---|---|
|  | 1    2    3    4 | 5    6    7 |
| 1 |  |  |

**Agreeable:**  To be pleasant, tactful, and helpful when working with others. This ability involves the degree to which the individual conveys a likable manner.

|  | Not at all agreeable | Extremely agreeable |
|---|---|---|
|  | 1    2    3    4 | 5    6    7 |
| 1 |  |  |

**Dependable:** To be reliable and responsible to others. This ability involves being disciplined, conscientious, and trustworthy in fulfilling obligations and tasks expected by others.

|  | Not at all dependable | Extremely dependable |
|---|---|---|
|  | 1    2    3    4 | 5    6    7 |
| 1 |  |  |

End of Block: Block 2

Start of Block: Block 3

*One of the three randomized pictures*

Using the photograph shown above, please rate the individual on each of the following

competencies. Use the 7 point scales provided by dragging the slider to your desired level of competence.

---

**Assertive:** To express one's beliefs and opinions boldly and actively. This ability involves speaking up and taking initiative when working with others.

|  | Not at all assertive | Extremely assertive |
|---|---|---|
|  | 1  2  3  4  5  6  7 |  |
| 1 |  |  |

---

**Achievement Orientated**: To set high standards to do the best possible job. This ability involves exerting extra effort to meet personally challenging goals.

|  | Not at all achievement orientated | Extremely achievement orientated |
|---|---|---|
|  | 1  2  3  4  5  6  7 |  |
| 1 |  |  |

---

**Agreeable:** To be pleasant, tactful, and helpful when working with others. This ability involves the degree to which the individual conveys a likable manner.

|  | Not at all agreeable | Extremely agreeable |
|---|---|---|
|  | 1  2  3  4  5  6  7 |  |
| 1 |  |  |

---

**Dependable:** To be reliable and responsible to others. This ability involves being disciplined, conscientious, and trustworthy in fulfilling obligations and tasks expected by others.

Not at all dependable          Extremely dependable

|   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 1 |   |   |   | ● |   |   |   |

---

**Sociable**: To be outgoing and participative in social situations. This ability involves a desire and willingness to work with others and facilitate with others.

|   | Not at all sociable |   |   |   | Extremely sociable |   |   |
|---|---|---|---|---|---|---|---|
|   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 |   |   |   | ● |   |   |   |

---

**Leader Orientated:** To take charge, offer opinions and direction. This ability involves a willingness to lead.

|   | Not at all leader orientated |   |   |   | Extremely leader orientated |   |   |
|---|---|---|---|---|---|---|---|
|   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 |   |   |   | ● |   |   |   |

**End of Block: Block 3**
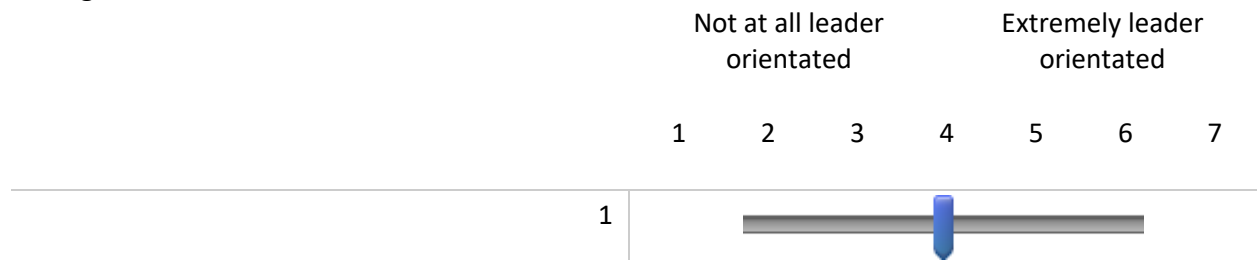
**Start of Block: Block 4**

*One of the three randomized pictures*

Using the photograph shown above, please rate the individual on each of the following competencies. Use the 7 point scales provided by dragging the slider to your desired level of competence.
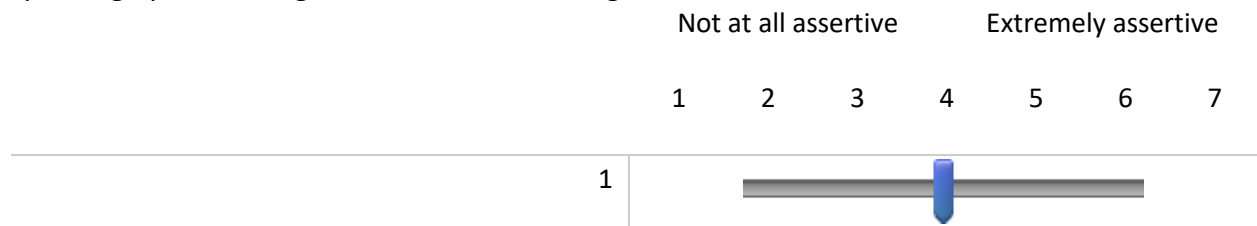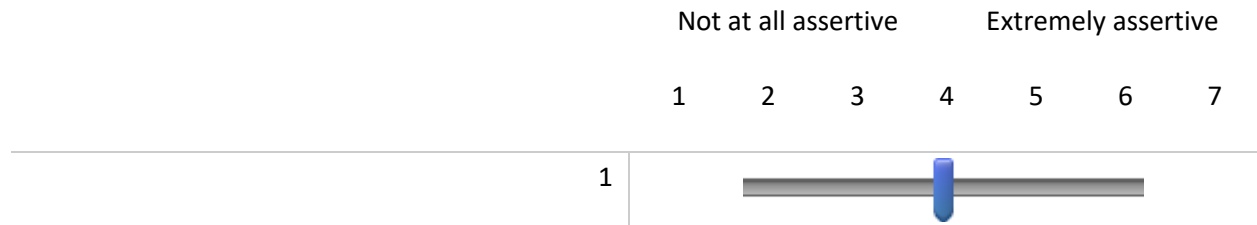
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**Sociable**: To be outgoing and participative in social situations. This ability involves a desire and willingness to work with others and facilitate with others.

| | Not at all sociable | | | | Extremely sociable | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | | | | | | | |

**Leader Orientated:** To take charge, offer opinions and direction. This ability involves a willingness to lead.

| | Not at all leader orientated | | | | Extremely leader orientated | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | | | | | | | |

**Assertive:** To express one's beliefs and opinions boldly and actively. This ability involves speaking up and taking initiative when working with others.

| | Not at all assertive | | | | Extremely assertive | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | | | | | | | |

**Achievement Orientated**: To set high standards to do the best possible job. This ability involves exerting extra effort to meet personally challenging goals.

| | Not at all achievement orientated | | | | Extremely achievement orientated | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| 1 | ─────────●───────── |
|---|----------------------|

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Agreeable:** To be pleasant, tactful, and helpful when working with others. This ability involves the degree to which the individual conveys a likable manner.

|  | Not at all agreeable | Extremely agreeable |
|---|---|---|
|  | 1   2   3   4   5   6   7 |  |

| 1 | ─────────●───────── |
|---|----------------------|

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
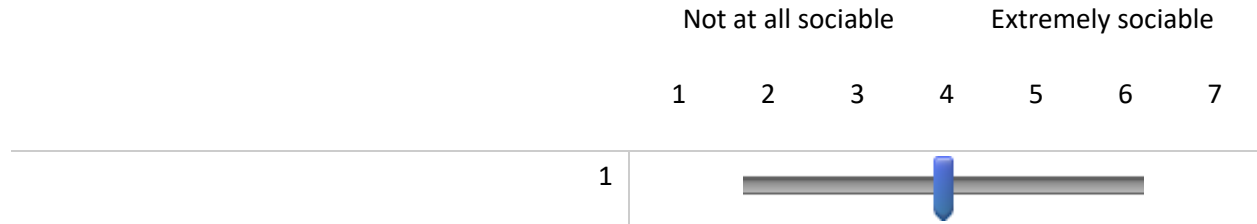
**Dependable:** To be reliable and responsible to others. This ability involves being disciplined, conscientious, and trustworthy in fulfilling obligations and tasks expected by others.
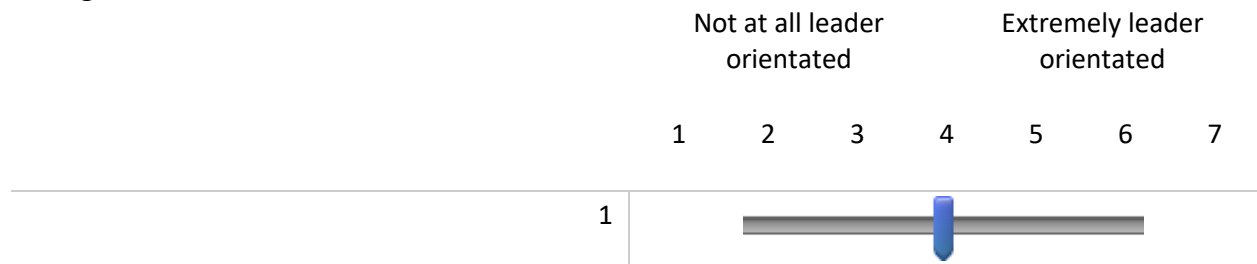
|  | Not at all dependable | Extremely dependable |
|---|---|---|
|  | 1   2   3   4   5   6   7 |  |

| 1 | ─────────●───────── |
|---|----------------------|

**End of Block: Block 4**

Appendix C: Questionnaire Distribution Email Template

**From:** Alsop, Greer
**Sent:** Monday, 2 November 2020 8:36am
**Subject:** An Investigation of Workplace Competency

---

"Kia ora, Greer is our HR graduate currently completing her thesis for her Master's degree. She is doing primary research on a very interesting topic and needs our help to provide her with our views and perceptions. It would be greatly appreciated if you could complete this survey for her as this data is critical to the thesis. Thanks for your support for one of our team. "

**Noho ora mai,**
**Mark Daldorf**

## An Investigation of Workplace Competency

Kia ora,

As part of a University of Canterbury investigation about workplace competencies, you have been invited to complete a short questionnaire. Completion of this questionnaire will support me in completing my Master's Thesis. Your response is therefore greatly appreciated.

The questionnaire examines a range of competencies key to New Zealand businesses.  You will be asked to view, and rate an individual on six workplace skills/ abilities. Completion of this questionnaire is estimated to take between 5 to 10 minutes. This questionnaire is mobile and desktop compatible.

**Please click the link to begin:**
http://canterbury.qualtrics.com/jfe/form/SV_eVzqqgZlIt1lBS5

If you would like any additional information, or if you have any issues completing the survey please do not hesitate to email me.
Once again, thank you for your time and support. Your responses will be **invaluable.**
**Ngā mihi**

**Greer Alsop**
HR Graduate

## Appendix D: Post hoc contrasts using the Tukey's correction

| Comparison | | | | Mean Difference | SE | df | t | $p_{tukey}$ |
|---|---|---|---|---|---|---|---|---|
| **Attire** | **Competency** | | **Attire** | **Competency** | | | | |
| Conservative | Assertive | - | Conservative | Achievement | 0.0714 | 0.226 | 404 | 0.317 | 1.000 |
| | | - | Conservative | Leadership | 0.0357 | 0.226 | 404 | 0.158 | 1.000 |
| | | - | Conservative | Agreeable | 1.1071 | 0.226 | 404 | 4.907 | ***< .001 |
| | | - | Conservative | Sociable | 1.0000 | 0.226 | 404 | 4.432 | **0.002 |
| | | - | Conservative | Dependable | 0.4643 | 0.226 | 404 | 2.058 | 0.838 |
| | | - | Provocative | Assertive | 0.8214 | 0.350 | 115 | 2.345 | 0.649 |
| | | - | Provocative | Achievement | 0.7857 | 0.353 | 120 | 2.224 | 0.734 |
| | | - | Provocative | Leadership | 0.8214 | 0.353 | 120 | 2.325 | 0.664 |
| | | - | Provocative | Agreeable | 0.6071 | 0.353 | 120 | 1.719 | 0.959 |
| | | - | Provocative | Sociable | 0.4643 | 0.353 | 120 | 1.314 | 0.997 |
| | | - | Provocative | Dependable | 0.7857 | 0.353 | 120 | 2.224 | 0.734 |
| | | - | Control | Assertive | 1.6071 | 0.350 | 115 | 4.588 | **0.001 |
| | | - | Control | Achievement | 1.7143 | 0.353 | 120 | 4.853 | ***< .001 |
| | | - | Control | Leadership | 1.5357 | 0.353 | 120 | 4.347 | **0.004 |
| | | - | Control | Agreeable | 0.9286 | 0.353 | 120 | 2.629 | 0.442 |
| | | - | Control | Sociable | 1.7143 | 0.353 | 120 | 4.853 | ***< .001 |
| | | - | Control | Dependable | 1.6071 | 0.353 | 120 | 4.549 | **0.002 |
| | Achievement | - | Conservative | Leadership | -0.0357 | 0.226 | 404 | -0.158 | 1.000 |
| | | - | Conservative | Agreeable | 1.0357 | 0.226 | 404 | 4.591 | ***< .001 |
| | | - | Conservative | Sociable | 0.9286 | 0.226 | 404 | 4.116 | **0.006 |
| | | - | Conservative | Dependable | 0.3929 | 0.226 | 404 | 1.741 | 0.957 |
| | | - | Provocative | Assertive | 0.7500 | 0.353 | 120 | 2.123 | 0.797 |
| | | - | Provocative | Achievement | 0.7143 | 0.350 | 115 | 2.039 | 0.844 |
| | | - | Provocative | Leadership | 0.7500 | 0.353 | 120 | 2.123 | 0.797 |
| | | - | Provocative | Agreeable | 0.5357 | 0.353 | 120 | 1.516 | 0.988 |
| | | - | Provocative | Sociable | 0.3929 | 0.353 | 120 | 1.112 | 1.000 |

| Attire | Competency | | Attire | Competency | Mean Difference | SE | df | t | $p_{tukey}$ |
|---|---|---|---|---|---|---|---|---|---|
| | | - | Provocative | Dependable | 0.7143 | 0.353 | 120 | 2.022 | 0.853 |
| | | - | Control | Assertive | 1.5357 | 0.353 | 120 | 4.347 | **0.004 |
| | | - | Control | Achievement | 1.6429 | 0.350 | 115 | 4.690 | **0.001 |
| | | - | Control | Leadership | 1.4643 | 0.353 | 120 | 4.145 | **0.008 |
| | | - | Control | Agreeable | 0.8571 | 0.353 | 120 | 2.426 | 0.590 |
| | | - | Control | Sociable | 1.6429 | 0.353 | 120 | 4.650 | **0.001 |
| | | - | Control | Dependable | 1.5357 | 0.353 | 120 | 4.347 | **0.004 |
| | Leadership | - | Conservative | Agreeable | 1.0714 | 0.226 | 404 | 4.749 | ***< .001 |
| | | - | Conservative | Sociable | 0.9643 | 0.226 | 404 | 4.274 | **0.003 |
| | | - | Conservative | Dependable | 0.4286 | 0.226 | 404 | 1.900 | 0.911 |
| | | - | Provocative | Assertive | 0.7857 | 0.353 | 120 | 2.224 | 0.734 |
| | | - | Provocative | Achievement | 0.7500 | 0.353 | 120 | 2.123 | 0.797 |
| | | - | Provocative | Leadership | 0.7857 | 0.350 | 115 | 2.243 | 0.721 |
| | | - | Provocative | Agreeable | 0.5714 | 0.353 | 120 | 1.618 | 0.977 |
| | | - | Provocative | Sociable | 0.4286 | 0.353 | 120 | 1.213 | 0.999 |
| | | - | Provocative | Dependable | 0.7500 | 0.353 | 120 | 2.123 | 0.797 |
| | | - | Control | Assertive | 1.5714 | 0.353 | 120 | 4.448 | **0.002 |
| | | - | Control | Achievement | 1.6786 | 0.353 | 120 | 4.752 | ***< .001 |
| | | - | Control | Leadership | 1.5000 | 0.350 | 115 | 4.282 | **0.005 |
| | | - | Control | Agreeable | 0.8929 | 0.353 | 120 | 2.527 | 0.515 |
| | | - | Control | Sociable | 1.6786 | 0.353 | 120 | 4.752 | ***< .001 |
| | | - | Control | Dependable | 1.5714 | 0.353 | 120 | 4.448 | **0.002 |
| | Agreeable | - | Conservative | Sociable | -0.1071 | 0.226 | 404 | -0.475 | 1.000 |
| | | - | Conservative | Dependable | -0.6429 | 0.226 | 404 | -2.849 | 0.287 |
| | | - | Provocative | Assertive | -0.2857 | 0.353 | 120 | -0.809 | 1.000 |
| | | - | Provocative | Achievement | -0.3214 | 0.353 | 120 | -0.910 | 1.000 |
| | | - | Provocative | Leadership | -0.2857 | 0.353 | 120 | -0.809 | 1.000 |
| | | - | Provocative | Agreeable | -0.5000 | 0.350 | 115 | -1.427 | 0.994 |

| Attire | Competency | | Attire | Competency | Mean Difference | SE | df | t | $p_{tukey}$ |
|--------|------------|---|--------|------------|-----------------|-----|----|----|-------------|
| | | - | Provocative | Sociable | -0.6429 | 0.353 | 120 | -1.820 | 0.933 |
| | | - | Provocative | Dependable | -0.3214 | 0.353 | 120 | -0.910 | 1.000 |
| | | - | Control | Assertive | 0.5000 | 0.353 | 120 | 1.415 | 0.994 |
| | | - | Control | Achievement | 0.6071 | 0.353 | 120 | 1.719 | 0.959 |
| | | - | Control | Leadership | 0.4286 | 0.353 | 120 | 1.213 | 0.999 |
| | | - | Control | Agreeable | -0.1786 | 0.350 | 115 | -0.510 | 1.000 |
| | | - | Control | Sociable | 0.6071 | 0.353 | 120 | 1.719 | 0.959 |
| | | - | Control | Dependable | 0.5000 | 0.353 | 120 | 1.415 | 0.994 |
| | Sociable | - | Conservative | Dependable | -0.5357 | 0.226 | 404 | -2.374 | 0.628 |
| | | - | Provocative | Assertive | -0.1786 | 0.353 | 120 | -0.505 | 1.000 |
| | | - | Provocative | Achievement | -0.2143 | 0.353 | 120 | -0.607 | 1.000 |
| | | - | Provocative | Leadership | -0.1786 | 0.353 | 120 | -0.505 | 1.000 |
| | | - | Provocative | Agreeable | -0.3929 | 0.353 | 120 | -1.112 | 1.000 |
| | | - | Provocative | Sociable | -0.5357 | 0.350 | 115 | -1.529 | 0.987 |
| | | - | Provocative | Dependable | -0.2143 | 0.353 | 120 | -0.607 | 1.000 |
| | | - | Control | Assertive | 0.6071 | 0.353 | 120 | 1.719 | 0.959 |
| | | - | Control | Achievement | 0.7143 | 0.353 | 120 | 2.022 | 0.853 |
| | | - | Control | Leadership | 0.5357 | 0.353 | 120 | 1.516 | 0.988 |
| | | - | Control | Agreeable | -0.0714 | 0.353 | 120 | -0.202 | 1.000 |
| | | - | Control | Sociable | 0.7143 | 0.350 | 115 | 2.039 | 0.844 |
| | | - | Control | Dependable | 0.6071 | 0.353 | 120 | 1.719 | 0.959 |
| | Dependable | - | Provocative | Assertive | 0.3571 | 0.353 | 120 | 1.011 | 1.000 |
| | | - | Provocative | Achievement | 0.3214 | 0.353 | 120 | 0.910 | 1.000 |
| | | - | Provocative | Leadership | 0.3571 | 0.353 | 120 | 1.011 | 1.000 |
| | | - | Provocative | Agreeable | 0.1429 | 0.353 | 120 | 0.404 | 1.000 |
| | | - | Provocative | Sociable | -5.5715 | 0.353 | 120 | -1.581 | 1.000 |
| | | - | Provocative | Dependable | 0.3214 | 0.350 | 115 | 0.918 | 1.000 |
| | | - | Control | Assertive | 1.1429 | 0.353 | 120 | 3.235 | 0.124 |

| Comparison | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Attire** | **Competency** | | **Attire** | **Competency** | **Mean Difference** | **SE** | **df** | **t** | **p**tukey |
| | | - | Control | Achievement | 1.2500 | 0.353 | 120 | 3.538 | 0.054 |
| | | - | Control | Leadership | 1.0714 | 0.353 | 120 | 3.033 | 0.202 |
| | | - | Control | Agreeable | 0.4643 | 0.353 | 120 | 1.314 | 0.997 |
| | | - | Control | Sociable | 1.2500 | 0.353 | 120 | 3.538 | 0.054 |
| | | - | Control | Dependable | 1.1429 | 0.350 | 115 | 3.263 | 0.117 |
| Provocative | Assertive | - | Provocative | Achievement | -0.0357 | 0.226 | 404 | -0.158 | 1.000 |
| | | - | Provocative | Leadership | 4.1215 | 0.226 | 404 | 1.831 | 1.000 |
| | | - | Provocative | Agreeable | -0.2143 | 0.226 | 404 | -0.950 | 1.000 |
| | | - | Provocative | Sociable | -0.3571 | 0.226 | 404 | -1.583 | 0.983 |
| | | - | Provocative | Dependable | -0.0357 | 0.226 | 404 | -0.158 | 1.000 |
| | | - | Control | Assertive | 0.7857 | 0.350 | 115 | 2.243 | 0.721 |
| | | - | Control | Achievement | 0.8929 | 0.353 | 120 | 2.527 | 0.515 |
| | | - | Control | Leadership | 0.7143 | 0.353 | 120 | 2.022 | 0.853 |
| | | - | Control | Agreeable | 0.1071 | 0.353 | 120 | 0.303 | 1.000 |
| | | - | Control | Sociable | 0.8929 | 0.353 | 120 | 2.527 | 0.515 |
| | | - | Control | Dependable | 0.7857 | 0.353 | 120 | 2.224 | 0.734 |
| | Achievement | - | Provocative | Leadership | 0.0357 | 0.226 | 404 | 0.158 | 1.000 |
| | | - | Provocative | Agreeable | -0.1786 | 0.226 | 404 | -0.791 | 1.000 |
| | | - | Provocative | Sociable | -0.3214 | 0.226 | 404 | -1.425 | 0.994 |
| | | - | Provocative | Dependable | 3.3915 | 0.226 | 404 | 1.501 | 1.000 |
| | | - | Control | Assertive | 0.8214 | 0.353 | 120 | 2.325 | 0.664 |
| | | - | Control | Achievement | 0.9286 | 0.350 | 115 | 2.651 | 0.426 |
| | | - | Control | Leadership | 0.7500 | 0.353 | 120 | 2.123 | 0.797 |
| | | - | Control | Agreeable | 0.1429 | 0.353 | 120 | 0.404 | 1.000 |
| | | - | Control | Sociable | 0.9286 | 0.353 | 120 | 2.629 | 0.442 |
| | | - | Control | Dependable | 0.8214 | 0.353 | 120 | 2.325 | 0.664 |
| | Leadership | - | Provocative | Agreeable | -0.2143 | 0.226 | 404 | -0.950 | 1.000 |
| | | - | Provocative | Sociable | -0.3571 | 0.226 | 404 | -1.583 | 0.983 |

| | Comparison | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Attire** | **Competency** | | **Attire** | **Competency** | **Mean Difference** | **SE** | **df** | **t** | **p_tukey** |
| | | - | Provocative | Dependable | -0.0357 | 0.226 | 404 | -0.158 | 1.000 |
| | | - | Control | Assertive | 0.7857 | 0.353 | 120 | 2.224 | 0.734 |
| | | - | Control | Achievement | 0.8929 | 0.353 | 120 | 2.527 | 0.515 |
| | | - | Control | Leadership | 0.7143 | 0.350 | 115 | 2.039 | 0.844 |
| | | - | Control | Agreeable | 0.1071 | 0.353 | 120 | 0.303 | 1.000 |
| | | - | Control | Sociable | 0.8929 | 0.353 | 120 | 2.527 | 0.515 |
| | | - | Control | Dependable | 0.7857 | 0.353 | 120 | 2.224 | 0.734 |
| | Agreeable | - | Provocative | Sociable | -0.1429 | 0.226 | 404 | -0.633 | 1.000 |
| | | - | Provocative | Dependable | 0.1786 | 0.226 | 404 | 0.791 | 1.000 |
| | | - | Control | Assertive | 1.0000 | 0.353 | 120 | 2.831 | 0.309 |
| | | - | Control | Achievement | 1.1071 | 0.353 | 120 | 3.134 | 0.160 |
| | | - | Control | Leadership | 0.9286 | 0.353 | 120 | 2.629 | 0.442 |
| | | - | Control | Agreeable | 0.3214 | 0.350 | 115 | 0.918 | 1.000 |
| | | - | Control | Sociable | 1.1071 | 0.353 | 120 | 3.134 | 0.160 |
| | | - | Control | Dependable | 1.0000 | 0.353 | 120 | 2.831 | 0.309 |
| | Sociable | - | Provocative | Dependable | 0.3214 | 0.226 | 404 | 1.425 | 0.994 |
| | | - | Control | Assertive | 1.1429 | 0.353 | 120 | 3.235 | 0.124 |
| | | - | Control | Achievement | 1.2500 | 0.353 | 120 | 3.538 | 0.054 |
| | | - | Control | Leadership | 1.0714 | 0.353 | 120 | 3.033 | 0.202 |
| | | - | Control | Agreeable | 0.4643 | 0.353 | 120 | 1.314 | 0.997 |
| | | - | Control | Sociable | 1.2500 | 0.350 | 115 | 3.569 | 0.050 |
| | | - | Control | Dependable | 1.1429 | 0.353 | 120 | 3.235 | 0.124 |
| | Dependable | - | Control | Assertive | 0.8214 | 0.353 | 120 | 2.325 | 0.664 |
| | | - | Control | Achievement | 0.9286 | 0.353 | 120 | 2.629 | 0.442 |
| | | - | Control | Leadership | 0.7500 | 0.353 | 120 | 2.123 | 0.797 |
| | | - | Control | Agreeable | 0.1429 | 0.353 | 120 | 0.404 | 1.000 |
| | | - | Control | Sociable | 0.9286 | 0.353 | 120 | 2.629 | 0.442 |
| | | - | Control | Dependable | 0.8214 | 0.350 | 115 | 2.345 | 0.649 |

| Comparison | | | | | Mean Difference | SE | df | t | $p_{tukey}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Attire** | **Competency** | | **Attire** | **Competency** | | | | | |
| Control | Assertive | - | Control | Achievement | 0.1071 | 0.226 | 404 | 0.475 | 1.000 |
| | | - | Control | Leadership | -0.0714 | 0.226 | 404 | -0.317 | 1.000 |
| | | - | Control | Agreeable | -0.6786 | 0.226 | 404 | -3.008 | 0.202 |
| | | - | Control | Sociable | 0.1071 | 0.226 | 404 | 0.475 | 1.000 |
| | | - | Control | Dependable | -2.1615 | 0.226 | 404 | -9.571 | 1.000 |
| | Achievement | - | Control | Leadership | -0.1786 | 0.226 | 404 | -0.791 | 1.000 |
| | | - | Control | Agreeable | -0.7857 | 0.226 | 404 | -3.483 | 0.055 |
| | | - | Control | Sociable | -3.7115 | 0.226 | 404 | -1.641 | 1.000 |
| | | - | Control | Dependable | -0.1071 | 0.226 | 404 | -0.475 | 1.000 |
| | Leadership | - | Control | Agreeable | -0.6071 | 0.226 | 404 | -2.691 | 0.390 |
| | | - | Control | Sociable | 0.1786 | 0.226 | 404 | 0.791 | 1.000 |
| | | - | Control | Dependable | 0.0714 | 0.226 | 404 | 0.317 | 1.000 |
| | Agreeable | - | Control | Sociable | 0.7857 | 0.226 | 404 | 3.483 | 0.055 |
| | | - | Control | Dependable | 0.6786 | 0.226 | 404 | 3.008 | 0.202 |
| | Sociable | - | Control | Dependable | -0.1071 | 0.226 | 404 | -0.475 | 1.000 |

*Note*: ** Significant at $p < .05$, *** Significant at $p < .001$

# Appendix E: Tests of Sphericity and Greenhouse-Geisser Corrections

**Tests of Sphericity**

|  | Mauchly's W | p | Greenhouse-Geisser ε | Huynh-Feldt ε |
|---|---|---|---|---|
| Attire | 0.4469 | ***< .001 | 0.644 | 0.662 |
| Competency | 0.4189 | 0.083 | 0.760 | 0.901 |
| Attire ✻ Competency | 0.0191 | **0.001 | 0.559 | 0.722 |

*Note*: ** Significant at *p* <.05, *** Significant at *p* <.001

**Within Subjects Effects**

|  | Sphericity Correction | Sum of Squares | df | Mean Square | F | p | $\eta^2_p$ |
|---|---|---|---|---|---|---|---|
| Attire | Greenhouse-Geisser | 104.46 | 1.29 | 81.12 | 7.58 | **0.006 | 0.219 |
| Residual | Greenhouse-Geisser | 372.09 | 34.77 | 10.70 |  |  |  |
| Competency | Greenhouse-Geisser | 4.10 | 3.80 | 1.08 | 1.06 | 0.378 | 0.038 |
| Residual | Greenhouse-Geisser | 104.13 | 102.65 | 1.01 |  |  |  |
| Attire ✻ Competnecy | Greenhouse-Geisser | 46.30 | 5.59 | 8.28 | 6.78 | ***<0 .001 | 0.201 |
| Residual | Greenhouse-Geisser | 184.48 | 150.92 | 1.22 |  |  |  |

*Note.* Type 3 Sums of Square,  ** Significant at *p* <.05, *** Significant at *p* <.001