

Implicit and Explicit Attitudes towards Older Workers and their Relationship with Behaviour

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Abstract

The population both internationally and in New Zealand is ageing. This is of concern for organisations as the age of the workforce is increasing. New Zealand is a relatively small country and requires the participation of the full potential workforce. If organisations are discriminating against older workers then they risk their own productivity and growth. The aim of the present study was to explore whether discrimination against older workers, specifically older female workers, and to investigate the relationship between individual's attitudes and behaviour (i.e., evaluations of a job applicant's CV). One hundred and eight Canterbury University students completed measures of explicit (Semantic Differential Scale), and implicit (Implicit Association Test) attitudes and a Recruitment Task that required them to evaluate the CV of a male or female job applicant who was either a younger or older (or no age specified). Negative implicit and explicit attitudes towards older, relative to younger, workers were shown on both the implicit and explicit attitude measures. However the results showed in general, there were no differences between the evaluations of the younger and older applicants' CVs. As expected, implicit and explicit attitudes were not related to each other. The current research suggests that negative implicit and explicit attitudes exist towards older workers, but that these attitudes do not necessarily affect behaviour. Implications and directions for future research are discussed.

Introduction

Research Overview and Rationale

The present research investigated whether discrimination exists towards older workers and specifically, the “double jeopardy” that older female workers may face. This research also investigated attitudes (both explicit and implicit) towards older workers, and the relationship between these attitudes and recruitment decisions. Research has previously investigated explicit attitudes towards older workers; however, little research has been conducted on implicit attitudes in the context of older workers. Such research is imperative as it has been found that implicit attitudes can play an important role in peoples’ behaviour (for a review see Greenwald, Poehlman, Uhlmann, & Banaji, 2009). Therefore the present research investigated the role that implicit, as well as explicit attitudes, play in behaviour in an employment-related context. This research aimed to increase understanding of the attitudes towards older workers in the employment context, and subsequently help reduce age discrimination in the workplace.

New Zealand follows a similar employment pattern to other western countries with Statistics New Zealand (2010) showing that the median age of worker has increased from 36 to 42 in the last 20 years. This increase reflects the general ageing of the labour force. New Zealand as a nation (due to its small population) relies on the full participation of its labour force (Wilson & Kan, 2006). Therefore discrimination against older workers is of concern for both older workers themselves and employers (Australian Human Rights Commission, 2010; Solomon, 1995). Discrimination against older workers directly affects New Zealand organisations productivity and limits personal and organisation growth (Wilson & Kan, 2006). The present research is therefore both timely and relevant as it investigates whether discrimination against older workers is a problem in New Zealand and also brings additional awareness to the fact that the workforce is ageing both internationally and in New Zealand.

Ageism

The definition of an older worker varies in literature. Workers are often classified as older once they have reached an age between 40-55 years old (OECD, 2000; US Age Discrimination in Employment Act, 1967). For the purpose of this study, older workers are classified as 45 or older and younger workers as 24-35 years of age; this age is consistent with current research in New Zealand (Statistics New Zealand, 2007; Malinen, 2009).

The term “ageism” was first coined by Robert N Butler in 1969. This term “ageism” refers to negative attitudes and discriminatory practices against older individuals (Oswick & Rosenthal, 2001). Research on ageism has been conducted in many areas of society. Such research includes the investigation into the depiction of older people in the media and regardless of format, has found that older individuals are either underrepresented or represented through negative images (Australian Human Rights Commission, 2010). Research into ageing has also shown that when marketing products, advertising companies often refer to ageing as negative and as an undesirable outcome, to be avoided by individuals (Australian Human Rights Commission, 2010). Across the various facets of society, it is clear that ageism permeates many aspects of life and has the potential to affect a large proportion of society (Australian Human Rights Commission, 2010).

Research into ageism in a workplace context is limited. What research has been conducted has shown that ageism does still exist in the workplace and is therefore worthy of further investigation (Monsees, 2002; Wilson & Kan, 2006). As stated above, ‘ageism’ is the negative attitudes and discriminatory practices against older individuals (Oswick & Rosenthal, 2001). Therefore to investigate discrimination against older workers, the attitudes individuals have towards older workers must be examined and also whether these attitudes influence discriminatory practices against these workers.

Attitudes

The construct of an attitude has been, and continues to be, one of the most studied areas in social sciences (Ajzen, 2001). The definition of an attitude varies in literature; however most researchers agree on the general concept. This concept is that an attitude can be represented by an object (e.g., elderly person) that has attribute dimensions (e.g., good-bad) that an individual associates with that object (Ajzen, 2001). Consistent with past research (Malinen, 2009), the current study uses Eagly and Chaiken's (1993) definition of attitudes which states that an attitude is "a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour" (p. 1). Stated another way, this means that people can and do express their attitudes through their behaviour.

Limited research has been conducted on workplace ageism (Malinen, 2009). Even though discrimination against older workers has been shown to occur (Wilson & Kan, 2006), the attitudes that may be related to the discriminating behaviour have not been thoroughly investigated. The present research aims to investigate the attitudes that may influence the discriminatory behaviours' towards older men and women in an employment context.

Traditional models of attitudes assumed that individual's attitudes are open to conscious inspection by the individual (Karpinski & Hilton, 2001). A prevalent research assumption was that people are capable of accessing their attitudes and controlling whether to report them or not (Greenwald & Banaji, 1995). This conscious expression of attitude refers to explicit attitudes (Nosek & Banaji, 2002). Explicit attitudes are the expression of beliefs and feelings about an object (e.g., elderly people) that can be intentionally controlled (Nosek & Banaji, 2002). For example, as it is not socially acceptable to express negative views against minority ethnic groups, individuals may choose to change the expression of their attitudes to more positive attitudes, thereby changing the expression of their real attitudes with attitudes that comply with the present social norms (Nosek & Banaji, 2002).

However, more recent research into implicit social cognition suggests that attitudes can exist out of the awareness of an individual and often the expression is out of the individual's control (Karpinski & Hilton, 2001). Such attitudes are referred to as implicit attitudes, attitudes that people may not be aware that they hold and that they may not have cognitive access to (Greenwald & Banaji, 1995). These attitudes can be activated without the control of the respondent when an attitude object is present (Greenwald & Banaji, 1995). For example, an individual may judge an elderly worker as a poor performer without intentionally doing so. Importantly, implicit and explicit attitudes have both been shown to influence behaviour (Perugini, 2005), and therefore it is important to be able to measure and assess both types of attitudes.

Measurement of Attitudes

To measure attitudes, the two approaches that can be utilised are explicit or implicit measurement (Fazio & Olson, 2003). Measurement is critical for attitude research as an attitude is a hypothetical construct that cannot be observed and therefore accurately assessed without valid and reliable measurement tools (Schwarz & Bohner, 2001).

Using an explicit measurement approach, the individual is asked about their attitudes towards an object (Krosnick, Judd, & Wittenbrink, 2005). Using an implicit measurement approach, individuals are asked to complete a task where they may be aware of the object that is being measured, but due to the measurement technique, they cannot control their response (Krosnick et al., 2005). To measure explicit attitudes an explicit approach is usually taken as the individuals are aware of their views towards the object. Implicit attitudes however need an implicit approach as often the individual may not be aware of their attitudes towards the object and so a response must be obtained from a task without the individuals' awareness (Payne, Burkley & Stokes, 2008).

Explicit attitudes and their measurement was the focus of early research into attitudes (Perugini, 2005). However many issues were associated with explicit measures as they relied on the respondent to honestly disclose their attitudes (Nosek & Banaji, 2002). Where strong social norms against expressing negative attitudes aren't present (e.g., expressing negative views towards smokers) it is appropriate to use an explicit approach. However, when there is social disapproval towards a negative attitude being expressed towards an object, individuals may moderate or change their responses so as not to appear discriminatory (Greenwald et al., 2009). Once conscious manipulation of attitudes occurs, explicit measures lose their accuracy (Greenwald et al., 2009). It is expected by the researcher that because of the sensitive nature of this study that explicit attitudes may be affected by impression management and therefore implicit and explicit responses may not be associated.

With research into explicit measures showing the control individuals have to manipulate their attitudes, it became necessary to develop new measures that did not require self reports from individuals. The new measures were implicit and were believed to be less susceptible to self presentation bias and therefore more successful at assessing attitudes (Ziegert & Hanges, 2005).

One of the measures developed to assess implicit attitudes is the Implicit Association Test (IAT; Greenwald, McGhee & Schwartz, 1998). The IAT measures the strength of associations between concepts by measuring response times in a computer-administered task. The participant completing an IAT is required to make rapid responses as they categorise stimuli as belonging to one of two target groups (e.g., younger and older workers) and one of two attributes that are at the opposite ends of a dimension (e.g., desirable and undesirable). The IAT is based on the principle that respondents find it easier (and hence are faster) to respond to trials where highly associated target (e.g., young and desirable and old and undesirable) and attribute categories share a response key as compared to trials where less strongly associated

target (e.g., young and undesirable and old and desirable) and attribute categories share a response key.

Research conducted since the initial 1998 publication of the IAT has provided substantial evidence concerning psychometric properties of the test (Greenwald et al, 2009). The IAT has displayed good internal consistency and has a high resistance to faking which has been contributed to the sensitivity of the automatically activated associations. The IAT has also proved to be relatively insensitive to procedural variations such as the number of trials and time intervals between trials (Greenwald et al., 2009). Evidence indicates that the IAT is the most reliable and accurate method of measuring implicit attitudes (Perugini, 2005).

The IAT is used in the current study and measured the relative implicit attitudes that participants held towards older and younger workers. Research has shown that explicit measures are often effected by impression management when investigating a sensitive topic therefore to get a more accurate and thorough look into attitudes towards older workers both implicit and explicit measures were used in this study. As there is little research on implicit attitudes towards older workers (Malinen, 2009), this research aimed to investigate the topic further and to contribute to knowledge about the predictive utility of implicit attitudes. Attitudes towards older workers, and specifically older female workers, are discussed below.

Dual approach to Attitudes

Only a few comprehensive frameworks have been developed around implicit and explicit attitudes. This is, in part, due to the fact that research into implicit and explicit attitudes was largely developed in isolation from one another (Perugini, 2005). Two frameworks surrounding implicit and explicit attitudes are the most predominant. The first framework is the single representation view and it suggests that implicit measures allow less editing of one's attitudes and explicit measures may show the edited response due to impression management.

So both implicit and explicit measures are capturing the same attitude (Eagly & Chaiken, 2005), however, the explicit attitude measure results may differ from the implicit attitude measure results because an individual may have chosen to engage in impression management. The second framework is one of the most recent and influential frameworks. The dual attitudes model was developed by Wilson, Lindsey and Schooler (2000). They suggested that implicit and explicit measures reflect two distinct representations of an attitude. Individuals can have both implicit and explicit attitudes towards a single attitude object and that these attitudes may differ from one another (Karpinski & Hilton, 2001).

The relationship between implicit and explicit attitudes is complex (Nosek, 2005). A considerable body of research supports the dual approach, with research showing that implicit and explicit attitudes are dissociated and therefore independent constructs (Karpinski and Hilton, 2001; Ziegert & Hanges, 2005). However, Nosek, Banaji and Greenwald's (2002) research found that on average, the direction of the implicit-explicit attitude association was positive and significant. This indicated that those individuals showing stronger bias on implicit attitude measures also showed stronger bias on explicit attitude measures. This relationship on average was weak and of a small effect size.

Implicit ageism has found to be in contrast with explicit ageism, with explicit attitudes showing more positive attitudes towards older workers than the implicit attitudes (Levy & Banaji, 2002). Therefore it is predicted that there will be no association between the implicit and explicit attitude measures.

Attitudes towards Older Workers

Research on attitudes towards older workers has found negative explicit attitudes are associated with older workers (McGregor & Gray, 2002; Wilson & Kan, 2006; Monsees, 2002; Bugental & Hehman, 2007). Employers have often given reasons as to why they are

reluctant to hire older workers. Employers' reasons can include that older workers are slower, have more accidents, have higher rate of absenteeism and that they are a poor investment for the future. These statements however are not supported by research (Tuckerman & Lorge, 1952; McGoldrick & Arrowsmith, 2001). In fact, there can often be a positive association between older workers and aspects of job performance (Finkelstein, Burke & Raju, 1995). Despite a lack of empirical support for the assumptions of employers, older workers continue to find it more difficult to locate employment than their younger counterparts (McGregor & Gray, 2002).

Although legislation has been in place to control and prevent such age discrimination (Human Rights Act, 1993), evidence suggests that discrimination against older workers is still occurring (Monsees, 2002). Legislation to prevent discrimination against older workers provides guidelines for what is considered by law as discriminatory acts. These acts are refusal to employ based on age, unequal policy impact (where policies affect individuals in an organization unequally), termination without just cause and forceful retirement (Human Rights Amendment Act, 2001).

Munnell, Sass and Soto (2006) found that explicit attitudes towards older workers are becoming more positive than they were a decade ago. They also found that employers were regarding older workers as being as attractive as younger workers. However research conducted in the same year indicated that older workers were receiving fewer job interviews in the recruitment process (Wilson & Kan, 2006). This research shows that although employers are reporting that they are viewing both older and younger workers as attractive, they are still discriminating against older workers in the recruitment process. Employers may therefore be discriminating due to their implicit attitudes which they are not aware of. These subconscious attitudes may lead to discriminatory practices against older workers in the

workplace, for example in recruitment decisions. This research investigated implicit and explicit ageism towards older workers.

Attitudes towards Older Female workers

Research on discrimination towards older workers has provided evidence that older female workers may be discriminated against more than older male workers (Bugental & Hehman, 2007). Bugental and Hehman (2007) expected the effects of ageism and sexism to both affect older female workers simultaneously. Sexism in the workplace is legally defined as the unequal treatment of either sex in employment opportunities such as promotion, pay, benefits and privileges, which are based on expectations due to attitudes towards the sex of an employee or group of employees (Boggs, 1999). Research indicates that compared to men, women face more sexist attitudes in the workplace. Women are, for example, often seen as less able than men and not management material (Boggs, 1999). Research has offered support for Bugental and Hehman's (2007) expectation. For example, Wilson and Kan's (2006) study showed that older female workers were more discriminated against in a recruitment process compared to older male and to younger workers. Older female workers were not short-listed as often as older male and younger workers in the recruitment stage (Wilson & Kan, 2006). Older female workers are therefore expected to face a "double jeopardy", referring to the double discrimination that these workers may face, being both an older individual and a woman in the workforce (Bugental & Hehman, 2007). The present research aims to add to the body of knowledge surrounding discrimination against older workers and provide further research into the double jeopardy that older female workers may face, and in turn contribute to the effort to reduce age discrimination.

Implicit measures of attitudes in an organisational context

Malinen (2009) investigated implicit and explicit attitudes towards older workers and their predictive utility in an employment-related context. Negative implicit attitudes were found towards older, relative to younger, workers. Also, some evidence of youth bias was found in participants' behaviour. However implicit attitudes were found largely to be unrelated to behaviour. To the researchers knowledge this study is the only study that looks at the link between implicit attitudes and behaviour towards older workers and therefore it is important to replicate these findings. This study continues to research into discrimination against older workers, and in addition, investigates how males and females may be treated differently.

An example of research that has found implicit attitudes to be related to behaviour in an organisational context is a study conducted by Ziegert and Hanges (2005). This research looked at implicit racist attitudes on employment discrimination. Participants were to take on the role as a manager and were asked to evaluate the quality of job applications. Participants received a letter from the president of a company outlining what qualities to look for in a candidate. Participants were allocated in two conditions; in one condition participants received a letter that created a climate of racial bias. This letter contained a statement from the president of the company stating that "Given the majority of our workforce is White, it is essential we put a White person in the VP position. I don't want to jeopardise the fine relationship we have with our people...." (Ziegert & Hanges, 2005, pg 558). In the second condition, participants received a letter that created a climate of equality, they received the same letter but without the above statement. Ziegert and Hanges (2005) found that implicit racism interacted with the climate for racial bias to predict discrimination. That is, for participants in the racist climate condition, the stronger their bias against black individuals, the lower their evaluations of black applicants' job application. This research provides some evidence that implicit attitudes can predict behaviour in a recruitment situation (Ziegert & Hanges, 2005).

The above study provides evidence that implicit measurement can be used in an organisational context; however, more research in the area is needed. Greenwald and colleagues (2009) have recently called for further research into implicit measurement of attitudes and their predictive utility in an organisational context. The relationship between implicit and explicit attitudes and behaviour is discussed below.

Implicit and Explicit Attitudes and Behaviour

The relationship between attitudes and behaviour has been the main focus within the attitude research area for many years (Ajzen, 2005). As stated above, the dual approach to attitudes suggests that evaluations of an attitude can be implicit and explicit (Perugini, 2005). The dual approach also suggests that implicit and explicit attitudes may predict different types of behaviour. That is it suggests that implicit attitudes may predict spontaneous or more implicit responses, responses that are less controllable (e.g., blinking, flinching). Explicit attitudes may predict deliberate or explicit responses, responses that are controllable (e.g., verbal behaviour) (Asendorpf, Banse & Mucke, 2002). Dovidio, Kawakami, Johnson, Johnson and Howard (1997's) findings supported this approach in the area of prejudice. They found that implicit attitudes predicted more spontaneous responses and explicit attitudes predicted more controlled responses.

Greenwald and colleagues' (2009) research supports a less strict division between the predictive utility of implicit and explicit measures. They found that implicit measures as well as explicit measures predicted more controlled behaviour. As there is some disagreement on the relationship between implicit and explicit attitudes and how they affect controlled behaviour, this area warrants further research. This research therefore aims to clarify the ways by which implicit and explicit attitudes affect controlled behaviour in an employment context.

Based on the research reported in the introduction, the hypotheses for this study are:

Hypothesis 1: That an applicant will be evaluated less positively when the same CV is attributed to an older than to a younger worker.

Hypothesis 2: That while older applicants may be rated less positively than younger applicants based on the same CV (Hypothesis 1), this effect will be enhanced for female older workers who will be evaluated less positively than older male workers.

Hypothesis 3: The explicit attitudes towards older relative to younger workers will have little to no correlation with the control CV evaluations, younger workers CV evaluations will have a positive correlation with explicit attitudes and older workers CV evaluations will have a negative correlation with explicit attitudes. This effect will be enhanced for implicit attitudes towards older relative to younger workers.

In conclusion, the present research investigated implicit and explicit attitudes towards older workers, specifically older female workers. The relationship between both implicit and explicit attitudes and controlled behaviour in an employment context was also investigated.

Method

Participants

University of Canterbury students were recruited through a first year psychology participant pool, through advertisements placed around campus and also through recruitment emails sent out via department administrators. In total 108 students (36 males) participated in this study. The age range of participants was between 18-51 years, with the mean age of 23.34 years. Each participant received a \$5 grocery voucher or participation credits to compensate them for their time.

Measures

Implicit Association Test (IAT)

The participant completed a PC version (Walton, 2003) of the Implicit Association Test (Greenwald et al., 1998). The IAT is a relative measure of implicit attitudes between two target categories, and has been adapted to measure implicit attitudes towards older and younger workers (Malinen, 2009). The IAT is based on the principle that respondents find it easier (and hence are faster) to respond to trials where highly associated target and attribute categories share a response key as compared to trials where less strongly associated target and attribute categories share a response key. The target categories in the present study were 'older workers' and 'younger workers', and the attribute labels were 'desirable' and 'undesirable'. Therefore, the congruent trials were those in which 'older worker' and 'undesirable' and 'younger worker' and 'desirable' categories shared a response key. Incongruent trials were those in which 'older worker' and 'desirable' and 'younger worker' and 'undesirable' categories shared a response key. Prior to the presentation of these two critical blocks (congruent and incongruent), a series of practice blocks were presented to ensure the participant understood the procedure. All blocks

involved stimuli (pictures or words) appearing in the middle of the screen to be sorted into the correct category via the allocated computer key.

For each trial the participant's task was to indicate, by pressing an allocated key on the computer keyboard (A or L), which category the target came from. The first two blocks of trials involved words and photographs from just one of the categories. Block 3 was a practice block for the use of both sets of categories. Block 4 was the first of the critical blocks of trials in which target words/photographs came from both categories and both sets of attribute and category labels appeared on the screen. Block 5 used just a single category set with the attribute labels switched to control for practice and hand dominance. Block 6 was again a practice block using both category sets. Block 7 was the second critical block of trials, identical to Block 4 except for the switching of one of the category labels. Order of congruent and incongruent blocks was counterbalanced across participants to control for order effects. On each of the trials, the first response made (by pushing one of the allocated keys) and the speed to make that response were recorded. After a correct response, a green tick appeared on the screen below the target word and the screen was then blank for 200 milliseconds before the next target appeared. If the participant made an incorrect response, a red cross appeared below the target word and the participant was required to make the correct response before proceeding to the next trial. All pictures used for the IAT can be seen in Appendix A. The traits used in this research were selected from previous research (Malinen, 2009). The desirable traits used were ambitious, cooperative, confident, effective, flexible, organised, motivated, productive, reliable and trainable. The undesirable traits used were apathetic, difficult, hostile, impatient, inflexible, lazy negative, stubborn, unproductive and useless. The Implicit Association Test scores were calculated using the revised method recommended by Greenwald, Nosek and Banaji (2003). A positive IAT score indicates a more positive association with younger, relative to older,

workers. A negative IAT indicates a more positive association with older, relative to younger, workers. The larger the IAT the stronger the implicit association.

Semantic Differential Scales

The participant's explicit attitudes towards older and younger workers were measured using semantic differential scales. This required the participant to rate older and younger workers on a number of scales anchored with polar opposite words (e.g., Motivated – Unmotivated; Good - Bad), which have been identified as being associated with older and younger workers in previous research (Perry, Kulik & Bourhis, 1996). The participant was asked to make a mark on a 100mm horizontal line, anchored by polar opposites of an adjective pair, to indicate the extent to which he or she believed the specified traits were characteristic of younger or older workers in general. The participant was provided with eight semantic differential scales to rate. The order of the groups (younger and older workers) was counterbalanced across participants to control for any order effects. Items were active - passive, productive -unproductive, pleasant - unpleasant, old-fashioned - progressive, bold - cautious, creative -uncreative, trainable – untrainable, good-bad and motivated - unmotivated. The semantic differential scales can be seen in Appendix B.

Recruitment Task Advertisement

A recruitment advertisement was created for the Recruitment task. The advertisement presented to participants contained information about the organisation, and the skills, competencies and experience needed for the applicant to be competent in the position. The advertisement can be seen in Appendix C. It was important that the position in the Recruitment task was seen as suitable for all the candidates, regardless of age or sex, to control for any possible effects of job stereotyping (participants rating candidates as less suitable, not based

upon attitudes towards sex, but on a stereotype of the job such as electricians being male). The position being recruited for in the advertisement was that of an Internal Communications Consultant. The position of an Internal Communications Consultant was chosen because it was seen as a position that would not have any age or sex stereotypes attached. A pilot study was conducted to assess whether the advertisement was perceived as suitable for all candidates (male, female, young and old) that were included in the main study. Students from the University of Canterbury were recruited for this pilot study. Participants were provided with a questionnaire that asked them to rate how suitable the advertised position was for a male, female, older and younger candidate (See Appendix D for the questionnaire). Candidates were provided the ages of what classified older and younger workers. The participants' answers were recorded on a 7 point likert scale (1= 'strongly disagree'; 7= 'strongly agree'). If the position was rated suitable for all candidates it would be included in the Recruitment task.

Fifteen participants answered the questionnaire (four male). The age range of participants was between 21-32, with a mean age of 23.5 years. Dependent sample t-tests were used to analyse the data. There was no difference in the ratings given to male and female candidates, $t(14) = 0.29$, $p > .05$ ($M_s = 5.1$ ($sd = 0.9$) vs. 5.07 , ($sd=1.22$), indicating that participants found both male and female candidates equally suitable for the Internal Communications Consultant position. However, the suitability of young and old candidates were perceived to be significantly different. This was shown through the significant results reached, $t(14) = 2.26$, $p < 0.05$, with younger applicants rated more highly than older applicants ($M_s = 5.33$ ($sd= 0.97$) vs. 4.27 , ($sd =1.22$)). Using the same participants to rate both younger and older candidates may have induced a contrast effect such that participants were rating who they thought the position was best suited for, rather than rating if both older and younger workers were suitable for the position. To counteract this, a pilot study with a between-subjects design for older and younger candidates was run. The same advertisement was used but

participants were only presented with one question (whether older/younger candidates were suitable for the position). Twenty different students participated in this part of the pilot study, 10 males and 10 females. The age range of participants was between 20-28, with a mean age of 22.7. An independent samples t-test indicated that there was no significant differences between the suitability of the younger and older applicants for the position, $t(18) = 1.24, p > .05$ ($M_s = 3.83$ ($sd=1.87$) vs. 3.00 ($sd=0.81$)). This demonstrated that both that older and younger workers were perceived as suitable for the advertised position of Internal Communications Consultant and therefore the advertisement was judged as suitable to be used for the main study.

Recruitment Task CVs

A curriculum vitae (CV) was created for the Recruitment task. A pilot test was conducted to ensure the fit between the CV and the position described in the advertisement. An average quality CV was required for this experiment as a high quality CV would allow no one to fault the applicant and too weak a CV would allow every participant to fault the applicant. This is because if the applicant's CV is of high quality, the sex or the age on the CV would not matter. This also applies for having a weak CV as participants will rate the applicant as not suitable for the job because the CV is not suitable for the job at all, again ruling out an effect showing from the different conditions (Watkins & Johnston, 2000). The CV was constructed to fit the fictional advertisement for a job that was created and pilot tested in the first pilot study. The CV designed could accommodate both a younger and older applicant as it included a "recent and relevant experience" section. This category included the last seven years' experience the applicant had that was relevant to the advertised job. Having this category, rather than listing their full employment history, allowed for the difference in length of experience, that may occur between a younger and older worker CVs, to be eliminated. This therefore allowed the same CV to be used for both a younger and older worker and eliminated

the length of experience as an extraneous variable that might have affected the evaluation of the candidate. Six questions were asked to assess the quality of the CV, for the advertised position. Four questions were derived from Jackson and Fischer (2007). These questions were; what is your overall rating of the candidate? I would keep this CV for future reference, I would hire this applicant to fill the advertised position and the candidate is suitable for the advertised position. Two other questions were developed to help assess specific sections of the CV. These questions were: How do you rate the candidates experience for the position? How do you rate the grades of the candidate? A 7-point likert scale was used to rate the above questions (1= 'strongly disagree'; 7= 'strongly agree') (See Appendix F).

Fifteen participants (six male), who did not participate in the previous pilot study, completed the questionnaire. The age range of participants was between 21 and 32 years, with a mean age of 23.8 years. To analyse the data, a single sample t-test with the mean set to four (i.e., midpoint of scale) was conducted. The data when analysed showed that the means for each of the questions (1-6) were not significantly different from the midpoint of the scale. The statistics just reported can be seen in Appendix G. These results show that the CV is of average quality and can be used in the main study. A manipulation check was included in this pilot test to assess whether participants noticed the age and sex of the applicant. The manipulation check involved the participants answering two questions; "What age was the applicant in the CV?" and "What was the sex of the applicant?" All participants answered the first question correctly and one out of 15 did not answer the question regarding the sex of the applicant. This indicates that the majority of participants were noting the age and sex of the candidate and therefore the CV was deemed as appropriate to be used in the main study.

There were six curriculum vitae (CV) conditions; control male, control female, older female, older male, younger female and younger male. The CVs can be seen in Appendix E. The CVs varied on the applicant's date of birth (older (9.7.1960 (50 years)) vs. Younger

(9.7.1982 (29 years)) applicant vs. no date of birth) and name (female (Josie) vs. Male (John) name). The name and age (e.g., 09.07.82 (age 29)) on each CV reflected the specific experimental condition for each participant. The control CVs had no date of birth or age. The control CVs provided a baseline on which to assess whether the rating of the applicant was elevated or diminished by the addition of the date of birth of the candidate, relative to the baseline (no age) condition.

Controlled Behavioural Recruitment Task - Rating Questionnaire

The rating questionnaire asked the participants to evaluate how ideal the candidate, whose CV they read, was for the advertised position. The rating questionnaire consisted of six questions which the participants rated on a 7 point likert-type scale (1= 'strongly disagree'; 7= 'strongly agree'). The questions asked were the same as the questions in the second pilot study conducted. The rating questionnaire can be seen in Appendix H.

Debriefing questionnaire

The debriefing questionnaire gathered demographic data from the participants. The debriefing questionnaire also included manipulation checks. The first asked participants if they remembered the age and sex of the candidate in the CV. The second asked questions around what they thought the studies were about and whether they saw any links between the two different studies. The debriefing questionnaire can be seen in Appendix I.

Procedure

Participants were tested individually. At the arranged time the participant entered the experimental room, where s/he was greeted by the experimenter and asked to sit at one of the desks provided. The ratio of males and female participants needed to be the same in each

condition. Therefore the participant was randomly assigned to a CV condition based on their sex. As the participant's knowledge of the focus of this research had the potential to affect his or her responses, the participant was informed that s/he would be completing two separate studies in the one session. First the participant read through the relevant information sheet (Appendix J) and signed the consent form (Appendix K) for the recruitment task. The information sheet presented a false account of what the study he or she was completing was about. The participant was told that the study was examining the "relationship between type of job advertisement and CV evaluation". This was to ensure that the participant did not make a connection between the two ostensibly unrelated studies and change his or her behaviour accordingly. After signing the consent form, the participant completed the Recruitment task. Instructions were given to the participant to explain that he or she was to read a job advertisement for a position in a fictional organisation. He or she then read the provided CV, which the applicant had provided in application for the previously read position. The participant then completed the rating questionnaire.

After completing the recruitment task, the participant was asked to move to the second desk in the room to complete the alleged second study. The participant was again asked to read through the relevant information sheet and sign a consent form (Appendix J and K). This was done to consolidate the cover story that the studies were separate and unrelated. The participant was told that this second study was investigating "attitudes towards different groups in the workplace". The information sheet informed the participant that he or she would evaluate one group out of a selection of groups that had been selected to evaluate. Each participant received the older and younger worker group, but for the study to be successful, participants needed to think other options are available and hence did not pick up on the connection between the studies. The participant then completed the Semantic Differential Scales towards both older and younger workers separately. After completion of the scales he or she completed the IAT. After

completing the IAT the participant was asked the questions from the Debriefing Questionnaire. The Debriefing Questionnaire was designed to assess whether the participant realised that the studies were related and looking at discrimination of older workers in the workplace. After this questionnaire was completed, the participant was debriefed verbally and given a debriefing sheet (See Appendix L). He or she was given the chance to ask any questions. Once the participant was fully debriefed, he or she received the \$5 dollar grocery voucher or participation credits for their time. This study was reviewed and approved by the University of Canterbury Human Ethics Committee.

Results

Debriefing Sheet/Manipulation Check Analysis

The debriefing sheet asked whether participants remembered the age and sex of the candidate in the CV. As the control CVs did not contain an age they were excluded from the age analysis. The number of participants that remembered the age of the candidate (exactly or in the younger (25-35) or older age (45+) bracket) successfully was 70.83% and 90.74% remembered the sex correctly. The percentage of participants that remembered the age of the applicant was relatively low. As age and sex are conditions in the study it was important that this information was remembered by participants, as without this knowledge their CV evaluations were not manipulated by the conditions. To address the above manipulation check, participants that got the age or sex wrong (28 participants) were excluded from further analysis¹. Therefore, 80 participant's data were included in further analysis. The debriefing sheet also contained questions that asked what participants thought the research was about, whether they saw any links between the two studies and what that thought that link was. The number of participants that identified a link between the two studies was 54.63%, however, no participants identified what the study was about or identified what the link between the two studies were correctly. Accordingly no further participants were excluded from the main analysis.

Main Analyses

The means and standard deviations for the Implicit Association Tests, the Semantic Differential Scales and the Recruitment Task as a function of age and sex of the applicant are shown in Table 1.

¹ When participants were not excluded from the analysis, results followed a similar pattern see Appendix M for more detail

Each item on the recruitment task questionnaire was scored so that a higher rating indicated a more positive response. A reliability analysis was conducted on the six items. The ratings showed good internal reliability, with a Cronbach's alpha reliability coefficient of .86. The six items, all measured the candidate's suitability for the position, and were therefore combined into a single mean score.

The IAT score for each participant was computed using the improved algorithm recommended by Greenwald et al. (2003). A positive score indicated a more positive association with younger, relative to older, workers. A negative score indicated a more positive association with older, relative to younger, workers. The larger the IAT score the stronger the implicit association. Preliminary analysis on the block order (congruent/incongruent block first) showed no influence of block order on the IAT effects and was therefore not included in subsequent analyses. The mean error rate was less than 7% and similar to those in previous studies and will not be considered further (Blair & Lenton., 2001; Karpinski & Hilton, 2001; Malinen, 2009). As shown in Table 1, the IAT score in each condition was positive indicating that participants showed positive bias toward younger, relative to older, workers.

The Semantic Differential Scale items were coded so that higher scores represented more positive evaluations. The internal reliabilities for both the older worker and the younger worker scales were satisfactory, with Cronbach's alpha reliability coefficients of .79 and .83 respectively. The items in each scale were averaged into a single score, one for the older worker scale and another for the younger worker scale. Preliminary analysis on the scale order (older/younger first) showed no influence on the Semantic Differential Scales and was therefore not included in the subsequent analyses. As shown in Table 1, the responses on the SD scales were positive overall (i.e., above the midpoint of the scales) for both the older and younger workers and in all conditions indicating that participants had a positive explicit attitudes to both older and younger workers. For purposes of comparability with the relative

implicit measure, difference scores were calculated between younger and older workers; ratings for the older workers being subtracted from that for the younger workers. A positive score indicated a more positive association with younger, relative to older, workers. A negative score indicated a more positive association with older, relative to younger, workers. The higher the score, the greater the difference between the evaluations of older and younger workers.

Preliminary tests revealed no significant effects of participant sex on any of the dependent variables, and therefore will not be considered in further analysis.

Table 1

The Mean Responses for the IAT, the Semantic Differential Scales and Semantic Differential Difference scores as a Function of Age and Sex of the Applicant.

	<u>Control Male</u>	<u>Control Female</u>	<u>Younger Male</u>	<u>Younger Female</u>	<u>Old Male</u>	<u>Older Female</u>
Measure	<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>
Recruitment Task score (CV score)	5.04(.69)	4.60(.86)	4.03(1.19)	5.01(.56)	4.68(.91)	3.90(.98)
IAT (Implicit Association Test)	0.28(.33)	0.40(.33)	0.29(.51)	0.32(.30)	.48(.33)	.34(.29)
SD younger	73.07(7.96)	71.52(11.10)	67.29(10.24)	72.24 (10.92)	68.54(6.83)	68.24(13.49)
SD older	59.05 (13.00)	58.56(11.50)	54.33(8.77)	55.28(12.92)	53.85(9.05)	51.53(7.57)
SD difference score	14.01(10.24)	12.96(16.21)	12.96(9.90)	16.96(14.19)	14.68(11.78)	16.71(17.78)

Recruitment Task Analysis

A 3 (condition: old/ young/ control) x 2 (sex of applicant: male/female) ANOVA on Recruitment Task scores, revealed no significant main effect for the age of applicant ($F(2, 74) = 2.90, ns$) or sex of applicant ($F(1, 74) = .17, ns$). However, a significant interaction between these variables was observed, $F(2, 74) = 7.19, p < .005, \eta_p^2 = .163$. This interaction is represented in Figure 1.



Figure 1

Recruitment Task scores as a function of age and sex conditions

Post-hoc comparisons were conducted using a Tukey procedure ($p < .05$) to investigate the effect of sex for the control, young and old conditions and the differences between sexes separately for each condition. The evaluations of the control female CV ($M = 4.60$) was

significantly higher than the older female worker CV ($M = 3.90$). No other significant differences were found between conditions and sex.

Implicit Attitudes Analysis

Single-sample t-tests were computed to test whether there was significant bias on the IAT. Bias scores in each condition at each testing time were compared to zero (i.e., no difference in general affect toward older and younger workers). Significant bias was revealed for all but the young male worker group (Control Male: $t(16) = 3.59, p < .05$; Control Female: $t(12) = 4.27, p < .05$; Young Male: $t(10) = 1.88, p > .05$; Young Female: $t(11) = 3.72, p < .05$; Older Male; $t(12) = 5.31, p < .05$; Older Female; $t(13) = 4.49, p < .05$). That is, in each experimental condition except the young male worker condition participants showed a positivity bias toward younger, relative to older, workers.

A 3 (condition: old/ young/ control) x 2 (sex of applicant: male/female) ANOVA on the IAT bias scores revealed no significant effects.

Semantic Differential (SD) Scales Analysis

Single-sample t-tests were computed to test whether there was significant bias on the SD scales. Bias scores in each condition at each testing time were compared to zero (i.e., no difference in general affect toward older and younger workers). Significant bias was revealed for all groups (Control Male: $t(16) = 5.65, p < .05$; Control Female: $t(12) = 2.88, p < .05$; Young Male: $t(10) = 4.34, p < .05$; Young Female: $t(11) = 4.14, p < .05$; Older Male; $t(12) = 4.49, p < .05$; Older Female; $t(13) = 3.52, p < .05$). That is, in each condition there was a significant positivity bias toward younger, relative to older, workers.

A 3 (condition: old/ young/ control) x 2 (sex of applicant: male/female) ANOVA on the Semantic Differential difference scores revealed no significant effects.

Recruitment Task and Attitudinal Measures Relationship Analysis

To investigate the relationships between the attitudinal variables and the Recruitment Task ratings of the participant, Pearson Product-Moment correlation coefficients were calculated between the attitudinal difference scores and the Recruitment Task as a function of condition.

As the sample size in the present study resulted in relatively low power (0.34, 24 participants were needed in each condition to reach a power of 0.80) for detecting statistically significant relationships, correlations indicative of a large effect size (i.e., $r = .50$; Cohen, 1988; 1992) were also interpreted (all correlations indicative of large effects had $p < .10$).

Table 2 shows the correlations between the Recruitment Task scores and the attitudinal variables as a function of condition.

Table 2

Correlations between the IAT, the Semantic Differential Difference scores and the Recruitment Task scores as a Function of Sex and Age of the Applicant.

Recruitment Task conditions	SD scores	IAT Score
Control Male CV score	.43	-.11
Control Female CV score	.10	-.02
Young Male CV score	.36	-.38
Young Female CV score	-.16	-.19
Old Male CV score	.01	.14
Old Female CV score	-.127	-.53a

Note: IAT = Implicit Association Test; SD = Semantic differential difference score.

a= correlation indicative of a large effect size

*= $p < .05$

A negative relationship, indicative by a large effective size, was found between the Older Female Recruitment Task scores and the IAT ($r = -.53$). The more positive the evaluations of younger, relative to older, workers on the IAT, the less positive the participants ratings of the Older Female CV.

Implicit and Explicit Attitude Measures Relationship Analysis

Pearson Product-Moment correlation coefficients were calculated to investigate the relationships between the dependent measures as a function of control and experimental condition. Difference scores between the ratings of younger and older workers were used for the semantic differential such that a positive number indicates a more positive evaluation of younger, relative to older, workers. The correlations are shown in Table 3.

Table 3

Correlations between the Implicit and explicit Attitude Measures for the Recruitment task.

	Semantic Differential Difference Scores
Implicit Association Test	.03

a= correlation indicative of a large effect size.

*= $p < .05$

No significant relationship or a relationship indicative by a large effect size was found between the attitudinal measures.

Discussion

The main focus of the present research was to investigate discrimination against older workers, specifically older female workers. In addition implicit and explicit attitudes towards older and younger workers and their predictive utility for behaviour were investigated.

The results for the recruitment task will be discussed, as well as attitudes towards older workers, the relationship between the attitude measures and the attitude- behaviour relationship. The implications of the research will be considered as will limitations and directions for future research.

Recruitment Task

The hypotheses for the recruitment task were that while older applicants will be rated less positively than younger applicants based on the same CV, this effect will be enhanced for female older workers who will be evaluated less positively than older male workers. The results showed that the hypothesis was not supported, however, a significant difference was found between the control and older female conditions. The control female was evaluated more positively than the older female CV. As older workers were not evaluated lower than younger workers the hypothesis was not supported. This result is inconsistent with past research that has reported that older workers are more discriminated against than younger workers (McGregor & Gray, 2002; Wilson & Kan, 2006; Monsees, 2002; Bugental & Hehman, 2007). Other research has shown that employers find older workers just as employable as younger workers (Munnell et al., 2006). Research in this area differs, as different measurement techniques have been used to measure discrimination against older workers. McGregor and Gray (2002) used explicit questionnaires, whereas Munnell et al. (2006) asked employers directly about how they feel towards older workers. This study's findings are similar to Munnell et al.'s (2006) findings, which suggest that older and younger

workers are seen as equally employable. If employers did feel this way then this could explain why older workers are not rated significantly lower than younger workers on the recruitment task. Discrimination against older workers when compared to younger workers could have also not been found in this study because of the method used to assess participant's behaviour. It may be that when individuals are asked to evaluate a CV they do not choose to discriminate or that rating a CV does not tap into individual's discriminatory behaviour. This research suggests that older workers are not more discriminated against than younger workers when assessed through CV evaluations.

The control female CV was rated significantly higher than the older female CV. This result shows that when an age is not included on a CV the same CV was rated significantly lower in the older female condition. This shows that age can affect how a potential employer may rate a female applicant. This effect only occurred in the female condition which suggests that participants may discriminate more against older female workers. It was predicated that females in general would be rated significantly lower than their male counterparts. This result may not have occurred because younger females may no longer be discriminated against in the workplace. However the older female CV evaluations did not differ significantly when compared to the younger workers CV's and the older male CV, which suggests that they are only more discriminated against when compared to the same CV but without an age. This difference between the control and older female CV could have occurred because age is seen as a disadvantage in the female context. Older females may be seen as less employable by organisations and therefore the quality of the CV does not matter if the applicant is an older female, it is still judged lower. This supports past research that has found that older female workers are less employable (McGregor & Grey, 2002). This research suggests that when applying for jobs older female workers may not want to list their age on their CV.

Implicit and Explicit Attitudes

The attitudes towards older workers were assessed through both an implicit (IAT) and explicit (Semantic Differential Scales) measure. It was predicted that negative implicit attitudes would be held towards older workers when compared to younger workers. The IAT scores in each condition except in the younger male condition were significant and positive. This shows that participants held more negative attitudes towards older workers than younger workers. These results are consistent with those found by Malinen (2009), who found that negative implicit attitudes towards older worker exist. Implicit attitudes have been shown to stay fairly constant throughout one's life time (Levy & Banaji, 2002). These negative implicit attitudes may be affecting how older workers are treated within organisations by employers, co-workers and even older individuals themselves. Past research has shown that implicit attitudes can affect both controlled and more spontaneous behaviour (Greenwald et al, 2009). Therefore individuals holding these negative implicit attitudes contribute to the discriminatory behaviour affecting older workers and contribute to the barrier that older workers face to gain access into the workplace.

However the younger male condition did not show a significant negative implicit bias towards older workers. This result could have occurred because of the small sample size (11, lowest out of all the conditions) and the large standard deviation score in this condition. The large standard deviation score meant that a lot of variance occurred between participants IAT responses which meant the mean score was not representative of what was occurring in this group.

The semantic differential difference scores in each condition were significant and positive, indicating that participants held more negative explicit attitudes towards older workers than younger workers. These results are consistent with McGregor and Grey's (2002) research that found that employers held negative explicit attitudes towards older workers. The

comparative nature of this study could be influencing the results. Participants were asked to rate both young and old applicants. The results showed that overall the means of the older worker semantic scale scores were positive and above the midpoint of the scale. This suggests that when looked at separately older workers are seen in a positive light, which supports Munnell et al.'s (2006) findings that older workers are increasingly seen in a more positive light. However most workplace decisions are made in a comparative nature (e.g., job applicants are compared to one another) and therefore when compared to younger workers the results show that more negative attitudes are held towards older workers. This result shows that negative explicit attitudes towards older workers still exist in a workplace context.

As discussed in the introduction often explicit measures can be unreliable when individuals are asked to report on socially sensitive or discriminatory topics. Therefore the negative explicit attitudes expressed by the participants completing this study, shows that perhaps holding discriminatory attitudes towards older workers is not seen as being something that is disapproved of by society. Therefore this research suggests that more needs to be done to bring awareness to the negative attitudes associated with older workers. Legislation is important in helping bring awareness to discrimination and attitudes towards individuals, but is not effective alone. Individuals need to be made aware of what "ageism" is and how it can occur in the workforce. Employers also need to be held responsible for their actions and need to take charge in reducing "ageism" in the workforce (Australian Human Rights Commission, 2010).

The relationship between Implicit and Explicit Attitudes

It was predicted that implicit and explicit attitude measures would not have a significant relationship. The result found was consistent with the predictions above, with non-significant correlation found between the IAT and semantic differential scale scores. Past research into

ageism and attitudes has found that implicit and explicit attitudes have not been related (Levy & Banaji, 2002; Malinen, 2009).

The present findings support the notion that implicit and explicit attitudes are disassociated and reflect two distinct representations of an attitude (Karpinski & Hilton, 2001). Therefore implicit and explicit attitudes towards the older workers may differ from one another. However although the attitude measures did not show a significant relationship, both implicit and explicit measures showed negative bias towards older, relative to younger workers. This result highlights the importance of using both implicit and explicit attitude measures when investigating older workers as they both show negative attitudes exist but what negative attitudes they measure may differ from one another.

The relationship between the Recruitment Task and Attitudes

It was expected that the explicit attitudes towards older relative to younger workers will have little to no correlation with the control CV evaluations, younger workers CV evaluations will have a positive correlation with explicit attitudes and older workers CV evaluations will have a negative correlation with explicit attitudes. This effect will be enhanced for implicit attitudes towards older relative to younger workers.

No statistically significant relationships were found between the Recruitment Task behaviour and the implicit measure (IAT). However, a negative relationship with a large effect size was found between the older female CV and the IAT. This relationship means that the more negative implicit bias was shown towards older, relative to younger, workers on the IAT, the lower the participant's ratings of the Older Female CV. This supports part of the study's hypothesis that the IAT measure would have a negative relationship with the older workers CV evaluations. This result supports Greenwald and colleagues (2009) finding that implicit behaviour can also predict more controlled behaviour.

The hypothesis for the control conditions was supported as there was no significant relationship or large effect size found between the control condition CV scores and the implicit measure. The hypothesis was not supported for any of the other conditions, with no significant relationships being found between the explicit measure and the in younger and older male worker's CVs. This suggests when looking at younger workers and older male workers the IAT responses do not significantly predict how an individual may behave in the recruitment context.

No statistically significant relationships were found between the Recruitment Task behaviour and the explicit measure (semantic differential scales). The hypothesis for the control conditions was supported as there was no significant relationship or large effect size found between the control condition Recruitment Task scores and the explicit measure. The hypothesis was not supported for any of the other conditions, with no significant relationships being found between the explicit measure and the in younger and older worker's CVs.

This suggests that when looking at younger and older workers, the semantic differential scales responses do not significantly predict how an individual may behave in a recruitment situation. The lack of relationship between behaviour and the explicit measure suggests that individuals do not behave in accordance with their conscious attitudes.

Both implicit and explicit measures have been shown to have a lack of relationship with behaviour. The reason this could have occurred is because the attitude-behaviour relationship has been shown to be effected by the experiences an individual has had with the attitude object (Glasman & Albarracin, 2006). This study used university students as its sample and most university students do not have a lot of experience in the workforce and therefore may not have come across many older workers. Consequently, the lack of experience with older workers in the sample of this study could have influenced the lack of relationship between attitudes and behaviour. Attitude confidence has also been shown to affect the attitude-

behaviour relationship (Glasman & Albarracin, 2006). Therefore the students in this study may not be confident enough in their negative attitudes towards older workers to keep them consistent across both attitudes and behaviour towards older and younger workers.

The attitude measures were only weakly related to the recruitment task behaviour except in the older female worker condition where the IAT had a relationship with behaviour. Previous research conducted by Malinen (2009) into discrimination against older workers and the relationship this had with attitudes, found that explicit attitudes were more likely to predict more controlled behaviour than implicit attitudes. The result obtained in this study is consistent with previous research conducted in this area (Malinen, 2009) and suggests that neither implicit nor explicit attitudes have a significant relationship with controlled behaviour. Implications of these results are discussed below.

Implications of the Present Research

This study found negative implicit and explicit attitudes exist towards older, relative to younger, workers. However these attitudes were found to be unrelated to behaviour in a recruitment context. This study does not suggest that these attitudes are therefore not important, but that they still provide evidence that older workers are more negatively viewed than younger workers. These attitudes need to be brought to the awareness of individuals that hold them, particularly individuals that make decisions in an organisation. Bringing awareness to an attitude that an individual holds, is likely to be a useful strategy in avoiding discriminations (Greenwald & Banaji, 1995). Therefore this research suggests that programmes that address individual's attitudes towards older workers be held within organisations. Bringing awareness to the individual about what implicit and explicit attitudes they hold towards older workers may help reduce discrimination within the workplace. Greenwald and Banaji (1995) suggest that if an individual has awareness of the bias they hold, this bias may be anticipated and therefore

action might be taken to avoid it. This research also suggests that more awareness needs to be brought to this area and encouragement needs to be given to organisations to address the negative attitudes towards older workers because as Taylor and Walker (1998) state that “in absence of any strong commitment to realize equal opportunities for older people, it is likely that age discriminatory attitudes will persist” (p. 73).

This research also found that implicit and explicit attitudes were not related but that both attitude measures showed significant negative bias towards older, relative to younger, workers. This result highlights the importance of using both implicit and explicit attitude measures when investigating older workers as they may both pick up on negative attitudes towards older workers. Intervention programmes are often used to educate employees and the decision makers in organisations about the explicit attitudes they hold and the effects of their discrimination (Klein, Karchner, William & O’Connell, 2002). As implicit attitudes have also been shown to be negative, it is suggested that bringing awareness to individual’s implicit attitudes in the intervention programmes will also help to eliminate discrimination. A computer programme such as the IAT could be used to allow participants to see if they hold negative implicit attitudes towards older workers. This awareness would make individuals conscious of their implicit attitudes which could help prevent further discriminatory behaviour towards older workers, because individuals once aware often avoid the discriminatory behaviour (Greenwald & Banaji, 1995). Interventions have been shown to be effective educating tools and have been shown to help change individuals attitudes. However, this effect has been shown to be short term (Ragan & Bowen, 2001) and to produce maximum impact multiple intervention programmes need to be performed (Klein et al., 2002).

Limitations and Future Research

Some limitations can be identified in the present research. The present research used Canterbury University students to assess a CV. It is possible that using individuals who are part of a workplace in the study could have resulted in different findings as they have more experience with older and younger workers, which could lead to an increase in the attitude-behaviour relationship. Therefore future research into this area should examine what workers attitudes towards older workers and how their attitudes may affect this behaviour.

It is also acknowledged that the sample size in the present study was small for the amount of conditions; this resulted in low power (0.34). To achieve significant level of power (0.80) the sample size would have had to reach 144 participants, that is 24 participants in each condition. Caution should be exercised in generalising the reported findings due to the small sample size. Future research should aim to increase sample size in order to increase the robustness and validity of findings.

This research also focused on whether older women face a ‘double jeopardy’ within the recruitment process, being discriminated against both on age and sex factors. This research showed that older females were rated lower when compared to the same female CV that excluded the age. This result shows some discrimination based on age for older female workers. Past research has also found that older female workers are more discriminated against than both younger workers and older male workers (Wilson & Kan, 2006). As there is limited research into this area in a New Zealand context it is suggested that more research needs to be conducted in this area to assess whether older women really do face a “double jeopardy” within New Zealand.

Future research may also want to consider how sex differences may affect attitudes towards older workers and the relationship between attitudes and behaviour. Male co-workers tend to rate older individuals lower than female co-workers (Thorson and Perkins, 1980). It is

suggested that this is because women may identify with older workers as females are generally more discriminated against than men (Taylor, Crino & Rubinfeld, 1989). Future research into the ageism area should try to contain equal number of male and female participants to look into how male and female behavioural and attitudinal ratings may differ.

Future research should also consider how to successfully reduce age discrimination in the organisational context. Although this research did not find that older workers were more discriminated against in the recruitment context past research conducted in New Zealand has found that older workers discriminated against (McGregor & Grey, 2002; Wilson & Kan, 2006). Future research focusing on how to reduce age discrimination in a New Zealand context is needed to help provide older workers a chance to enter and be productive in the workforce. Organisations also need to be assured that programs to reduce discrimination are effective otherwise they are unlikely to commit to the process, despite a moral obligation to reduce ageism (Robinson & Dechant, 1997). Therefore research into this area is key for future researchers as it is a necessary step in encouraging organisations to take a step in helping prevent age discrimination.

Concluding Comments

The present research investigated attitudes towards older workers, focusing specifically on implicit and explicit attitudes in this area. The predictive utility of both implicit and explicit attitudes was investigated. The research showed clearly that negative implicit and explicit attitudes towards older, relative to younger, workers exist. No strong evidence was found for the relationship between attitudes and behaviour.

Although the present research found no significant relationship between attitudes and behaviour, there was however a large effect size found between the older female workers Recruitment Task score and the IAT. The present research suggests that negative attitudes

towards older workers exist at the implicit level and this should therefore be addressed in future research. As demographic changes are rapidly occurring internationally and in New Zealand, organisations need to be more prepared for the ageing workforce. This includes educating recruiters and decision makers on the potential negative consequences of negative attitudes towards older workers. Wilson and Brekke (1994) stated that bringing awareness to a problem is the first step to reducing it. This research has provided more evidence around discrimination against older workers and has shown that implicit and explicit biases against older workers do exist and further research into this area should be conducted.

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Appendices

Appendix A- Pictures of the Younger Workers shown in the IAT.



Pictures of the Older Workers shown in the IAT



Appendix B- Semantic Differential Scales

University of Canterbury

Department of Psychology

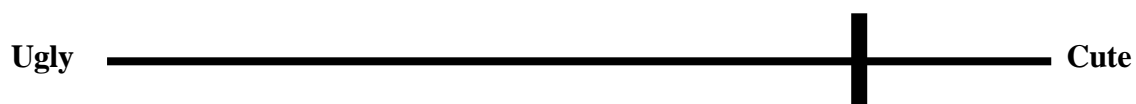
‘Opinions about older and younger workers’

In this task you are asked to indicate to what extent you believe the traits below are characteristic of the group specified *in general*. Please draw a line on the horizontal scale to indicate your response. The bipolar scales range from a negative pole to a positive pole.

There is no correct answer to these ratings, as we are simply interested in your opinions. Please answer honestly and do not spend too long on each question. Once again we remind you that all the information is anonymous and confidential.

Example

Please indicate to what extent the below characteristic is true for PUPPIES in general.



Draw a vertical line to indicate your response.

Please indicate to what extent the below characteristics is true for **YOUNGER WORKERS** (between the ages of 25-35) in general.

Unmotivated _____ **Motivated**

Unpleasant _____ **Pleasant**

Bad _____ **Good**

Passive _____ **Active**

Unproductive _____ **Productive**

Old-fashioned _____ **Progressive**

Cautious _____ **Bold**

Uncreative _____ **Creative**

Untrainable _____ **Trainable**

Please indicate to what extent the below characteristics is true for **OLDER WORKERS** (above the age of 45) in general.

Unmotivated _____ Motivated

Unpleasant _____ Pleasant

Bad _____ Good

Passive _____ Active

Unproductive _____ Productive

Old-fashioned _____ Progressive

Cautious _____ Bold

Uncreative _____ Creative

Untrainable _____ Trainable

Appendix C- Advertisement for Pilot Study 1**WO Consulting Group** LEADING CONSULTANTS IN WORKPLACE**Internal Communications Consultant – Planning, Strategy and Services****About Us**

WO (Work in Organisations) Consulting Group is a unique consulting firm. Our target audience is composed of those firms that seek quality rather than quantity. We specialise in small and mid size businesses and focus on delivering high-quality services with a focus on customer service. Our end results almost always exceed the client's expectations.

Our wide range of services include: Management Consulting, Informational Technology and Economic Consulting.

Learning Resources is a new team, which has been formed to help transform WO Consulting Group into a world class organisation, responding quickly to changing demands in client organisations. It is responsible for eLearning support, ICT infrastructure and services, and facilities management.

This new portfolio is about making WO Consulting Group the organisation of choice because of the range of information resources and the provision of high-quality support, services and infrastructure.

Integral to this new portfolio is an exciting opportunity for an **Internal Communications Consultant**.

Reporting to the Business Manager within the Planning, Strategy and Services team, the focus of this new role will be to provide expertise in communication practice and communications support for a wide range of initiatives and projects across the Learning Resources portfolio. In addition the Internal Communications Consultant will also coordinate events such as exhibitions and conferences for Learning Resources.

The successful candidate will hold a Bachelor's Degree in Commerce or related subject, as well as:

- Previous experience working in communications;
- Knowledge of current best practice within the communications field and a high level of skill in writing for the web and online media;
- Excellent written and verbal communication skills, including writing, proof reading, and the ability to communicate with staff at all levels.

This role may require some after-hours work associated with events.

In addition, your excellent high customer service ethics will be essential, as will your ability to demonstrate fluency in the use of the Microsoft Office package.

The closing date for this position is: 30 November 2010.

For more information about the benefits of joining WO Consulting Group please visit us online at <http://www.woConsultinggroup.co.nz/joinus>

Appendix D – Questionnaire for Pilot Study 1

University of Canterbury

Department of Psychology

“Attitudes and Beliefs towards Positions in the Workforce”

Please indicate the extent to which you agree with each of the following statements. Do this by circling the appropriate number on each of the scales below – the more you agree with a statement the higher the number you should circle. There are no correct answers to these ratings, as we are simply interested in your opinions. Please answer honestly and do not spend too long on each question. Once again we remind you that all the information is anonymous and confidential. Please note that by ‘older workers’, we mean individuals above the age of 45 and ‘younger workers’, we mean individuals between the ages of 24-35.

1. The position in the advertisement is suitable for MALE candidates.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

2. The position in the advertisement is suitable for FEMALE candidates.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

3. The position in the advertisement is suitable for YOUNGER candidates.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

4. The position in the advertisement is suitable for OLDER candidates.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

Appendix E- CVs used in Main Study

Curriculum Vitae

John Peterson

Email: john.j.p@xtra.co.nz

Home address: 18 Hill Street, Sydenham, Christchurch

Tel: (03) 344-2132

Cell phone: 027 5968555

Relevant Education

University of Canterbury, Christchurch

Completed Bachelor of Commerce

Major subjects: *Marketing and Communications*

Relevant Work Experience

Jan 2008 – Current- ACS Inc.

Assistant Publishing Officer

- Ensuring that all information of use to the general public is available to view via websites and intranets.
- Maintaining websites and intranets using Dreamweaver, making sure information flows efficiently around business units for approval before being posted on the site.
- Ensuring a good standard of website content presentation is maintained (including converting Word and PDF documents to HTML in a format suitable for website publication) updating web content.
- Providing support for the Publishing Officer when required.
- Assisting the Publishing Officer with Website layout.

Jan 2004 – Dec 2007- AUCom

Marketing Assistant

- Keeping stock up to date on our website.
- Updating & maintaining the customer database.
- Assisting with Customer Retention.
- Managing the Service reminder programme.
- Assisting the Marketing Coordinator when required.

Academic Record- Bachelor of Commerce

Communication Management -MGMT 330	B
Managing Change- MGMT 301	B
Strategic Management- MGMT 320	C+
International Marketing Strategy- MGMT 316	B
Politics and Society- SOCI 326	B+
Marketing Strategy - MGMT 212	B+
Marketing Strategy - MGMT 210	B
Statistical Methods of Management- MSCI 210	B-
Gender and Development in International Relations- SOCI 210	B+
Family and Kinship in Comparative Perspective- SOCI 212	C+
Principles of Marketing- MGMT 102	B
Quantitative Business Methods -MSCI 100	C+
Science Good Bad and Bogus - HAPS 110	B
Exploring Society - SOCI 111	B
Introduction to Economics - ECON 104	B-

Referees***Dr A D Matthews***

Senior Lecturer

Department of Management

University of Canterbury

Tel: (03) 366 7001 Extn. 7006

Email: tony.matthews@canterbury.ac.nz***Mr R L Mitchell***

Manager

ACS Inc.

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Curriculum Vitae

Josie Peterson

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Home address: 18 Hill Street, Sydenham, Christchurch

Tel: (03) 344-2132

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Academic Record- Bachelor of Commerce

Communication Management -MGMT 330	B
Managing Change- MGMT 301	B
Strategic Management- MGMT 320	C+
International Marketing Strategy- MGMT 316	B
Politics and Society- SOCI 326	B+
Marketing Strategy - MGMT 212	B+
Marketing Strategy - MGMT 210	B
Statistical Methods of Management- MSCI 210	B-
Gender and Development in International Relations- SOCI 210	B+
Family and Kinship in Comparative Perspective- SOCI 212	C+
Principles of Marketing- MGMT 102	B
Quantitative Business Methods -MSCI 100	C+
Science Good Bad and Bogus - HAPS 110	B
Exploring Society - SOCI 111	B
Introduction to Economics - ECON 104	B-

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Curriculum Vitae

John Peterson

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Tel: (03) 344-2132

Cell phone: 027 5968555

Date of Birth: 9.7.1982 (**Age:** 29)

Relevant Education

University of Canterbury, Christchurch

Completed Bachelor of Commerce

Major subjects: *Marketing and Communications*

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Strategic Management- MGMT 320	C+
International Marketing Strategy- MGMT 316	B
Politics and Society- SOCI 326	B+
Marketing Strategy - MGMT 212	B+
Marketing Strategy - MGMT 210	B
Statistical Methods of Management- MSCI 210	B-
Gender and Development in International Relations- SOCI 210	B+
Family and Kinship in Comparative Perspective- SOCI 212	C+
Principles of Marketing- MGMT 102	B
Quantitative Business Methods -MSCI 100	C+
Science Good Bad and Bogus - HAPS 110	B
Exploring Society - SOCI 111	B
Introduction to Economics - ECON 104	B-

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Curriculum Vitae

Josie Peterson

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Cell phone: 027 5968555

Date of Birth: 9.7.1982 (**Age:** 29)

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Politics and Society- SOCI 326	B+
Marketing Strategy - MGMT 212	B+
Marketing Strategy - MGMT 210	B
Statistical Methods of Management- MSCI 210	B-
Gender and Development in International Relations- SOCI 210	B+
Family and Kinship in Comparative Perspective- SOCI 212	C+
Principles of Marketing- MGMT 102	B
Quantitative Business Methods -MSCI 100	C+
Science Good Bad and Bogus - HAPS 110	B
Exploring Society - SOCI 111	B
Introduction to Economics - ECON 104	B-

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Curriculum Vitae

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Date of Birth: 9.7.1960 (**Age:** 50)

Relevant Education

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Completed Bachelor of Commerce

Major subjects: *Marketing and Communications*

Relevant Work Experience

Jan 2008 – Current- ACS Inc.

Assistant Publishing Officer

- Ensuring that all information of use to the general public is available to view via websites and intranets.
- Maintaining websites and intranets using Dreamweaver, making sure information flows efficiently around business units for approval before being posted on the site.
- Ensuring a good standard of website content presentation is maintained (including converting Word and PDF documents to HTML in a format suitable for website publication) updating web content.
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Strategic Management- MGMT 320	C+
International Marketing Strategy- MGMT 316	B
Politics and Society- SOCI 326	B+
Marketing Strategy - MGMT 212	B+
Marketing Strategy - MGMT 210	B
Statistical Methods of Management- MSCI 210	B-
Gender and Development in International Relations- SOCI 210	B+
Family and Kinship in Comparative Perspective- SOCI 212	C+
Principles of Marketing- MGMT 102	B
Quantitative Business Methods -MSCI 100	C+
Science Good Bad and Bogus - HAPS 110	B
Exploring Society - SOCI 111	B
Introduction to Economics - ECON 104	B-

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Curriculum Vitae

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Cell phone: 027 5968555

Date of Birth: 9.7.1960 (**Age:** 50)

Relevant Education

University of Canterbury, Christchurch

Completed Bachelor of Commerce

Major subjects: *Marketing and Communications*

Relevant Work Experience

Jan 2008 – Current- ACS Inc.

Assistant Publishing Officer

- Ensuring that all information of use to the general public is available to view via websites and intranets.
- Maintaining websites and intranets using Dreamweaver, making sure information flows efficiently around business units for approval before being posted on the site.
- Ensuring a good standard of website content presentation is maintained (including converting Word and PDF documents to HTML in a format suitable for website publication) updating web content.
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Managing Change- MGMT 301	B
Strategic Management- MGMT 320	C+
International Marketing Strategy- MGMT 316	B
Politics and Society- SOCI 326	B+
Marketing Strategy - MGMT 212	B+
Marketing Strategy - MGMT 210	B
Statistical Methods of Management- MSCI 210	B-
Gender and Development in International Relations- SOCI 210	B+
Family and Kinship in Comparative Perspective- SOCI 212	C+
Principles of Marketing- MGMT 102	B
Quantitative Business Methods -MSCI 100	C+
Science Good Bad and Bogus - HAPS 110	B
Exploring Society - SOCI 111	B
Introduction to Economics - ECON 104	B-

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Appendix F- CV and Questionnaire for Pilot Study 2

Curriculum Vitae

Josie Peterson

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Home address: 18 Hill Street, Sydenham, Christchurch

Tel: (03) 344-2132

Cell phone: 027 5968555

Date of Birth: 9.7.1982 (**Age:** 29)

Relevant Education

University of Canterbury, Christchurch

Completed Bachelor of Commerce

Major subjects: *Marketing and Communications*

Relevant Work Experience

Jan 2007 – Current- Christchurch City Council

Communications Consultant

- Developed and drove internal communications and higher levels of employee support and involvement.
- Developed strategic communication plans for a wide variety of System efforts across all operating units with a strong focus on Human Resources and organization-wide initiatives and programs.
- Coordinated planning, writing and editing services for employee and physician stakeholders, management teams and boards, and contributed significant writing assignments as defined.
- Developed and implemented effective communication plans and other deliverables in support of internal-communication strategies and effectively managed broad scope of projects with attention to detail.

Jan 2004 – Dec 2006- ACS Inc.

Assistant Communications Consultant

- Developed project plans on communication according to client objectives.
- Maintained project plans, set scope and budgets, created timetables, monitored progress and ensured best practices were followed during implementation.
- Edited and verified strategic communication materials in compliance with best practices and regulatory requirements.
- Analysed current plan data and communications campaign results to develop customized client communications solutions.

Academic Record- Bachelor of Commerce

Communication Management -MGMT 330	B+
Managing Change- MGMT 301	B
Strategic Management- MGMT 320	C+
International Marketing Strategy- MGMT 316	B
Politics and Society- SOCI 326	A-
Marketing Strategy - MGMT 212	A-
Marketing Strategy - MGMT 210	B
Statistical Methods of Management- MSCI 210	B-
Gender and Development in International Relations- SOCI 210	A-
Family and Kinship in Comparative Perspective- SOCI 212	C+
Principles of Marketing- MGMT 102	B
Quantitative Business Methods -MSCI 100	C+
Science Good Bad and Bogus - HAPS 110	B
Exploring Society - SOCI 111	B
Introduction to Economics - ECON 104	B-

Referees***Dr A D Matthews***

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Department of Management

University of Canterbury

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University of Canterbury

Department of Psychology

“Quality of Curriculum Vitae (CV) in regards to Position fit”

Please put yourself in the position of a Manager and answer the questions below based on the provided CV applying for the position described in the provided advertisement. Please indicate the extent to which you agree with each of the following statements. Do this by circling the appropriate number on each of the scales below – the more you agree with a statement the higher the number you should circle. There are no correct answers to these ratings, as we are simply interested in your opinions. Please answer honestly and do not spend too long on each question. Once again we remind you that all the information is anonymous and confidential.

1. The candidate is suitable for the advertised position.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

2. I would hire this applicant to fill the advertised position

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

3. I would keep this CV for future reference

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

What is your overall rating of the candidate?

1 2 3 4 5 6 7

Very low

Very high

How do you rate the grades of the candidate?

1 2 3 4 5 6 7

Very low

Very high

How do you rate the candidates experience for the position?

1 2 3 4 5 6 7

Very low

Very high

AGE:

Male/Female

Appendix G – *T- Test results for Pilot Study 2***Table 1***One Sample T-test results for Pilot Study 2 Questionnaire*

<i>Question</i>	<i>Statistics</i>
1. The candidate is suitable for the advertised position.	$t(14) = 3.2, p > .05 (M = 5 (sd = 1.19))$
2. I would hire this applicant to fill the advertised position	$t(14) = 0.396, p > .05 (M = 4.1 (sd = 1.3))$
3. I would keep this CV for future reference	$t(14) = 1.8, p > .05 (M = 4.9 (sd = 1.9))$
4. What is your overall rating of the candidate?	$t(14) = 2.44, p > .05 (M = 4.7 (sd = 1.16))$
5. How do you rate the grades of the candidate?	$t(14) = -2.10, p > .05 (M = 3.6 (sd = 0.73))$
6. How do you rate the candidates experience for the position?	$t(14) = 2.1, p > .05 (M = 4.8 (sd = 1.47))$

Appendix H- Recruitment Task Questionnaire

University of Canterbury

Department of Psychology

“Quality of Curriculum Vitae (CV) in regards to Position fit”

Please put yourself in the position of a Manager and answer the questions below based on the provided CV applying for the position described in the provided advertisement. Please indicate the extent to which you agree with each of the following statements. Do this by circling the appropriate number on each of the scales below – the more you agree with a statement the higher the number you should circle. There are no correct answers to these ratings, as we are simply interested in your opinions. Please answer honestly and do not spend too long on each question. Once again we remind you that all the information is confidential.

1. The candidate is suitable for the advertised position.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

2. I would hire this applicant to fill the advertised position

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

3. I would keep this CV for future reference

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

4. What is your overall rating of the candidate?

1 2 3 4 5 6 7

Very low

Very high

5. How do you rate the grades of the candidate?

1 2 3 4 5 6 7

Very low

Very high

6. How do you rate the candidates experience for the position?

1 2 3 4 5 6 7

Very low

Very high

Appendix I- Debriefing Questionnaire



University of Canterbury

Department of Psychology

Questionnaire for end of Study before debriefing

Sex: M / F

Age (if you feel comfortable providing it):

What age was the candidate you evaluated?

What sex was the candidate you evaluated?

What did you think this research was about?

Did you see any links between the two studies?

If so, what did you think that link was?

Appendix J- Information Sheets**University of Canterbury****Department of Psychology****Information**

You are invited to take part in a study, titled “Type of Job Advertisement and the relationship with CV evaluations”. The aim of the study is to investigate how people rate an applicant’s suitability to an advertised position.

Your involvement in this study will include completing a questionnaire.

You have the right to withdraw from the study at any time, including withdrawal of any information provided, until your questionnaire has been added to the others collected. Because it is anonymous, it cannot be retrieved after that. All data collected will remain confidential.

The study will take approximately 10 minutes to complete. There is no perceived risk present. The results of the present study may be published, but you are assured of the complete confidentiality. To ensure this, all data is collected confidentially and the data can only be accessed by the researcher.

The present study is completed as part of research by Dr Sanna Malinen. Sanna will be happy to answer any questions you may have about the study, and can be reached via email sanna.malinen@canterbury.ac.nz or on 366 7001, ext 7006.

The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.



University of Canterbury

Department of Psychology

Information

You are invited to take part in a study, titled “Attitudes towards Different Groups in the Workplace”. The aim of the study is to investigate people’s attitudes and beliefs about certain groups in the workplace.

Your involvement in this study will include two parts; the first one being a questionnaire and the second a simple computer-based task, requiring you to classify words and pictures in to different categories.

You have the right to withdraw from the study at any time, including withdrawal of any information provided, until your questionnaire has been added to the others collected and the computer task has been completed. As both the questionnaire and the computer task are anonymous, your data cannot be retrieved after that point. All data collected will remain confidential.

The study will take approximately 15 minutes to complete. There is no perceived risk present. You will receive a \$5 Countdown voucher as a thank you for participating.

The results of the present study may be published, but you are assured of the complete confidentiality. To ensure this, all data is collected confidentially and the data can only be accessed by the experimenter and her supervisors.

The present study is completed as part of MSc in Applied Psychology by Joanne Macdonald, supervised by Dr Sanna Malinen and Prof Lucy Johnston. Joanne will be happy to answer any questions you may have about the study, and can be reached via email on jmm322@uclive.ac.nz. Dr Sanna Malinen (sanna.malinen@canterbury.ac.nz) and Prof Johnston (lucy.johnston@canterbury.ac.nz) can also be contacted in regard to the study.

The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.



University of Canterbury

Department of Psychology

Information

You are invited to take part in a study, titled “Attitudes towards Different Groups in the Workplace”. The aim of the study is to investigate people’s attitudes and beliefs about certain groups in the workplace.

Your involvement in this study will include two parts; the first one being a questionnaire and the second a simple computer-based task, requiring you to classify words and pictures in to different categories.

You have the right to withdraw from the study at any time, including withdrawal of any information provided, until your questionnaire has been added to the others collected and the computer task has been completed. As both the questionnaire and the computer task are anonymous, your data cannot be retrieved after that point. All data collected will remain confidential.

The study will take approximately 15 minutes to complete. There is no perceived risk present. You will receive a participation credits as a thank you for participating.

The results of the present study may be published, but you are assured of the complete confidentiality. To ensure this, all data is collected confidentially and the data can only be accessed by the experimenter and her supervisors.

The present study is completed as part of MSc in Applied Psychology by Joanne Macdonald, supervised by Dr Sanna Malinen and Prof Lucy Johnston. Joanne will be happy to answer any questions you may have about the study, and can be reached via email on jmm322@uclive.ac.nz. Dr Sanna Malinen (sanna.malinen@canterbury.ac.nz) and Prof Johnston (lucy.johnston@canterbury.ac.nz) can also be contacted in regard to the study.

The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

Appendix K- Consent Forms



University of Canterbury

Department of Psychology

Sanna Malinen

Department of Management

CONSENT FORM

Type of Job Advertisement and the relationship with CV evaluations

I have read and understood the description of the above-named project. On this basis I agree to participate in the project, and I consent to publication of the results of the project with the understanding that confidentiality will be preserved.

I understand also that I may at any time withdraw from the project, including withdrawal of any information provided, until my questionnaire has been added to the others collected. Because it is anonymous, it cannot be retrieved after that. All data collected will remain confidential.

I note that the project has been reviewed ***and approved*** by the University of Canterbury Human Ethics Committee.

NAME (please print):

Signature:

Date:



University of Canterbury

Department of Psychology

Joanne Macdonald

Department of Psychology

CONSENT FORM

Attitudes towards Different Groups in the Workplace

I have read and understood the description of the above-named project. On this basis I agree to participate in the project, and I consent to publication of the results of the project with the understanding that confidentiality will be preserved.

I understand also that I may at any time withdraw from the project, including withdrawal of any information provided, until my questionnaire has been added to the others collected. Because it is anonymous, it cannot be retrieved after that. All data collected will remain confidential.

I note that the project has been reviewed **and approved** by the University of Canterbury Human Ethics Committee.

NAME (please print):

Signature:

Date:

Appendix L- Debriefing Sheet

University of Canterbury

Department of Psychology

Debriefing Sheet

Thank you for taking part in this study, which is completed as part of my Masters of Science in Applied Psychology dissertation. The two studies you just completed were actually two parts of the same study. The reason that you were not informed that they were part of the same study is because I was trying to avoid providing a link between the two parts of the study that could cause an effect on the answers provided in the second part of the study. The full title of the study is: 'Implicit and Explicit Attitudes towards Older Workers and their Relationship with Controlled Task Behaviour'. The study investigates the relationship between implicit and explicit attitudes and behaviour in a CV rating task, in relation to older workers. In the first study you completed a behavioural task. In the second study you completed a computer based task called the Implicit Association Test (IAT) and a semantic differential scale questionnaire

The behavioral task in this study is the questionnaire that you completed evaluating the CV of a job applicant. The present study had six conditions, with each participant completing only one condition. For three of the conditions the applicant was identified as female and in three as male. For each sex of applicant there were three conditions – no mention of age on the CV (control condition), age fell within the younger worker range (24-35), or age fell within the older worker age (45 and Over). Apart from the age and sex information the CV was identical across all conditions. In the present study it is predicted that an older applicant with an identical CV will be rated as less suitable for the position than a younger worker.

Attitudes are the beliefs and feeling individuals hold about people, objects or issues. They can be classified into two types, namely, explicit and implicit attitudes. Explicit attitudes are those that people are aware of, and are expressed when asked about the issue. In contrast, implicit attitudes are feelings that individuals might not be fully aware of and the expression of them is not under the control of the respondent. The present study investigates the relationship between implicit and explicit attitudes and behaviour.

The specific attitude in question is the attitude towards older, relative to younger, workers. Previous research has found there to be a negative stereotype of older workers and that negative implicit and explicit attitudes are held toward older workers. It is important to note that while it is common to be

aware of negative attitudes toward, and stereotypes about, older workers this knowledge does not *necessarily* lead to an individual displaying prejudice or bias toward older workers.

However, it has been suggested that negative attitudes may contribute toward older workers encountering discrimination and be disadvantaged in a number of situations, such as recruitment and selection procedures for employment. The present study investigates whether attitudes do indeed affect recruiting behavior in a behavioral task. Based on past research it is predicted that there will be a negative relationship between the attitudes, both implicit and explicit, towards older workers and their evaluation of the older workers. That is, it is predicted that people who hold less positive attitudes toward older workers will rate an older applicant as less suitable for the position than people with more positive attitudes toward older workers. .

The implicit attitudes were measured by an Implicit Association Test (IAT) – this was the computer task that you completed. The IAT measures participants' attitudes towards older, relative to younger, workers. The IAT recorded the response times for 'congruent trials' (those in which the target category 'older worker' and 'bad' words and 'younger workers' and 'good' words shared the same response key) and 'incongruent trials' (those in which the target category 'older worker' and 'good' words and 'younger worker' and 'bad' words shared the same response key). The difference in these response times is used as a measure of implicit attitudes – the more strongly one associates the target category 'older worker' with bad words and 'younger worker' with good words, the faster the responses in the congruent than the incongruent trials are. Based on previous research, it is expected that most individuals would have more negative attitudes towards older workers in comparison to younger workers.

The explicit attitudes were measured with semantic differential scales – the rating scales that you completed. The semantic differential scales asked you to rate on a bipolar scale to what extent you thought specific attributes were reflective of older and younger workers. Based on previous research, it is expected that most individuals would show slightly negative attitudes towards older workers as compared with younger workers, at least on most traits (e.g. productive, flexible).

All information collected will remain confidential, and the data will be securely stored at all times.

The present study is completed as part of MSc in Applied Psychology by Joanne Macdonald, supervised by Dr Sanna Malinen and Prof Lucy Johnston. Joanne will be happy to answer any questions you may have about the study, and can be reached via email on jmm322@uclive.ac.nz. Dr Sanna Malinen (sanna.malinen@canterbury.ac.nz) and Prof Johnston (lucy.johnston@canterbury.ac.nz) can also be contacted in regard to the study.

The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

Appendix M- Analysis for all Participants

The means and standard deviations for the Implicit Association Tests, the Semantic Differential Scales and the Recruitment Task as a function of age and sex of the applicant are shown in Table M1.

Each item on the recruitment task questionnaire was scored so that a higher rating indicated a more positive response. A reliability analysis was conducted on the six items. The ratings showed good internal reliability, with a Cronbach's alpha reliability coefficient of .84. The six items, all measured the candidate's suitability for the position, and were therefore combined into a single composite score.

The IAT score for each participant was computed using the improved algorithm recommended by Greenwald et al. (2003). A positive score indicated a more positive association with younger, relative to older, workers. A negative score indicated a more positive association with older, relative to younger, workers. The larger the IAT score the stronger the implicit association. Preliminary analysis on the block order (congruent/incongruent block first) showed no influence of block order on the IAT effects and was therefore excluded from subsequent analyses. The mean error rate was less than 7% and similar to those in previous studies and will not be considered further (Blair et al., 2001; Karpinski & Hilton, 2001; Malinen, 2009). As shown in Table M1, the IAT score in each condition was positive indicating that participants showed positive bias toward younger, relative to older, workers.

The Semantic Differential Scale items were coded so that higher scores represented more positive evaluations. The internal reliabilities for both the older worker and the younger worker scales were satisfactory, with Cronbach's alpha reliability coefficients of .807 and .826 respectively. The items in each scale were averaged into a single score, one for the older worker scale and another for the younger worker scale. Preliminary analysis on the scale order

(older/younger first) showed no influence on the Semantic Differential Scales and was therefore not included in the subsequent analyses. As shown in Table M1, the responses on the SD scales were positive overall (i.e., above the midpoint of the scales) for both the older and younger workers and in all conditions indicating that participants had a positive explicit attitudes to both older and younger workers. For purposes of comparability with the relative implicit measure, difference scores were calculated between younger and older workers; ratings for the older workers being subtracted from that for the younger workers. A positive score indicated a more positive association with younger, relative to older, workers. A negative score indicated a more positive association with older, relative to younger, workers. The higher the score, the greater the difference between the evaluations of older and younger workers.

Preliminary tests revealed no significant effects of participant sex on any of the dependent variables, and therefore will not be considered in further analysis.

Table M1

The Mean Responses for the IAT, the Semantic Differential Scales and Semantic Differential Difference scores as a Function of Age and Sex of all the Applicants.

		<u>Control Male</u>	<u>Control Female</u>	<u>Younger Male</u>	<u>Younger Female</u>	<u>Old Male</u>	<u>Older Female</u>
Measure		<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>
Recruitment	Task	4.93(.83)	4.70(.80)	4.30(1.10)	4.80(.63)	4.72(.87)	4.09(.97)
	score						
IAT	(Implicit	0.29(.32)	0.39(.30)	0.26(.52)	0.37(.33)	.36(.36)	.35(.27)
	Association Test)						
SD younger		72.00(8.87)	70.49(11.52)	67.55(9.47)	69.70(11.33)	68.49(6.13)	66.70(12.47)
SD older		58.65(12.74)	54.93(11.72)	55.54(9.69)	55.14(13.55)	56.12(11.32)	51.60(7.63)
SD differential score		13.40(10.27)	15.56(15.93)	12.01(10.90)	14.55(15.08)	12.36(12.40)	15.09(16.60)

Recruitment Task Analysis

A 3 (condition: old/ young/ control) x 2 (sex of applicant: male/female) ANOVA on Recruitment Task scores, revealed no significant main effect for the age of applicant ($F(2, 102) = 2.27, ns$) or sex of applicant ($F(1, 102) = .62, ns$). However, a significant interaction between these variables was observed, $F(2, 102) = 3.91, p < .05, \eta^2_p = .071$. This interaction is represented in Figure 2.



Figure 1

Recruitment Task scores as a function of age and sex conditions for all participants

Post-hoc comparisons were conducted using a Tukey procedure ($p < .05$) to investigate the effect of sex for the control, young and old conditions and the differences between sexes

separately for each condition. The evaluations of the control male CV ($M = 4.97$) was significantly higher than the older female worker CV ($M = 4.09$). No other significant differences were found between conditions and sex.

Implicit Attitudes Analysis

Single-sample t-tests were computed to test whether there was significant bias on the IAT. Bias scores in each condition at each testing time were compared to zero (i.e., no difference in general affect toward older and younger workers). Significant bias was revealed for all groups (Control Male: $t(17) = 3.88, p < .05$; Control Female: $t(17) = 5.62, p < .05$; Young Male: $t(17) = 2.13, p < .05$; Young Female: $t(17) = 4.72, p < .05$; Older Male; $t(17) = 4.20, p < .05$; Older Female; $t(17) = 5.58, p < .05$). That is, in each experimental condition participants showed a positivity bias toward younger, relative to older, workers.

A 3 (condition: old/ young/ control) x 2 (sex of applicant: male/female) ANOVA on the IAT bias scores revealed no significant effects.

Semantic Differential (SD) Scales Analysis

Single-sample t-tests were computed to test whether there was significant bias on the SD scales. Bias scores in each condition at each testing time were compared to zero (i.e., no difference in general affect toward older and younger workers). Significant bias was revealed for all groups (Control Male: $t(17) = 5.53, p < .05$; Control Female: $t(17) = 4.14, p < .05$; Young Male: $t(17) = 4.68, p < .05$; Young Female: $t(17) = 4.10, p < .05$; Older Male; $t(17) = 4.23, p < .05$; Older Female; $t(17) = 3.86, p < .05$). That is, in each condition there was a significant positivity bias toward younger, relative to older, workers.

A 3 (condition: old/ young/ control) x 2 (sex of applicant: male/female) ANOVA on the Semantic Differential difference scores revealed no significant effects.

Recruitment Task and Attitudinal Measures Relationship Analysis

To investigate the relationships between the attitudinal variables and the Recruitment Task ratings of the participant, Pearson Product-Moment correlation coefficients were calculated between the attitudinal difference scores and the Recruitment Task scores overall and as a function of condition.

Table M2 shows the correlations between the Recruitment Task scores and the attitudinal variables as a function of condition.

Table M2

Correlations between the IAT, the Semantic Differential Difference scores and the Recruitment Task scores as a Function of Sex and Age of the Applicant.

Recruitment Task conditions	SD scores	IAT Score
Control Male CV score	.48*	-.13
Control Female CV score	.19	-.09
Young Male CV score	.19	-.32
Young Female CV score	-.19	-.32
Old Male CV score	-.04	.12
Old Female CV score	-.25	-.40

Note: IAT = Implicit Association Test; SD = Semantic differential difference score.

*= $p < .05$

A positive significant relationship was found between the Control Male Recruitment Task scores and the semantic differential difference scores ($r = .48$). The more positive the evaluations of younger, relative to older, workers on the semantic differential scales, the more positive the participants ratings of the Control Male CV.

Implicit and Explicit Attitude Measures Relationship Analysis

Pearson Product-Moment correlation coefficients were calculated to investigate the relationships between the dependent measures as a function of control and experimental condition. Difference scores between the ratings of younger and older workers were used for the semantic differential such that a positive number indicates a more positive evaluation of younger, relative to older, workers. The correlations are shown in Table M3.

Table M3

Correlations between the Attitudinal Dependent Measures for the Recruitment task.

	Semantic Differential Difference Scores
Implicit Association Test	.15

*= $p < .05$

No significant correlations were found between the IAT and semantic differential difference scores.