Attitudes to Work and Computer Training: A Survey of Older Work Trainees and Canterbury Employers

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Abstract

The present research examined attitudes towards older workers, the ageing workforce and computer training. The sample comprised 29 Canterbury employers and 140 trainees from the Training Opportunities Programmes (TOPS) aged 19 to 69. The Questionnaire survey of Canterbury Employers was designed to obtain information about the impact an ageing workforce may have on businesses, the value of older workers and the influence of computer training in the workplace, as this has been seen as a significant issue in the employability of older workers. The Questionnaire survey of TOPS Trainees was compiled to obtain information about trainees’ views on work and computer training. Both questionnaires were sent to the participants by post.

Results indicated that Canterbury employers (N=29) did not envisage that there would be a significant impact on their organisations in the short term as a result of the ageing workforce, however, they expected positive influences of the ageing workforce on their organisations. Responses also showed that Canterbury employers valued the skills and attributes of their older workers and they were willing to provide computer training courses that were job-related. Older workers are regarded as having useful experiences, being loyal to the organisation, having low absenteeism and having a strong work ethic.

Responses from TOPS trainees (N=140) were divided into two groups: the older trainees (40 years of age and older) and the younger trainees (less than 40 years old). 84% had previously been in full-time work. Older trainees had more work experiences, primarily as either labourers or office workers. Findings indicated there was no significant difference between older and younger trainees on the General Health Questionnaire (GHQ-12) in terms of psychological health. On the Work Aspect Preference Scale (WAPS), older and younger trainees differed significantly in the Life Style, which measures the effect that employment might have on where and how one lives, and Altruism, which measures a concern for assisting others. Although older trainees were found to have less computer experience than younger trainees did, they appeared to attend more computer training classes and generally had better attitudes towards computers.
CHAPTER ONE
Introduction

Employment and Unemployment of Older Workers

Employment and unemployment issues for older workers has attracted both scholarly and media attention over the past decades. Historically, older adults have been viewed more negatively than younger counterparts. However, the situation is being ameliorated with research that indicates employers are starting to recognise the need to keep older workers in the labour force.

Historical perspectives. Attitudes towards older adults have been examined in a large number of empirical studies, yet the findings show contradictory results in whether older adults were viewed more negatively than younger adults (Rowley & Feather, 1987). The negative views towards older adults was confirmed in Kite and Johnson’s (1988) meta-analysis, although a number of factors were said to have an impact. It was found that the type of design used to measure personality traits, the type of evaluative ratings made, and the experimental settings contributed to the differences. The author concluded that age seemed to be less important in determining attitudes towards the older adults than other types of information.

Current perspectives overseas. Overseas examples have showed that older workers face discrimination in the workplace because of their age. The report, Age Limits: Age-related discrimination in employment affecting workers over 45 (2000), pointed out that recruitment was the main area where older unemployed workers encountered discrimination. This Australian report stated that the problem was particularly severe for older unemployed over the age of 55 who were considered outdated and difficult to train by employers. Consequently, some of them also pessimistically considered themselves too old when they were looking for work. The report also found that older workers had greater difficulty than younger people in getting back into employment once they lost their jobs.

The findings were supported in another Australian report, Age Accounts: An inquiry into issues specific to mature-age workers (2000). By identifying causes of mature-age unemployment, the report found problems in: (1) the mismatch between the skills possessed by older unemployed workers and the need of the labour market; (2) reduced labour mobility associated with lower preparedness to change industry and/or occupations as well as a greater reluctance to change work locations; and (3) age discrimination. Anecdotal evidence suggested that although employers were not intending to be
discriminatory, they did screen out job seekers over 40 as a way to maintain a “young”
corporate image.

From the global perspective, employers in the United States and Europe are slow in
responding to the ageing workforce. In order to avoid skills shortages and to maximise
recruitment potential, some organisations are starting to take the initiative in exercising
flexible work options. These include programmes that allow employees to manage their
own ageing, jobs designed to compensate for physical difficulties, as well as programmes
that allow older workers to create their own work schedules (Jones, 2001).

Current perspectives in New Zealand. The New Zealand Economic and Financial
Overview (2000) showed that New Zealand’s labour force has changed dramatically over
the past decade. Currently, 39 percent of the total population are members of the baby-
boom generation (40 years of age and over) and less than half of this group are in the
labour force (Statistics New Zealand, 2001). Statistics New Zealand has estimated that the
older labour force will grow rapidly as the baby boomers enter older ages en masse
(Statistics New Zealand, 2001). The substantial shift towards this ageing population in
New Zealand is a worldwide phenomenon, shared with other OECD countries. It will, in
turn, have major impacts for recruiting, retaining and training older skilled people
(Fullerton & Toossi, 2001; Laroque, 1989).

The New Zealand Government, although acknowledging that workers 40 year of
age and above are in danger of becoming the most disadvantaged employment group in
New Zealand (Choy, Maré & Mawson, 2001), is nevertheless viewing the size of the baby-
boomer bulge as giving signs of hope (Reday-Mulvey & Taylor, 1996; Thompson, 2001).
There is optimism that since the Human Rights Act 1993 made age-related retirement
illegal, and older workers would be able to continue working for as long as possible
(Turner, 2000). This is based on several reasons, including the belief that employers are
realising there are fewer younger workers and more older workers in the labour force.
Employers may have to offer better pay, more flexible hours and phased retirement in
order to attract older, experienced workers (Turner, 2000). However, examples in many
OECD countries show that an abundance of older workers and a scarcity of younger
workers does not necessarily lead to increased employment for older workers but the very
reverse it seems (Rein & Jacobs, 1993). Employers are likely to make do with fewer
workers, or bring in migrants to fill the gaps, and shift the work to as many youthful and
cheaper workers as they can find.
In addition, confronting the ageing society is what has been called the “shrinkage of paid work” (Thompson, 2001). He claims that global capitalism’s efficiency emphasises minimum employment and maximum shareholder returns. This trend is accelerated by the number of jobs in New Zealand being downsized over the past 30 years, largely unaffected by changing government policies. Within the next 10 years, Thompson (2001) claims, a third of men and even more women will be without substantial paid work from their later forties on, and half or more will be out of work when they reached their 50s and above. At the same time, older unemployed will face a worsened quality of work. Labour demand has shifted towards occupations that require higher levels of skills and therefore manual-type jobs are quickly diminishing. New technology, cost-cutting, global downsizing, lay-offs, the loss of manufacturing, and the growth of low-paid part-time jobs, all imply a continuing lack of job security (Ansley, 1999).

There are, of course, other “push” and “pull” factors that determine older workers’ voluntary and involuntary departures from the labour force (Shultz, Morton & Weckerle, 1998). The “push” factors have been defined as negative aspects, such as poor health or hatred of one’s job, that persuade older workers to exit the labour force. The “pull” factors consist of positive lifestyle choices such as leisure interests or volunteer activities (Shultz, Morton & Weckerle, 1998). “Push” factors are very important because the effects of employment are influenced by the degree to which one’s expectations about employment are actually met. Thus, the “push” factors are more likely to show greater impact on older workers than the more stable pull factors (Shultz, Morton & Weckerle, 1998).

Current perspectives in Canterbury region. Choy, Maré and Mawson (2001) studied the employment and unemployment rates for different regions in New Zealand from 1986 to 2000. The authors found that the Canterbury region had the most significant employment growth rate, and it had an average to lower unemployment rate than the national figure. The improved employment climate was also reflected in the success of two main agencies in the Canterbury region in getting older unemployed people into jobs. The Mature Employment Service in Christchurch reported having an unusually low number of registered job seekers, of whom one-eighth had found work in the first three months of this year (Collett, 2002). Grey Skills, a recruitment agency especially for job seekers over the age of 40, also reported that half of their 800 registered job seekers were in work (Collett, 2002).

However, the latest figures from the Department of Work and Income showed that although unemployed people in the 45-plus bracket only accounted for one third of all dole
recipients in the Canterbury region, they made up 55 percent of the region’s long-term unemployed (i.e., receiving the benefit for one year or more) (Collett, 2002). Furthermore, the picture was far from bright from the older unemployed workers’ own perspectives. There were numerous accounts of “genteel poverty” - older unemployed workers, usually highly experienced and qualified, being made redundant and unable to re-entered the workforce (Collett, 2002).

**Meaning of Unemployment**

Jahoda (1982) asserted that unemployment deprived people of by-products typically gained from being employed. These include: (1) an enforced pattern of activity creating a time structure to the day; (2) social contacts exemplified by respect and esteem from others, giving people the sense of participating in a wider collective purpose; (3) social status and a sense of identity that influences health and well-being; and (4) financial needs, as well as generativity in being able to pass on one’s knowledge to younger people. In line with Jahoda’s (1982) model, Brief, Konovsky, Goodwin and Link’s (1995) cross-sectional study on 179 unemployed individuals found that increased length of unemployment was associated with increased economic and psychological deprivation.

**Impact of Unemployment on Older Workers**

*Positive effects.* Although much less research has focused on the positive outcomes of unemployment, some researchers have suggested that it creates an opportunity for individuals to change careers and life directions (Rasmussen & Deeks, 1998, cited in Ansley, 1999). Some older workers may be interested in pursuing work-related issues that may not be of interest to younger employees (Elliott, 1995). Flexible work options may include the possibility of part-time employment and work-at-home options. Hartley (1980, cited in Hanisch, 1999) notes that job loss might be viewed as positively after a period of time because it allows one to leave a dissatisfying or unchallenging job behind and develop new career alternatives. Walsh and Jackson (1995), when examining the coping strategies that people use to deal with unemployment, found that men used hobbies as a replacement for employment while women used career training for self-development.

*Negative effects.* Prolonged unemployment is a major social and economic problem that has been well researched but most research has been based on measures of unemployment at one point in time or on measures of the number of people becoming unemployed or leaving unemployment (for example, Leppel & Clain, 1995). Little is known about the experiences of unemployed middle-aged people (Greller and Stroh, 1995). Upon analysing statistical data, Gobbi and Rea (2002) found mature workers were
at risk of staying unemployed longer than younger workers once they were unemployed. Similar findings were anticipated in McGregor and Gray’s (2001) survey of 954 workers aged 40 and older. The results showed that once older workers were made redundant or left a job, it was difficult for them to get back to work. The authors discovered that unemployment brings a “powerful and perceptible loss of psychological well-being experienced by older people seeking work” which is often expressed by a mixture of bitterness, disgrace and anguish. Contrary to Miller and Hoppe (1994, cited in Hanisch, 1999) who claimed that self-blame was not a consequence of unemployment, participants in McGregor and Gray’s (2001) study experienced a feeling of failure and frustration at not being able to contribute to the community. The prevailing work ethic, the authors claim, added guilt to the financial stress and isolation of being unemployed.
CHAPTER TWO
Literature Review

Definition of Unemployed Older Worker

For the purpose of the present study, unemployed older workers are defined as those being aged 40 and over who are available for work and are actively searching for work. The age of 40 is chosen because while ageism has long existed, “What is new is today’s up-front hostility and contempt aimed at older workers, along with a dramatic change in the definition of old…. The threshold age for flotsam is 40” (Zemke, 1999). The age of 40 is also in line with the condition for protection under The Age Discrimination in Employment Act of 1967 (ADEA) in the United States (Moen & Wethington, 1999).

Chronological age has been criticised as a poor indication of an individual’s mental and physical well-being, and thus age is an inadequate basis for predicting job performance (Rosen & Jardee, 1976a). Hence, a second approach, the functional view that defines older workers according to their health status, physical capacity, cognitive performance and job performance, must be taken into consideration (Sterns & Miklos, 1995). Health status may deteriorate and physical capacity may start to decline in middle age but there are vast differences in how an individual worker is affected by the ageing process. Even though cognitive ability has been found to correlate with job performance, age is not useful in determining an individual’s cognitive ability for a given job (Hunter & Hunter, 1984, cited in Sterns & Miklos, 1995).

The third approach to defining older workers is the psychological approach (Rhodes, 1983). It defines older workers with regard to age and career perspectives, the age-typing of jobs, and the ageing of knowledge, skills and abilities. The fourth approach, namely the organisational view of older workers, recognises that the effects of age and job tenure are necessarily related (Sterns & Miklos, 1995). These approaches will be discussed with regard to job-related issues later in the chapter.

Last but not least is the life-span approach that examines individual differences in ageing during the life cycle (Hansson, DeKoekekoek, Neece & Patterson, 1997). According to this approach, older workers’ job potential at any point reflects a unique combination of age-related and non-age-related influences, that positive adaptation is possible, that opportunities for training should focus on that unique potential, and that older workers need not disengage from their career aspirations and involvement (Sterns & Miklos, 1995).

White (1999) divides unemployed older workers in New Zealand into the following categories:
• Midlife career changers who either burnt-out or plateaued in their career. They are usually ambitious and looking for new challenges and improved packages.

• Displaced workers who formerly were working but are now without jobs due to changes in the workplace.

• Early retirees who have taken early retirement or redundancy but find that they are bored or need to work to supplement their income.

• Retirees who are interested in part-time flexible hours and working at home.

The present study focuses on the first two subgroups: the midlife career changers and the displaced workers.

Midlife career changers, also called “plateaued employees”, are those who find resources do not closely match their work experience at midlife (Elman & O’Rand, 1998; Keith, 2001). They often leave work for “incremental” reasons, moving away from an unsatisfactory situation rather than towards an optimal situation, or for “rational” reasons, choosing an optimal alternative for major change (Armstrong, 1981; Ginn & Arber, 1996). Armstrong (1981), who studied the career change goal and decision patterns of 94 midlife career changers (mean age = 42.5 years), found incremental reasons such as job dissatisfaction appeared to determine midlife career change. Only one third of participants changed the direction of their career because of rational reasons such as attending training in order to improve their job perspectives.

On the other hand, the displaced workers have three distinctive characteristics: (1) there is a structural cause for the displacement; (2) displaced workers are unable to find jobs in a similar field within a reasonable period of time; and (3) displaced workers face barriers in terms of mobility between different sectors (Fallick, 1996, cited in Mazerolle & Singh, 1999). Unemployment of displaced workers occurs when employers either permanently shift to another location, scale down the business, merge corporations, or completely shut down the operations, thus resulting in layoffs and coerced resignation especially among white-collar and older workers (Couch, 1998; Smellen, 1995).

Labour Force Withdrawal among Older Workers

According to the Canadian statistics about the causes of leaving jobs in 1986 (Osberg, 1993), workers over the age of 40 are much more likely to lose their jobs than retire. The data also suggests that older workers seldom quit because of job dissatisfaction and it is more common for them to be laid-off due to structural economic change or at the end of a temporary or a seasonal job.
An opposite view, however, was shown by Mazerolle and Singh (1999) who studied older workers’ adjustment to plant closure. The authors found that older workers aged 45 and older were not likely to be discouraged from seeking work after being displaced; they were less likely to feel “betrayed” by former employers; and they were more likely to exhibit positive attitudes with respect to career growth after displacement than younger workers.

A more detailed observation of displaced workers was reported by Chan and Stevens (2001) who collected data on 9,668 individuals aged more than 50 who were either displaced or non-displaced. The displaced workers were defined as those who had lost a job because of redundancy or because of plant closure whereas non-displaced workers were those who retired voluntarily. The results showed that displaced workers had lower job tenure and earned significantly less than non-displaced workers even prior to the job loss. Displaced workers were also found to be those with slightly lower levels of education. Displaced workers who were more than 50 years old were more likely to exit employment and had more troubles re-entering the labour force than workers who had not experienced an involuntary job loss. These results were contrary to those in Seitchik (1991, cited in Mazerolle & Singh, 1999) where the author states age had not been shown to affect displacement.

Age Stereotypes

Discrimination based on age is nothing new. Studies have shown that adults 40 years and older faced greater negative stereotyping than did younger adults less than 40 years of age (see Chiu, Chan, Snape & Redman, 2001; Taylor et al., 1978, in Sewell, 1988). Older adults were said to have lower participation rates in employment and higher rates of casualisation, to have received lower levels of training and were more likely to have been retrenched, more likely to stay unemployed, and more likely to retire before they planned (Chiu, Chan, Snape & Redman, 2001).

Allport (1935, in Hassell & Perrewé, 1995) defined age stereotypes as a set of “exaggerated” attributes and institutional practices about the personal qualities and abilities of an individual. These definitions touched on two important aspects of stereotypes: (1) that stereotypical beliefs are socially perceived cognitions; and (2) the stereotypical beliefs affect behaviour (Hassell & Perrewé, 1995). Contrary to popular assumptions, stereotypes are essential components of thought and decision-making and they are not necessarily negative or inaccurate (Warr & Pennington, 1994). However, stereotypes about older workers often emphasise undesirable characteristics (Steinberg, Donald, Najman &
Skerman, 1996). Research findings of the existence of age-related stereotypes amongst older workers and their employers have emerged from many US studies (Gibson, Zerbe & Franken, 1992; Rosen & Jardee, 1976a; Rosen & Jardee, 1976b) and UK studies (Lyon & Pollard, 1997; Taylor & Walker, 1998; Warr & Pennington, 1994), although the detailed stereotypes vary with the exact definition of older workers used and the nature of job norms at certain ages.

US studies generally suggest that older workers are valued for their experience, knowledge and strong work ethics. However, on qualities associated with employability, older workers are often negatively perceived as lacking flexibility and adaptability to new technologies and having an aggressive attitude. Examples of this are illustrated in the study by Gibson et al. (1992), where 651 employers were asked to rate older workers on a set of attributes related to work. The results clearly demonstrated discrimination against older workers although the definition of older adults was not indicated in the study. Older adults were regarded as being unqualified to perform duties associated with contemporary employment. Also, the older adults were most expensive to employ and found it more difficult in integrating themselves into the corporate culture.

UK studies, however, show that younger people are generally viewed more positively than older people. In Lyon and Pollard (1997), personnel managers aged 40 and over were found to hold more positive views about older workers than younger personnel managers. Similarly, the study by Warr and Pennington (1994) also asked personnel managers to identify and describe age-grading jobs for non-managerial workers at their own site. They found that younger workers’ jobs were described as requiring cognitive resources and that they were more likely to be active in clerical, professional and technical fields of work. The principal jobs identified as mainly for older workers were security guards, plant and machine operators and postal workers. The results came as a surprise since older workers are typically regarded as physically disadvantaged (Doering, Rhodes & Schuster, 1983). Taylor and Walker (1998) further claim that most large organisations in the UK are inclined towards the exclusion of older workers and few organisations have taken a stand to prevent age discrimination.

Upon a closer look at the studies, it should be specified that the results might not be contradictory but simply accurate reflections of different time periods. Also, there was considerable evidence that employers might hold positive stereotypes and perceive older workers to be more loyal, conscientious, dependable, skilled and committed to the organisation. Spallow’s (1999) study showed that there were high levels of agreement
concerning the value of older workers as role models, and that employing older workers offers a good return on investment possibly because they have less absenteeism and fewer accidents.

**Internal Factors**

*Not up to speed with the latest technology.* Gibson et al. (1992) found that older workers were over-represented in industries such as manufacturing that were diminishing because of the introduction of new technologies. Consequently, a large number of mature workers were being displaced from their current positions, and it was also very likely that these workers would lack the technological skills that employers were seeking in new employees (Gibson et al., 1992). However, findings by Marquié, Thon and Baracat (1994) suggested that it was not only older workers who were not up to speed with the latest technology. Marquié et al. (1994) found that those who had more seniority in the company and who had more experience also showed a dislike of technology. Interestingly, these were the people who held the belief that older people could not cope with the pace of new technology (McNaughton, cited in Smith, 2000). More in-depth discussion about the older workers and technology relationship is presented later in this chapter.

*Poor health and more accidents.* Contrary to Sparrow (1999), some studies have reported older workers as being more accident-prone and to have more health problems (Gibson et al., 1992; Rosen & Jardee, 1976a). The high costs associated with absenteeism including lost productivity, down-time fringe benefits paid to the missing worker, and replacement labour force costs are well known (Doering et al., 1983). However, it appears that only a minority of older people are hampered by health problems and are unable to work (Sterns & Miklos, 1995).

*Negative dispositional attributions of older workers.* Among the reported negative attributes of older workers, alleged unwillingness to change their established ways of doing things and fearfulness of changes are most commonly cited (Gibson et al., 1992). Younger workers particularly believed that older workers might not realise that developing relationships at work is a necessary component of their jobs (Greller & Stroh, 1995).

**External Factors**

*Employers' attitudes.* In the New Zealand EEO Trust Recruiting Talent Report (2000), 80% of recruitment specialists believed that older workers were among the most likely to face discrimination, together with people who did not have a New Zealand accent and people with physical disabilities. Taylor and Walker (1994) suggested that the most common type of discrimination came from employers thinking the older applicants would
not fit in, followed by stereotyped views and employers wanting younger employees rather than relying on evidence of merit. Many employers label older workers as lacking energy, easily bored, hard to train, out of touch with technology and prone to sickness and claimed there could be little return on any investment in such workers since they are retiring soon.

In another study, McGregor’s (2001) study of 2137 Engineering Union members aged 55 and older showed that one in 10 had suffered some sort of age discrimination, most commonly being excluded from computer training or passed over for promotion. The lack of training left older workers vulnerable to under-performance, justifying the stereotypes through no fault of their own. The survey also found 85 per cent had not voluntarily changed jobs in five years, indicating that investments made in older workers are not necessarily wasted.

Employers often adopt pessimistic attitudes to older workers, making it difficult for people in their forties and fifties to find new jobs (Walker & Taylor, 1999). One consequence is that older workers might be forced to accept employment in lower skill and lower responsibility work, which lead them into heavier manual labour for which they are less suited.

*Cultural gap.* In Gibson et al. (1992), employers expressed concerns that older workers would have difficulty fitting in with other, often younger, workers. Employers claimed that older workers tended to be bossy towards younger workers and that older workers did not like to be supervised by younger staff. Some employers even stated that by hiring an older worker they would block the opportunity to advance younger workers (Taylor & Walker, 1998). Another aspect of cultural gap is that society may be slow to recognise that older people have experience against which to judge ideas, many of which are recycled from an earlier age (Zetlin, 1992). They might have knowledge of a prior failure of a recycled idea and this could be one of the reasons why older workers are sometimes accused of resisting new ideas. In addition, the shift towards a more global labour force might have the potential to break down cultural barriers especially with regard to age-related stereotypes. According to Avolio and Sosik (1999), middle-aged to older workers in some cultures may be viewed as more productive workers who are able to take on more challenging assignments to the extent that the impact of negative age stereotypes may be altered.

*Cost more and poor return on investment.* An argument sometimes heard is that it is not worth training older workers because there is relatively less time in which the employer can earn a return on training costs. Rosen and Jardie (1976b) have shown that
managers are reluctant to invest in training for older workers because they perceive older workers as resistant to change and that they might not be around long enough to justify the investment. This may be matched by reluctance on the part of older workers to invest time in their training (Groller & Stroh, 1995). However, there is evidence that older workers are less reluctant and less resistant to changes when they are provided with reliable information allowing them to make their own judgements regarding the need for change (Yeatts, Folts & Knapp, 2000).

*How Organisational Characteristics Affect Age Stereotypes*

Organisational characteristics affect age stereotypes in three ways. First, the nature of the organisation in which an individual works might influence the individual’s attitudes to older workers. This argument is based on the assumption that discrimination may be driven by customer tastes (Chiu, Chan, Snape & Redman, 2001). If customers prefer to be served by younger workers then those industries that involve frequent direct contact between employees and customers are likely to be characterised by higher levels of age discrimination and by a relatively young labour force as employers respond to customer preferences. Such age discrimination might be rationalised by managers and supervisors working in industries requiring greater direct contact with customers and may be socialised into a culture of stereotypical beliefs about older workers (Chiu, Chan, Snape & Redman, 2001).

Czaja (2001), however, holds an opposite view and argues that the percentage of older workers more than age 45 in manufacturing, service and trade industries is higher than in other industries. However, this does not necessarily imply that employment opportunities will expand for older workers, as other factors, job and skills requirements and receptivity of older workers by employers, for instance, are likely to affect the equation (Sterns & Doverspike, 1988).

Third, attitudes towards older workers are likely to be influenced by the size of the organisation in which the individual works (Chiu, Chan, Snape & Redman, 2001). Small organisations are said to be less likely to provide continuing vocational training for their older workers (Alferoff, 1999; Lynch & Black, 1998). This may be due to small organisations having less control over their environment than larger and more substantial enterprises (Arthur & Hendry, 1990). Consequently, their approach to human resource development tends to be reactive rather than proactive. For instance, Lucas (1995, cited in Taylor & Walker, 1994), in a study of the UK hotel and catering industry, found evidence of more negative age stereotypes amongst employers in small organisations than amongst
those in larger organisations. The author attributed this finding to smaller organisations’ lack of professional personnel management expertise and to their less sophisticated management practices, including perhaps a lower awareness of equal-opportunities issues. Again, employees may be socialised into such beliefs and are less likely than employees in larger organisations to see stereotypes challenged. However, McGregor and Tweed (1998) argue that it is small business with less than 100 employees, rather than big business, which has the greatest potential for reducing New Zealand’s unemployment because most new jobs are being created in this sector.

*How individual characteristics affect age stereotypes*

In a study of workers in three southeastern US organisations, Hassell and Perrewé (1995) found evidence of stereotypical beliefs, although the negative views were balanced by positive beliefs. Categorising an “older worker” as someone over 50, they found that the respondent’s own age was positively correlated with more favourable beliefs about older workers. Finkelstein, Burke and Raju (1995) explained that this could have been the result of the “in-group bias”, whereby raters evaluate others in light of others’ similarity to themselves. Older supervisors may thus rate older workers more favourably in order to maintain a positive social identity as a member of the older in-group.

It is interesting to find that Hassell and Perrewé’s (1995) study also shows a negative relationship between supervisory status and beliefs, in line with earlier US research finding supervisors to have less favourable beliefs about older workers than other employees (Fisher, 1995). A possible reason for this dilemma is that supervisors, often themselves older than the majority of those they supervise, may seek to distinguish themselves from the older group in an attempt to maintain a positive self-image and in so doing develop negative stereotypes of older employees generally (Waldman & Avolio, 1986). It may be that supervisors distance themselves from the older group by identifying with a more positive ‘supervisor’ in-group rather than with older workers in general.

The relationship between age and work is somewhat more ambiguous than that between age and attitudes. In the following sections, age-related issues raised by the literature are discussed.

*Age Grading and Its Impact on Work Behaviour*

Employers and co-workers frequently perceive older workers negatively because of the myths about their skills and productivity. Nonetheless, most research studies that are available indicate that these age stereotypes are inaccurate. In general, information regarding age and work is somewhat contradictory.
Age versus job performance. The research evidence for the relationship between age and job performance has largely indicated that performance does not decline with age (Chiu, Chan, Snape & Redman, 2001). Rhodes’s (1983) review of more than 185 research studies found equal numbers of studies that identified declines in performance, stability in performance and increases in performance. In the studies where age-related differences were found, the psychological ageing process negatively affected job performances of older workers. However, since the measurement instruments were potentially unreliable in the studies, Rhodes (1983) questioned if the declines in skills and abilities were purely the effect of age.

Subsequent meta-analysis by Waldman and Avolio (1986) found the correlation between age and job performance to be close to zero, but that the age-job performance relationship depended on whether the job was a professional versus a non-professional occupation. Supervisory ratings reflected a slight decline (Mean = -.14) in performance with increasing age while peer ratings were more positive (Mean = .10). It was suggested that the decline of supervisory ratings reflect bias in their appraisals thus resulting in lower ratings for older workers (Waldman, Yammarino & Avolio, 1990). McEvoy and Cascio (1989) performed a meta-analysis of over 65 studies and they also found an essentially zero correlation between age and job performance especially for professional occupations ($r = -.08$). The studies indicated that although chronological age might be a convenient means for estimating performance potential, it accounted for only a small percentage of the variance in performance. Other moderators, for example, experience in one’s job, should indeed be taken into consideration.

A completely different view is presented in McNaught and Barth (1992). The authors trained older and younger trainees to use the reservations system in Days Inns. Even though older trainees who were 50 years and older took longer to train, they achieved higher booking rates and stayed on the job longer than younger trainees (less 50 years of age). The study showed that age was positively correlated with job performance.

Age versus occupational type. Sterns and Miklos (1995) suggest that occupational type moderates the relationship between age and job performance. Hildebrand (1995) claims the majority of older workers are unskilled and poorly educated, in an economy in which unskilled, routine and repetitive jobs are declining rapidly. Once older people have lost their employment, they remain unemployed longer than younger ones (Hildebrand, 1995). Avolio, Waldman and McDaniel (1990) showed that length of job-relevant experience across a broad range of 111 non-professional to semi-professional occupations
was a significant predictor of performance than age over the working life-span. They found a small moderating effect for different occupational types and age-performance relationships, whereby both age and experience were shown to be better moderators for jobs that required higher levels of complexity or mastery than for other jobs. Nonetheless, physically or psychologically stressful jobs, which might show more negative effects with regard to the age-performance relationship, were not presented in the studies.

*Age versus job satisfaction.* Rhodes (1983) claims there is overwhelming evidence that overall job satisfaction is positively associated with age. Duke and Sneed’s (1989) survey of managerial and non-managerial foodservice employees also indicated that non-managerial employees in the 40 to 59 group expressed higher levels of job satisfaction than did younger employees. Clark et al. (1996) observed that age has a strong u-shaped effect upon overall job satisfaction. They also found that good health was positively correlated with job satisfaction whereas higher education and long working hours were negatively correlated with job satisfaction.

*Age versus job turnover.* International comparisons have shown that in many countries the percentage of younger employees staying with the same employer for at least five years is quite low, although it is younger people who are the more likely to receive training (Chua, Chen & Wong, 1999; Heywood, Ho & Wei, 1999). Rhodes’s (1983) review showed tendencies for higher commitment, lower turnover, and less voluntary absenteeism among older employees than among younger ones, suggesting that motivational levels were higher for the older employees. Healy, Lehman and McDaniel (1995) reported similar results of a meta-analysis of the age and voluntary turnover literature with a sample that included 42,625 individuals. The authors reported that age was negatively correlated with turnover \((r = -.08)\), and that this relationship did not vary substantially for jobs coded at high \((r = -.07)\), medium \((r = -.11)\), and low complexity levels \((r = -.09)\). These marginal correlations indicated that age probably provided relatively little added value in determining when individuals voluntarily chose to leave an organisation. These findings supported earlier findings reported by Bennett, Blum, Long and Roman (1993) and McEvoy and Cascio (1987).

*Training and Adaptability of Older Workers*

Skill obsolescence is not unique to older workers, but older workers nonetheless need training to avoid or reduce the negative influence of job loss and to keep their skills up to date to stay competitive in the labour force (Greller & Stroh, 1995). It has been said that technology change has reduced the number of heavy manual labour jobs available so
that any physical shortcomings associated with age are now becoming less relevant for many older workers than before (Ryan, Szechtmans & Bodkin, 1992). Also, while older workers are commonly thought of as less flexible than younger workers and less willing to learn, this may be as much from lack of opportunity as from lack of ability (Ryan, Szechtmans & Bodkin, 1992). Since skills and aptitudes vary as much among older people as among younger, training aimed at unfamiliar activities might take more time and effort than such training directed at younger people (Alferoff, 1999).

Training programs for older workers, such as the ones described in Mor-Barak and Tynan (1993), which involved learning by doing, were built upon existing concepts and structures and were generally directly applicable to skills and experiences, and were suitably paced for older adults (Bikson & Bikson, 2001; Hemby, 1999). The meta-analysis review in Kubeck, Delp, Haslett and McDaniel (1996) extensively scrutinised studies that trained adults on skills necessary for successful job performance. Age was found to be negatively related with training material mastery ($r = -.26$) but positively related with time to complete training ($r = .42$). The results revealed that older adults (age = 57 to 86) had less mastery of the training content than younger adults (age = 20-22) and that older adults required more time to complete training. Nevertheless, the authors warned that the effect size of the extreme age-groups comparison in the studies could have led to overestimation of the relationship between age as a continuous variable and training performance. Also, the authors suspected that older adults might have benefited from training as much as younger adults but were “dragged down” because of their poor performance on pre-training tests.

**Older Workers and Computer Attitudes**

Studies indicate that older workers are willing and capable of learning to use computers, even when computer confidence is low and anxiety is high (Charness, Kelley, Bosman & Mottram, 2001; Ryan et al., 1992). There is evidence that technology enhances older workers’ productivity and could eventually lead to changes in labour force characteristics (Mor-Barak & Tynan, 1993). The advent of computer networking has broken down the flow of information in hierarchies, and empowers employees at lower levels who previously were denied access to critical information flows. Consequently, workers at increasingly lower levels of the organisation may have a much broader view of product development and of how to address the needs of their customers (Avolio & Sosik, 1999). Computer networks have been reported to eliminate some psychological barriers that previously existed between functional departments by providing communication.
channels that result in a greater sharing of information across entire organisations (Bikson & Bikson, 2001). For example, new networks of employees from accounting, marketing, and production may be forged by computer technology that then facilitates the operation of cross-functional teams (Marquié, Thon & Baracat, 1994). Moreover, the increase of computer technology requires employees to develop higher levels of computer literacy in order to adapt to this changing aspect of their work (Marquié, Thon & Baracat, 1994).

Negative ageing stereotypes implicitly presume that older workers are unwilling to undertake retraining and generally are anxious about the new technology (Rosen & Jardée, 1976a). Whether older workers themselves have more negative attitudes towards computers is not clear from the literature as the studies reveal somewhat contradictory results. Ansley and Erber’s (1988) study of 60 well educated and middle-class people, aged between 55 and 86, suggested older people were not resistant to computer technology and did not experience difficulty in using this technology, even when they had had no previous exposure to it.

However, the majority of studies have supported the claim that there would be an increased acceptance of computers by older adults after exposure (Dyck & Smither, 1996; Jay & Willis, 1992; Zandri & Charness, 1989), although longer periods of training may be necessary for older workers to acquire such skills, and that the perceptual motor speed of newly trained older workers may not equal that of younger ones (Czaja and Sharit, 1993). The study by Dyck and Smither (1996), for example, involved teaching word-processing skills to 28 older workers (mean age = 68.7 years) who were highly educated but had had limited experience in using computers. The participants were given handouts and encouraged to ask questions for a total of 12 hours hands-on practice. The findings showed that a positive attitude towards computers was consistent with a higher level of computer experience. Another intriguing finding in the study was that participants liked computers less at the end of the training. It appeared that not only the amount of previous experience but also the limited types of computer experiences determined their liking of computers. It seemed that the participants thought they liked computers until they tried to learn to use them for word-processing.

These studies support Sharit and Czaja’s (1994) assertion that previous experience with computers is an important predictor of performance. Thus, it would appear that older workers are not fearful of computers. Instead, the older workers’ limited experience and knowledge of the potential of computers, coupled with a lack of confidence in their
learning abilities, results in the avoidance of computers and the relevant training (Baldi, 1997).

Unfamiliarity with technology is not the only obstacle to older workers accessing computers. It is commonly believed that high levels of computer anxiety have been shown to have destructive effects on acquiring computer skills (Chua, Chen & Wong, 1999; McInerney, Marsh & McInerney, 1999). Computer anxiety is defined as “emotional fear, apprehension and phobia felt by individuals towards interactions with computers or when they think about using computers” (Chua, Chen & Wong, 1999:610). Computer anxiety could inhibit an older adult from learning to use the computer effectively, and it could possibly increase resistance of an adult to participation in any computer-related activities (Dyck, Gee & Smither, 1998).

Several scales have been designed to measure computer anxiety. Loyd and Gressard (1984) included four factors in their computer attitude scale: (1) anxiety or fear of computers; (2) confidence in learning or using a computer; (3) liking of computers; and (4) perceived usefulness of utilising computers at work. Their 40-item scale consists of statements about feelings towards computers, such as “I feel aggressive and hostile towards computers” (1986, p. 296). In comparison, Marcoulides and Wang (1990) included two factors in their scale: a General Computer Anxiety factor and an Equipment Anxiety factor. Their 20-item scale consists of statements about different situations that may involve computers, such as “Looking at a computer printout” (Marcoulides & Wang, 1990, p. 259). Clearly, these two scales measure computer attitude differently and the developers of these scales have different assumptions about what is encompassed in the construct of computer attitude (Dyck, Gee & Smither, 1998).

Although researchers have attempted to examine the relationship between age and computer anxiety, many fail to find any relationship between the two. This might be due to the reason that the age ranges under consideration in these studies are often limited. For example, many use samples of school age and university students or young to middle-aged employed adults, such as nurses and teachers (Hemby, 1999; Hemby, 1998; Loyd & Gressard, 1984; Massoud, 1991). Only studies with a wide age range report significant relationships. Dyck and Smither (1994) investigated the computer anxiety of 203 older workers (55 years and older) and 219 younger adults (30 years and younger) and found that older workers displayed better attitudes, less anxiety and more liking, but were less confident about computers.
Method of Computer Training for Older Workers 40 years and over

A summary of studies in which older adults were trained in the use of a computer, and in which age was examined as an individual difference variable predicting success in learning to use a computer, is shown in Table 2.1. Most studies have focused on text editing and word-processing (Egan & Gomez, 1985; Elias, Elias, Robbins & Gage, 1987; Wright et al., 2000), whereas others have examined computer-based or instructor-based versus manual-based training (Kelley, Morrell, Park & Mayhorn, 1999). The influence of variables such as attitude towards computers and computer anxiety on learning has been examined. Overall, the results of these studies indicate that older workers are, in fact, able to use computers for a variety of tasks. However, older workers often have more difficulty acquiring computer skills than younger people do and require more training and more help during training (White et al., 1999). Also, when compared with younger adults on performance measures such as speed, they often achieve lower levels of performance (Jones & Bayen, 1998).

In an early computer study, Hartley, Hartley and Johnson (1984) trained younger and older adults with no prior computer experience to use a word-processor. Participants were trained twice a week for 6 weeks. The results revealed that older adults required more assistance from the instructor and spent more time choosing and carrying out procedures. They also appeared somewhat slower at using the information from the training. However, they were just as likely to be able to appropriately use their learnt knowledge on a commercial program at the conclusion of training. Also, there were no age differences in performance at the end of the training period.
### Table 2.1
*Multivariate Studies of Computer Training and Older workers*

<table>
<thead>
<tr>
<th>Study</th>
<th>Age range</th>
<th>Application</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caplan &amp; Schooler</td>
<td>18-60</td>
<td>Drawing software</td>
<td>Conceptual model difficult for older workers; older workers performed poorer</td>
</tr>
<tr>
<td>(1990)</td>
<td></td>
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<tr>
<td>Cody, Dunn, Hoppin</td>
<td>Mean = 80</td>
<td>World Wide Web</td>
<td>Reduced computer anxiety and increased ratings of social support and connectivity after training</td>
</tr>
<tr>
<td>&amp; Wendt (1999)</td>
<td></td>
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<tr>
<td>Charness, Kelley,</td>
<td>25-64</td>
<td>Word processing</td>
<td>Older workers took longer to complete training and required more help</td>
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<tr>
<td>Bosman &amp; Mottram</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(2001)</td>
<td></td>
<td></td>
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<tr>
<td>Czaia and Sharit</td>
<td>25-70</td>
<td>Word processing</td>
<td>Older workers took longer to complete task problems and made more errors</td>
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<tr>
<td>(1993)</td>
<td></td>
<td></td>
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<tr>
<td>Egan &amp; Gomez</td>
<td>28-62</td>
<td>Word processing</td>
<td>Age and spatial memory were significant predictors of performance</td>
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<tr>
<td>(1985)</td>
<td></td>
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<tr>
<td>Elias, Elias, Robbins</td>
<td>18-67</td>
<td>Word processing</td>
<td>Older workers required more times and assistance to complete training</td>
</tr>
<tr>
<td>&amp; Gage (1987)</td>
<td></td>
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<tr>
<td>Garfein, Schaie &amp;</td>
<td>49-67</td>
<td>Spreadsheet</td>
<td>No age difference</td>
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<tr>
<td>Willis (1988)</td>
<td></td>
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</tr>
<tr>
<td>Gist, Rosen &amp; Schwoerer(1988)</td>
<td>Mean = 40</td>
<td>Spreadsheet</td>
<td>Older workers performed more poorly on a post-training test; modelling improved performance</td>
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<tr>
<td>Hartley, Hartley &amp;</td>
<td>Younger</td>
<td>Line-oriented editor</td>
<td>No age differences in performance efficiency; older workers took longer to complete training and required more help</td>
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<td></td>
<td>Older</td>
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<td></td>
<td>(65-75)</td>
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<tr>
<td>Study</td>
<td>Age range</td>
<td>Application</td>
<td>Findings</td>
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<tr>
<td>Hollis-Sawyer &amp; Sterns (1999)</td>
<td>50-89</td>
<td>Spreadsheet</td>
<td>Improvements in both computer tasks proficiency and computer attitude/efficacy in goal-oriented trainees</td>
</tr>
<tr>
<td>Kelley et al. (1999)</td>
<td>58-91</td>
<td>Electronic bulletin board</td>
<td>No age difference in attitudes towards computers; brief training improved attitudes towards computers</td>
</tr>
<tr>
<td>Wright et al. (2000)</td>
<td>Mean = 62</td>
<td>Data entry</td>
<td>Older people were slower but more accurate when entering text via the touch-screen</td>
</tr>
<tr>
<td>Zandri &amp; Charness (1989)</td>
<td>20-84</td>
<td>Calendar and notepad</td>
<td>Advanced organiser not beneficial; older people required more time to complete tasks</td>
</tr>
<tr>
<td>Morrell, Mayhorn &amp; Bennett (2000)</td>
<td>Middle-aged</td>
<td>World Wide Web</td>
<td>Age alone might be a predictor of web use</td>
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<tr>
<td></td>
<td>(40-59)</td>
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<td></td>
<td>Young-old</td>
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<td></td>
<td>(60-74)</td>
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<td>Old-old</td>
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<td></td>
<td>(75-92)</td>
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</table>

Other paced studies (Czaja & Sharit, 1993; Garfein, Schaie & Willis, 1988) have examined the statistical relationship of hypothesise variables, for example, age, with performance after training. Garfein et al. (1998), for instance, trained older adults on Lotus 1-2-3. Their training session lasted for only 3 hours and included a measure of IQ. Overall, the participants performed better at less complex tasks such as entering numbers. Older adults showed an improvement in performance on a second task. Also, overall accuracy
was greater than 50%. It was concluded that older adults could benefit from training and trial-and-error learning.

In Czaja and Sharit’s (1993) study, young and older adults were asked to complete three computer tasks: data entry, file modification, and inventory management in either a paced or unpaced (also called self-paced) condition. Unpaced conditions allowed learning to be done in a slower mode and permitted more trials and longer time free from distraction in order to register material in long-term memory (Welford, 1985, in Zandri & Charness, 1989). Each task was completed on a different day within a maximum of 1 1/2 hour. Participants were found to take longer in the unpaced condition, regardless of age, although older adults took more time to complete the tasks than the younger adults. Under the paced condition, the older adults were just as quick as the younger adults in completing tasks. However, the older adults in the paced condition reported greater fatigue than younger adults in the paced condition and the older adults in the unpaced condition. Age was found to be positively related to average time to complete the tasks, whereas amount of computer experience and typing skills were negatively related. As for errors, older adults made more errors than did younger adults. Overall, Czaja and Sharit (1993) concluded that age accounted for a significant share of the variance on task performance.

The studies described above used direct instruction under paced or unpaced conditions. The following studies used the same type of instructions with self-paced learning conditions. Egan and Gomez (1985) trained 33 women (age range = 28-62) to use a text editor. One third of the participants, mostly older participants, did not complete the tutorial when given a 2-hour session in the first experiment. The second experiment extended the length of time to 2 days with a maximum of 3 hours for each session, which was believed to be adequate for all participants to complete the exercises. In both experiments, age and spatial memory were important in accounting for variance associated with errors and time required to complete each task. However, there was no relationship between age and performance.

This lack of age-performance relationship is further supported by Charness, Kelley, Mottram and Bosman (1994). The authors examined the impact of training techniques and computer anxiety on the acquisition of word-processing skills in a sample of younger and older adults. In the first experiment, 72 computer novices ranging in age from 25 to 63 years learned word-processing skills using keystrokes, menus, or menus plus icons. In the keystrokes condition, all commands taught in the tutorial booklet were bound to keystroke combination. In the menus condition, all commands could be reached only by accessing
the menus via the mouse input device. In the menus-plus-icons condition, participants had the option of accessing commands using the menus or using the icon bars (Charness et al., 1994). Overall, older adults were more likely than middle-aged or younger adults to have forgotten the correct command and to need to search for it. The results also indicated that older adults took about 1.2 times longer than younger adults did to complete training, and they required more help. In the second experiment, the investigator attempted to control the nature of the training session. Forty-eight people with significant word-processing experiences were assigned to either using the keystrokes interface or the menus. The results indicated minimal age differences in test performance when retrained on a new word-processing program. Again the older adults took about 1.2 times longer than did the younger adults to complete training and required more help.

Elias, Elias, Robbins, and Gage (1987) conducted a study to examine age differences in the acquisition of word-processing skills and to identify sources of difficulty encountered by older adults. The training program included an audiotape and a training manual. The results indicated that all participants were able to learn the fundamentals of word-processing and the error rates were very low. However, older adults required more trainer interventions and thus more time to complete the training program. In contrast to the study by Hartley et al. (1984), the authors found the information retained by older adults after training in word-processing was not equivalent to that retained by younger adults. Older adults apparently required more information on computer functions such as cursor movements, margin and tab settings and block routines rather than computer acquisition.

Few studies have used other instructional techniques in training older adults on the use of computers (Baldi, 1997). One innovative study was conducted by Caplan and Schooler (1990) who used an analogical training method for a drawing program. They instructed half of the young (age range = 18-35 years) and middle-age (age range = 36-60 years) adults to think of the program as a desk with all the relevant tools in it. In the no-model condition, there was no age difference in the number of attempts needed to modify a drawing. However, there was an age difference in the model condition where middle-aged adults required a greater number of attempts to modify the drawing. The authors concluded that the older trainees were slowed down by the use of the desk model for learning new techniques. However, Caplan and Schooler did not report the length of the training session. In light of Egan and Gomez (1985), these age differences may be due to the older adults not having enough practice with the drawing program.
In one of the few studies that actually compared strategies for training, Gist, Rosen, and Schwoerer (1988) examined the influence of age and training method on the acquisition skills for a spreadsheet program. Participants learned to use a spreadsheet by observing a videotaped model that consisted of a middle-aged man demonstrating the use of the software and then practicing the procedure. This model was hypothesised to improve participants’ task-specific self-efficacy. The comparison group was trained by a computer-based tutorial. The results indicated that the modelling approach was superior to the tutorial approach for both younger and older participants. They also found that older adults performed more poorly on a post-training test.

The discovery method is a training method that especially targets older adults and attempts to increase motivation by allowing one to learn first hand how and why things work (Sterns & Doverspike, 1988). One feature of the discovery method was that the task to be learnt was divided into small problems that were meaningful; another was that the instructor only offered assistance when asked (Belbin, 1969, in Zandri & Charness, 1989). Since older adults were unlikely to memorise extensive amount information, the discovery method was found to be more appropriate for them (Belbin, 1969, in Zandri & Charness, 1989).

In Zandri and Charness (1989), young and older adults were trained to use Borland “Sidekick,” which is a utility program that features advanced calendar/organiser and appointment functions. The study examined if there was an impact on the acquisition of computer skills for younger and older adults when participants were trained alone or in pairs. The peer support was predicted to reduce anxiety. In addition, some participants received an organiser prior to the experiment, which was also predicted to reduce anxiety. Older adults who were trained in pairs or alone with support (i.e., jargon sheets) showed more positive attitudes towards the computer, whereas older adults who trained alone with no support showed a decline in attitude. For the younger subjects, having the advanced organiser resulted in worse performance if they learned alone but it made no difference if they learned with partners. These results suggest that the provision of an advanced organiser may be differentially effective for older people under some learning conditions. Furthermore, the older people were about 2.5 times slower than the younger people were in the training sessions, and they required about 3 times as much as help.

There are also studies that have assessed the efficacy of instructional methods in teaching older adults to use automatic teller machines (ATMs). Rogers, Fisk, Mead, Walker, and Cabrera (1996) randomly assigned older adults aged 61 to 81 to use either
description-only, text guide, pictorial guide, or online tutorial in order to perform ATM transactions within a total of six-hour training sessions. The results indicated that training method did have an influence on performance such that an online tutorial that provided specific practice on the task components was superior to description-only guide, text guide and written instruction accompanied by graphics. The authors discuss the importance of providing older adults with actual training on technologies such as ATM. Depending merely on instructional materials or self-discovery may not be optimal for this population, especially for more complex technological applications such as the Internet.

In this regard, Mead and Fisk (1998) examined the type of information presented during training and its impacts on the initial and retention performance of younger (age range = 18–30) and older adults (age range = 64-80) learning to use ATM technology. Specifically, they compared two types of training: concept and action. The concept training presented factual information but did not include instructions for how to use the ATM stimulator, whereas the action training was procedural in nature but did not explain why the action should be taken. The action training was found to be superior for older adults. They showed superior speed and accuracy immediately after training and superior speed following the retention interval. They concluded that presenting procedural information to older adults was more important than presenting conceptual information.

Generally, the literature indicates that older adults are able to use computers for routine tasks and that they are able to learn a wide variety of computer applications. However, they are typically slower in acquiring computer skills than are younger adults and generally require more assistance and hands-on practice. Furthermore, they typically need training in basic computer concepts, such as mouse and windows management, in addition to training on the application area of interest. They may also require information on the types of technologies that are available, the potential benefits associated with using these technologies, and where and how to access these technologies. Moreover, older adults are in need of greater attention in the design of training and instructional materials in order to accommodate age-related changes in perceptual and cognitive abilities.

**Barriers to implement computer training programmes**

Studies have shown some of the barriers faced by older people gaining access to computers include inadequate cognitive, behavioural, visual and motor skills for using a computer, although a range of devices are readily available to aid use, such as screen magnifiers and expanded keyboards (O'Leary et al., 1991 in Roorda, 1998). Morris and Venkatesh (2000) argued that computer designers need to take into consideration research
findings relating to visual, listening, hearing, physical abilities and memory characteristics of older people, and incorporate these into the design of computer interfaces. However, Bowe (1988, in Morris & Venkatesh, 2000) warns that older workers resist new technology if it is marketed as a device for people who are elderly and less mobile as they do not want to appear different from the rest of the population. Bowe has little evidence to support his theory, giving only the example of a washing machine with big dials that became popular with older workers in the U.S. only after being accepted by the general population.

Rationale

The first part of this study sets out to investigate views held by Training Opportunities trainees in the Canterbury region with regard to work and computer training. In particular, the study aims to identify any skills and attributes older workers have and their reactions to computer training. The second part of this study endeavoured to identify employers’ perceptions of older workers who are over 40 in terms of employment and computer training. Both of these issues have been neglected in previous research.

Development of the Hypotheses

The study will evaluate a number of hypotheses that compare older and younger trainees in terms of work and computer training. These trainees were participating in Skill New Zealand’s Training Opportunities Programmes (TOPS). The hypotheses, developed from the previous literature are:

Hypothesis 1 rationale. The stereotypic view of older workers is generally negative in terms of older workers’ lack of motivation and inability to learn and adapt to new changes (Finkelstein, Burke & Raju, 1995; Hassell & Perrewe, 1995; Rosen & Jardee, 1976a; Rosen & Jardee, 1976b). It is therefore hypothesised that Canterbury employers’ overall attitudes towards older workers would be negative.

Hypothesis 2 rationale. It has been assumed that training has “economies of scale” and hence small to medium-sized enterprises (SMEs) are less likely to provide work-related training especially for workers whose characteristics indicate a lower probability of obtaining a return on any investment cost (Frazis, Gittleman & Joyce, 2000:449; Harris, 1999; Lynch & Black, 1998). Notwithstanding, SMEs were believed to have the ability to generate more jobs than larger firms to create more economic growth (Cameron & Massey, 1999). This was disturbing since SMEs, with less than 100 employees, are responsible for almost 99.5% of all jobs in New Zealand businesses (Cameron & Massey, 1999). Hence,
hypothesis 2 assumes employers from larger organisations and employers from SMEs will differ in terms of providing computer training for all workers.

_Hypothesis 3 rationale._ Wiener, Oei and Creed (1999) reported that the unemployed (age range = 18-62) experienced psychological distress more often than did those in jobs. In addition, older workers who lost their jobs seem to suffer from the loss of self-esteem, identity and social support more often and more severely than do younger people in the same situation (Brewington & Nassar-McMillan, 2000). Accordingly, hypothesis 3 postulates that older TOPS trainees will have a higher probability of having psychological health problems.

_Hypothesis 4 rationale._ Research studies indicated that mean income increases with age from young adulthood into midlife, peaking between ages 45 and 64, and declining after age 65 (Crystal, 1995). However, since earnings were likely to decrease after a job loss (Chan & Stevens, 2001; Sales, 1995), displaced older adults are unlikely to earn more than younger adults did. Hence, hypothesis 4 predicts that income (from benefits and jobs) for the past 12 months will differ between older and younger TOPS trainees.

_Hypothesis 5 rationale._ Different types of work have been said to moderate the relationship between age and job performance (Sterns & Miklos, 1995). Hence, it seemed plausible to predict that age differences might play a part in determining preferred job characteristics (Doering, Rhodes & Schuster, 1983). Pryor and Davies (1989) conceptualised individuals’ perspectives of work in terms of preferences. Previous research on values and work aspect preferences has been conducted using students in high schools and tertiary institutions (Pryor, 1990). Therefore, it is presumed that older and younger TOPS trainees will value different aspects of work preferences.

_Hypothesis 6 rationale._ The correlation between computer anxiety and previous computer experiences is the most consistent finding (Chua, Chen & Wong, 1999). Examples of computer experience include computer training courses, ownership of computers at work or at home, computer games experience, and hands-on computer experience (Chua, Chen & Wong, 1999). Dyck and Smither (1994) found that even though older adults had less computer experience than younger adults, they were less anxious about computers, had more positive attitudes towards computers, and had more liking for computers. However, opinions were divided on whether computer anxiety would be reduced after attending computer training courses (Rozell & Gardner, 1999). Woodrow (1991), for example, found exposure to computers did not reduce computer anxiety when she examined the relationship between computer experience and computer anxiety in a
computer programming course. Yet, a similar study in Gilroy and Desai (1986) found the programming course to be effective in reducing computer anxiety. Therefore, hypothesis 6 predicts that older TOPS trainees will have fewer computer experiences, attend fewer computer training courses and will have negative attitudes towards computers.

_Hypothesis 7 rationale._ As mentioned above, a few studies have used direct instructional or other techniques in training older adults on the use of computers (Baldi, 1997). However, none of these reported older adults’ own perspectives. Hence, hypothesis 7 assumes that older and younger TOPS trainees will prefer different computer training styles.
CHAPTER THREE

Method

Participants

There were two groups of participants. The first group was comprised of employers of more than fifty employees. The second group consisted of trainees enrolled in Training Opportunities Programmes who returned questionnaires. Both groups were based in the Canterbury region.

Canterbury Employers

A total of 130 Christchurch businesses were identified on The New Zealand Business Who’s Who (2001). These organizations were targeted as they were representative of a broad range of businesses in the Canterbury region. A cover letter (Appendix 1) explaining the study and the questionnaire (Appendix 2) was mailed to these organizations.

Training Opportunities Trainees

The research was undertaken with the co-operation of Skill New Zealand and its Training Opportunities Programmes (TOPS). Thirty-eight Training Opportunities contractors (Appendix 3) were contacted and invited to participate. Twenty-six replied (68%). Of those who replied, 22 (85%) agreed to let their trainees (n = 400) play a part. The type of training provided by Training Opportunities contractors who agreed to participate is itemised in Table 3.1.

<table>
<thead>
<tr>
<th>Type of Training Opportunities Programmes</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Skill Training (such as English as second or other language, and personal and employment skills)</td>
<td>8</td>
</tr>
<tr>
<td>Services (such as hairdressing, security, tourism, transport, catering and hospitality, and education)</td>
<td>5</td>
</tr>
<tr>
<td>Manufacturing (such as engineering and automotive) and Trades (such as sewing and construction)</td>
<td>4</td>
</tr>
<tr>
<td>Arts (such as recreation industry and cultural activities)</td>
<td>2</td>
</tr>
<tr>
<td>Horticulture</td>
<td>2</td>
</tr>
<tr>
<td>Workplace training</td>
<td>1</td>
</tr>
</tbody>
</table>
A cover letter explaining the study and the questionnaire were delivered to training contractors, who distributed them to individuals inviting them to consider participating (Appendix 4).

Instrumentation

Survey Instrument for Canterbury Employers

The Questionnaire of Canterbury Employers was designed to obtain information about the impact an ageing workforce may have on businesses, the value of older workers and the influence of computer training in the workplace. A copy of this questionnaire is shown in Appendix 2. The questionnaire was mailed out to 130 employers.

The questionnaire of Canterbury Employers was categorised into three components, and instructions for completing the questionnaire were written clearly at the beginning of each section.

Information about the organization. Participants were asked to record their position within the company, the type of organisation and the name of the organisation (which could be left blank if the organisation wished to remain anonymous).

Information about the organisation and attitudes towards the ageing workforce. This section included questions designed to obtain information about the participants’ opinions on having older workers in their organisations and on the ageing workforce in general. It was developed by O’Donohue (2000).

Questions about the organisation and the ageing workforce included:

- What is the proportion of employees in different age groups?
- What are the impacts of having older workers in the organisation in the short term and in the longer term?
- What attributes or skills would be difficult to replace when the older workers retire?
- Do older workers experience any difficulties at work?
- Is there a need to provide training for older workers?

Attitudes Towards Older Workers Scale. Developed by Taylor & Walker (1998), the questionnaire comprised fourteen statements dealing with various issues associated with “ageism” in the workplace. Examples of the statements are: “Older workers are very productive employees” and “Older workers dislike taking orders from younger workers or supervisors.” Participants were required to respond to each statement on a four-point Likert-type scale, from 1 = “Strongly agree,” 2 = “Slightly agree,” 3 = “Slightly disagree” to 4 = “Strongly disagree.” The researcher deliberately deleted the “Not sure” option so
that employers would have to demonstrate clearly their perspectives on older workers. The questionnaire has been used in other studies (for example, Taylor & Walker, 1998). The scale was used because it had a test-retest reliability ranging from .85 to .90 (Taylor & Walker, 1998).

The role of computers in the workplace. Questions were formulated from the available literature and research focussing on the role of computers in the workplace (O’Donohue, 2000; Haywood, Ho & Wei, 1999; Taylor & Walker, 1998; Gibson, Zerbe & Franken, 1992; Koh, 1970).

The questions included:

- What proportion of employees use computers at work?
- What do they use computers for?
- How do you rate the perception of computers in the organisation?
- Do your employees receive computer training?
- Have any older workers expressed an interest in learning or upskilling their computer skills on the job?
- How does computer training affect older workers’ employment status?
- What skills and attitudes do older workers need to retain jobs?
- What skills and attitudes cause older workers to lose jobs?

Participants were encouraged to write any additional comments.

Survey Instruments for TOPS Trainees

A set of questionnaires was compiled to obtain information about trainees’ views on work and computer training. In an attempt to increase the return rate, a Lotto draw entry was enclosed with the cover letter and compiled questionnaires.

The cover sheet (Appendix 4) invited trainees to participate voluntarily and explained that the purpose of the study was to investigate trainees’ attitudes towards work in relation to computer training. It was estimated that the questionnaire should take approximately forty minutes to complete in their own time. The researcher’s name and contact phone number were provided for any queries or comments participants may have had. Participants were assured of complete confidentiality and anonymity. Finally, participants were asked to place the completed questionnaires in the pre-paid return envelopes and mail the pack to the researcher, indicating whether they wished to receive a summary of the overall results of the study. The summaries would be sent out on completion of the study.
The questionnaires were compiled from different sources. All used structured and semi-structured questions which requested general information about the participants; work history; Work Aspect Preference Scale (WAPS); Computer Attitude Scale (CAS); questions regarding attitudes towards computer training (ACT); and finally, the General Health Questionnaire (GHQ-12). Likert-type scales were used in the Work Aspect Preference Scale (WAPS), the Computer Attitude Scale (CAS) and the General Health Questionnaire (GHQ-12). However, as this type of questionnaire could be very limited in what could be asked (Holcombe, 1996), the researcher added open-ended questions. This allowed the participant to elaborate or explain answers to selected closed response questions, for example, “If yes, why?” and “If not, why not?” It was hoped that by providing opportunities for participants to record comments, more information could be obtained. A copy of this questionnaire is shown in Appendix 5.

**Characteristics of Participants.** Participants were asked to record their name (or omit it to remain anonymous), age and gender. The names were replaced with unique identity codes in all subsequent data entry.

**General Health Questionnaire (GHQ-12).** The GHQ-12 (Goldberg & Williams, 1988) is a widely used self-report questionnaire that measures psychological distress and covers statements such as feelings of strain, depression, inability to cope, anxiety-based insomnia, and lack of confidence (Hardy, Shapiro, Haynes & Rick, 1999). Each of the 12 items asks participants to rate the frequency with which they have experienced a particular symptom or behaviour on a four-point Likert-type scale: “More so than usual,” “Same as usual,” “Less than usual” or “Much less than usual.” The GHQ-12 is used because the internal and test-retest reliability and validity coefficients (specificity and sensitivity) are satisfactory (Goldberg & Williams, 1988). A Likert scoring, where responses score 0, 1, 2, and 3, respectively, was utilised because of its accuracy in comparing degrees of disorder (Goldberg & Williams, 1988). A single total score was yielded, with a higher score indicating a greater possibility of clinical disorder. A copy is included in Appendix 5.

**Work history.** The questionnaire was developed from the *Living Standards of Older New Zealanders survey* (2001). It included questions regarding participants’ full-time and part-time work history. A copy of this is shown in Appendix 5. Participants were encouraged to write any additional comments in the spaces available.

**Work Aspect Preference Scale (WAPS).** Developed by Pryor (1983), this Likert-type questionnaire consists of statements on the qualities of work that individuals rate according to perceived significance. Participants indicated whether they thought the
statements were “Totally unimportant,” “Of little importance,” “Moderately important,” “Quite important,” or “Extremely important” with regard to their work likes or dislikes. The Work Aspect Preference Scale (WAPS) was used to access the degree of preference, through ratings of relative importance, for the thirteen qualities of work (cited in Pryor, 1983:1) listed in Table 3.2. The scale was used because it had a test-retest reliability ranging from .61 to .88 (Pryor, 1983). Participants were told that it did not matter if they were working or not when marking the scale, they only had to indicate which of the four ordered responses, from strongly agree to strongly disagree, most closely matched the extent to which they agreed or disagreed with the statements.

The WAPS was scored for the thirteen subscales where each subscale score is calculated by summing an individual’s responses to each of four items. The minimum score for each subscale was four and the maximum score was twenty. The WAPS is used in the study because certain work values (WAPS scores) are systematically related to an individual’s career development (Pryor, 1983) and thus provides a general introduction to the study of older workers and work values, and as a basis for discussion of worker satisfaction between younger and older workers.

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
<th>Sample Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independence</td>
<td>“A concern for being free from imposed constraints in the work environment”</td>
<td>“Work in which you can work as fast or slowly as you like”</td>
</tr>
<tr>
<td>Co-Workers</td>
<td>“A concern for friendship and understanding from those with whom one works”</td>
<td>“Work in which you have pleasant people to work with”</td>
</tr>
<tr>
<td>Self-Development</td>
<td>“A concern for developing and using one’s skills and abilities”</td>
<td>“Work in which you improve the skills you have”</td>
</tr>
<tr>
<td>Creativity</td>
<td>“A concern for developing something original through one’s work”</td>
<td>“Work in which you design new things”</td>
</tr>
<tr>
<td>Money</td>
<td>“A concern for obtaining large financial rewards from one’s work”</td>
<td>“Work in which you are paid a high salary”</td>
</tr>
</tbody>
</table>
### Table 3.2 continued

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
<th>Sample Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life style</td>
<td>A concern for the effect that employment may have on where and how one lives”</td>
<td>“Work in which you are free to live wherever you like”</td>
</tr>
<tr>
<td>Prestige</td>
<td>“A concern for recognition and status in the eyes of others”</td>
<td>“Work in which you can obtain a high status in the eyes of others”</td>
</tr>
<tr>
<td>Altruism</td>
<td>“A concern for assisting others”</td>
<td>“Work in which you help build a better society”</td>
</tr>
<tr>
<td>Security</td>
<td>“A concern for being able to maintain one’s job”</td>
<td>“Work in which you are certain of keeping your job”</td>
</tr>
<tr>
<td>Management</td>
<td>“A concern for organising the work of others”</td>
<td>“Work in which you plan and arrange the work of others”</td>
</tr>
<tr>
<td>Detachment</td>
<td>“A concern for being able to separate work and its influence from other parts of one’s life”</td>
<td>“Work in which you are not required to do work in your spare time”</td>
</tr>
<tr>
<td>Physical</td>
<td>“A concern for being physically active in one’s work”</td>
<td>“Work in which you work hard physically”</td>
</tr>
<tr>
<td>Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surroundings</td>
<td>“A concern for the kind of physical environment in which one works”</td>
<td>“Work in which you do your job in a safe workplace”</td>
</tr>
</tbody>
</table>

**Computer Attitude Scale (CAS).** The Computer Attitude Scale (CAS) (Loyd & Gressard, 1986) is an instrument that allows participants to respond to statements of attitudes towards learning about and using computers. It consists of forty questions covering Computer Anxiety, Computer Confidence, Computer Liking and Computer Usefulness. The Computer Attitudes Scale was utilised in the present study as it had high reported test-retest reliability scores ranging from .82 to .90 (Loyd & Loyd, 1985)

The Computer Anxiety subscale contained items such as “It wouldn’t bother me at all to take computer courses” and “I get a sinking feeling when I think of trying to use a computer.” The Computer Confidence subscale included items such as “I have a lot of self-confidence when it comes to working with computers” and “I don’t think I would do
advanced computer work.” The Computer Liking subscale had items such as “I think working with computers would be enjoyable and stimulating” and “I will do as little work with computers as possible.” The Computer Usefulness subscale contained items such as “Knowing how to work with computers will increase my job possibilities” and “Anything that a computer can be used for, I can do just as well some other way.”

Participants indicated which one of the four ordered responses, ranging from strongly agree to strongly disagree, would best approximate their attitudes towards computer usage. Subscale scores for each trainee were calculated as a sum of their responses. The scores were coded so that a higher accumulated score corresponded to a more positive attitude; for example, a higher score meant a higher degree of confidence, liking, usefulness and a lower degree of anxiety. A copy of the Computer Attitudes Scale (CAS) is included in Appendix 5.

**Attitude towards Computer Training.** This section was developed for this study to obtain information from participants in relation to their perspectives on the impact computer training might have on their working life. Questions were developed after reviewing the literature on computer training (for example, Charness et al., 2001; Charness et al., 2000; White et al., 1999; Zandri & Charness, 1989). The questions were categorised as follows:

- Experience with computers, for example, “What kind of activities do you do with a computer?”
- Experience in computer training, for instance, “Have you ever attended a computer training course or class?”
- Different aspects of a computer training class, which included the training style (e.g., “Do you prefer one-to-one computer training?”), the pace of teaching (e.g., ”Do you prefer to work at your own pace when doing computer training”), materials used in training (e.g., “What kind of reference materials do you prefer to use in computer training?”) and the availability of a help desk (e.g., “What kind of service(s) do you wish the help desk to provide?”).

**Data Procedures**

Data from the questionnaires was sorted into thematic categories. A heading was developed for each thematic category. Individual scores were keyed in accordingly and the sums, means and percentages were calculated. Although the questionnaire responses were
mostly quantitative, there was room for respondents to verify or expand their responses by embarking on qualitative explanations. This qualitative data was summarised.

TOPS trainees were divided into two groups according to the pre-determined cut-off point of 40 years old. Since questionnaires were sent to all, the central limit theorem applies and the hypotheses are appropriate.

The means, standard deviations and the intercorrelations of the WAPS and the CAS subscale scores and the total scores were calculated and computerised. The dependent variables for the WAPS were the thirteen work qualities. The dependent variables for the CAS were computer anxiety, confidence, liking and usefulness. The independent variable for both scales was age.

*Reliability of entry.* A student who was unfamiliar with the study performed the check for the reliability of data entry. Fourteen copies of TOPS Trainees’ questionnaire (10%) and three copies of Canterbury Employers’ questionnaire (10%) were randomly chosen using the numbers from a random number sheet. The student performed all the scoring and compared results with those of the researcher’s. The reliability check did not reveal a data entry disagreement. The questionnaire was to be for a one-off study rather than to become a standard instrument, therefore the test/retest reliability was not analysed.
CHAPTER FOUR
Results

Response Errors

Non-responses to questions in questionnaires returned were included in the data exported to Excel. Non-response to questions in questionnaires returned was less than 5% so was not included in figures in the final figures.

Canterbury Employers

Characteristics of Participants

Job categories. Of the 130 questionnaires distributed to Canterbury employers, 29 people replied (a return rate of 22%). The respondents included three chief executives, three managing directors, eight general managers, seven human resources managers, three financial services managers, one training manager and two legal administrators. This distribution indicates that people in senior positions in the organisations selected participated in the research.

Type of organisations. A total of ten representatives came from the manufacturing industry. Four representatives were from the construction industry, followed by three from the retail industry. The service and the transport/tourism industry had two representatives each whereas the hospitality, finance/insurance, research/development, contracting, energy distribution, lawyers/legal services, mining and consulting engineering groups were each represented by one organisation. This distribution indicated that a wide variety of industries have participated in the study.

Distribution of employees in organisation. The Statistics New Zealand (1997, cited in McGregor & Tweed, 1998) scale was used to categorise the size of organisations participating in the study. Of the 29 participating organisations, 11 (38%) belonged to the small to medium-sized enterprises (SMEs) and 18 (62%) were in the large category. The average number of employees in the organisations was 460. The majority of SMEs were considered as having a younger workforce. Large-sized companies were divided by equal number of younger and older workforces (Table 4.1).
Table 4.1

<table>
<thead>
<tr>
<th></th>
<th>Younger Workforce</th>
<th>Older Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small to Medium size</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Large size</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>13</td>
</tr>
</tbody>
</table>

*Younger Workforce was defined as those with 50% or more of employees aged less than 40.

*Older Workforce was defined as those with 50% or more of employees aged 40 and over.

*Small to Medium size was defined as having less than 100 employees.

*Large size was defined as having 100+ employees.

*Percentage of employees in age groups.* More than half (58%) of the total employees in participating organisations were less than 40 years old. The remaining 42% were aged more than 40 years (Figure 4.1).

*Figure 4.1. Percentage of employees in age groups*

*Perceived Impact of the Ageing Workforce*

*Perceived impact of having older workers in organisations.* Employers in SMEs anticipated being influenced by having older workers in their organisations more so in the long term (Figure 4.2). Larger companies also indicated that they would be affected by older workers in the organisations in the long term rather than in the short term (Figure 4.3). Responses to the overall impact of having older workers in organisations suggested that employers perceived there would be both short term and long term effects on their organisations, albeit it was expected a slightly larger impact would be on their organisations in the longer term (Figure 4.4).
Figure 4.2. Impact of having older workers in small-to-medium enterprises (SMEs)

Figure 4.3. Impact of having older workers in large size organisations

Figure 4.4. Impact of having older workers in all organisations in short and long terms

The same data were broken down further by workforce age and presented below. Organisations representing a younger workforce expected there would be no effect on their businesses in the short term but they anticipated a greater influence in the longer term (Figure 4.5). However, organisations representing an older workforce clearly expected the ageing workforce to impact on their organizations in both short and long term (Figure 4.6).
In general, participant’s views as to whether there was an impact showed that in the short term the majority of employers anticipated an impact on their organisation while nearly 40% of employers expected no effect. In the long term, the majority of employers also anticipated there was an impact whereas only a quarter of them believed there was no impact.

**Figure 4.5.** Perceived impact of having older workers in organisations with a younger workforce

![Chart showing impact percentages for short and long term for yes, no, and don't know categories.]

**Figure 4.6.** Perceived impact of having older workers in organisations with an older workforce

![Chart showing impact percentages for short and long term for yes and no categories.]

The degree of impact of having older workers in organisations. In general, the majority of employers expected no effect in the short term. However, equal numbers of employers expected positive impact or no effect in the long term (Figure 4.9). The majority of SMEs expected no effect in both the short term and the longer term (Figure 4.7). Large sized companies expected more negative impact in the short term but they envisaged the impact would be positive in the long term (Figure 4.8).
Figure 4.7. The degree of impact of having older workers in small to medium-sized enterprises (SMEs)

Figure 4.8. The degree of impact of having older workers in large size organisations

Figure 4.9. The degree of impact of having older workers in all organisations
The same data were interpreted in terms of the workforce age and presented as follows. Organisations with a younger workforce believed having older workers in businesses would bring more positive impact after the initial 5 years (Figure 4.10). Employers with an older workforce expected less negative impact after 5 years (Figure 4.11). All employers in general expected having older workers in organisations would bring more positive influence in the long term than in the short term (Figure 4.9).

*Figure 4.10.* The degree of impact of having older workers in organisations with a younger workforce

![Graph showing the degree of impact](image)

*Figure 4.11.* The degree of impact of having older workers in organisations with an older workforce

![Graph showing the degree of impact](image)

Participants who chose to comment on why they thought having older workers in organisations would be positive gave the following explanations. They thought that “the knowledge, experience and retention of corporate knowledge [of older workers] more than compensate for the enthusiasm of younger workers”. Employers became aware that “many companies don’t employ older people because they see younger employees as the future. In today’s work environment, young employees change jobs and go traveling. Younger
workers are no longer attracted to certain jobs as they may have been in the past”. In comparison, older workers were thought to be more reliable and have realistic views on work by employers.

Employers commented that older workers were “not necessarily good communicators but good work role models” who were able to bring good influence on younger workers. This reflected on the overall operation of businesses. “Every company benefits from having a mix of age, race and gender and this gives a balanced work environment. Older employees balanced out the younger employees and often dealt with behaviour problems with their group – preventing them from being major discipline problems.”

There were employers who believed having older workers in their organisations would be negative. One of the major reasons was that the nature of their organisations did not suit older workers. This was most apparent in the technological based and building/construction-based companies. One employer explained, “[Having older workers in our industry] would be negative. We are a technology company and need people who are already familiar with or quick to pick up on new technology.” In the labour-oriented jobs, “The work is heavy and the strength is ebbing.” Some employers admitted there was a lack of knowledge and skills to accommodate the need of older workers. “If we do not use the knowledge of older workers and do not have work standards that can help process improvements (smarter not harder),” one of the employers warned, “then our workers will suffer.”

**Skills or attributes of older workers.** The majority of employers in SMEs (85%) and large-sized companies (80%) acknowledged that older workers had skills or attributes that would be difficult to replace once they retired. Data in Figure 4.12 shows the type of skills or attributes of older workers observed by their employers. Useful experience was the most valued attribute followed by loyalty to organisation. Older workers were also reported to have low absenteeism and strong work ethics. However, fewer employers recognised older workers as having customer knowledge and being effective in their jobs. Interpersonal skills of older workers were chosen by about a third of employers whereas enthusiasm and high productivity were each chosen by about a quarter of employers.
**Figure 4.12. Skills or attributes of older Workers in organisations**

*Skills or attributes that allowed older workers to stay in the workforce.* Positive attitudes and competence towards work was listed as the most important virtue keeping older workers in the workforce. Older workers were not only did the job they were assigned to do in a competent manner but also "showed the willingness to learn and not be afraid to ask for assistance if knowledge is not there," to "be flexible to change and be prepared to give most things a go" and to "have a 'progress plan' and achieve the required outputs to ensure that their jobs are not put in jeopardy. They should stay away from physical work."

Positive attitudes towards colleagues were also regarded highly by employers. These included, “Open mindedness, encouragement to younger workers. Remembering what they have been through to get where they are now”, as well as being “open to learn new skills that include personal development and interpersonal skills. [It is essential for them to know that] behaviour and interaction between employees have changed.”

**Difficulties experienced by older workers.** Fifteen employers (52%) agreed that older workers were having difficulties at work while 14 employers (48%) disagreed. The employers who agreed reported that older workers were having more physical difficulties at work (47%) and that older workers were struggling in adapting to change (40%). Other comments included: “Older employees experience same problems as younger employees,” and “(Older workers) are caught between the generations – coping with elderly parents on the one hand and with grandchildren on the other.”
Reasons for redundancy for older workers. “Resistance to change” was the most commonly cited reason why older workers lose their jobs (38%). Canterbury employers commented that older workers tend to “stick to the old way of doing things” which was generated by the fear of looking inadequate in front of changes and thus losing their jobs.

Attitudes towards older workers. Statements favourable and unfavourable to older workers from the Attitudes toward Older Workers Scale are presented in Table 4.2 and Table 4.3, respectively. Responses ranged from Strongly Agree to Strongly Disagree and were recorded from 1 to 4 accordingly. Employers’ opinions in general were overwhelmingly positive towards older workers: older workers were not difficult to train and they were keen on training, likely to retain plenty of “mileage” and colloquialism, were creative and not too cautious. Older workers were not being seen as marking time until retirement, instead, they were seen as productive, capable of accepting technological change, far more reliable than younger workers, less accident prone and able to take orders from their younger colleagues. However, older workers were thought to be less flexible and incapable of heavy physical work.
### Table 4.2
**Attitudes to Statements Favourable to Older Workers**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Slightly Agree</th>
<th>Slightly Disagree</th>
<th>Strongly Disagree</th>
<th>Mean (SD) (Scale 1 – 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older workers have a lot of mileage left in them</td>
<td>15 52%</td>
<td>10 34%</td>
<td>2 7%</td>
<td>2 7%</td>
<td>1.69 (.89)</td>
</tr>
<tr>
<td>Older workers are very productive employees</td>
<td>10 34%</td>
<td>12 41%</td>
<td>7 24%</td>
<td>0 -</td>
<td>1.90 (.77)</td>
</tr>
<tr>
<td>Older workers are more reliable than younger workers</td>
<td>9 31%</td>
<td>18 62%</td>
<td>2 7%</td>
<td>0 -</td>
<td>1.76 (.58)</td>
</tr>
<tr>
<td>Older workers are interested in technological change</td>
<td>2 7%</td>
<td>20 69%</td>
<td>6 21%</td>
<td>1 3%</td>
<td>2.21 (.62)</td>
</tr>
<tr>
<td>Older workers are flexible</td>
<td>0 -</td>
<td>6 21%</td>
<td>19 66%</td>
<td>4 14%</td>
<td>2.93 (.59)</td>
</tr>
<tr>
<td>Older workers have fewer accidents</td>
<td>5 17%</td>
<td>13 45%</td>
<td>10 34%</td>
<td>1 3%</td>
<td>2.24 (.79)</td>
</tr>
<tr>
<td>Statement</td>
<td>Strongly Agree</td>
<td>Slightly Agree</td>
<td>Slightly Disagree</td>
<td>Strongly Disagree</td>
<td>Mean (SD) (Scale 1 – 4)</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Older workers are hard to train</td>
<td>1</td>
<td>3%</td>
<td>12</td>
<td>41%</td>
<td>9</td>
</tr>
<tr>
<td>Older workers do not want to train</td>
<td>0</td>
<td>-</td>
<td>8</td>
<td>28%</td>
<td>15</td>
</tr>
<tr>
<td>Older workers lack creativity</td>
<td>2</td>
<td>7%</td>
<td>6</td>
<td>21%</td>
<td>14</td>
</tr>
<tr>
<td>Older workers are too cautious</td>
<td>0</td>
<td>-</td>
<td>11</td>
<td>38%</td>
<td>13</td>
</tr>
<tr>
<td>Older workers are employees marking time until retirement</td>
<td>0</td>
<td>-</td>
<td>9</td>
<td>31%</td>
<td>9</td>
</tr>
<tr>
<td>Older workers cannot adapt to new technology</td>
<td>1</td>
<td>3%</td>
<td>4</td>
<td>14%</td>
<td>16</td>
</tr>
<tr>
<td>Older workers cannot do heavy physical work</td>
<td>2</td>
<td>7%</td>
<td>15</td>
<td>52%</td>
<td>10</td>
</tr>
<tr>
<td>Older workers dislike taking orders from younger workers</td>
<td>2</td>
<td>7%</td>
<td>12</td>
<td>41%</td>
<td>10</td>
</tr>
</tbody>
</table>
Employers praised older workers as excellent staff who were necessary to their success – the older workers were “reliable, courteous, hard working, and prepared to go the extra mile.” The only difference seen between older and younger workers was that older workers “took more time off for bereavement leave.” One employer voiced his concern regarding older workers’ well-being: “It is not that older workers cannot do heavy physical work, but for how much longer can they do it without doing themselves some real damage? We need to look to the future and how they can contribute long term, and hence the focus on training.”

Another employer commented that the gap between older and younger workers was quickly reducing because of a significant deterioration in the standard of the younger workers: “The advantage older workers have is that a large and increasing proportion of younger workers are poorly developed physically and have difficulty accepting responsibility for themselves. It is almost certain that this contributes towards their declining performance.” Also, “Many problems in today’s workplace are due to a lack of acceptance and mutual respect from both the young and the old.”

*The Role of Computers in the Workplace*

All companies surveyed used computers in the workplace. An average of 65 percent of employees used computers at work. Computers were viewed as an “essential tool” in fourteen companies (48%). Thirteen employers rated computer perception in their companies as well accepted (45%) whereas only two employers rated the acceptance as mixed or low.

*Computer training.* Fifteen (52%) employers from Small to Medium-sized Enterprises (SMEs) and ten (34%) employers from large organisations reported that they provided computer training for older workers in their companies (Figure 4.13). Nine (75%) employers from SMEs and fifteen (88%) employers from large organisations reported that older workers in their companies expressed interest in learning about computers. Overall, employees were taught word-processing and spreadsheets more frequently in computer training courses (Figure 4.14).
Figure 4.13. The availability of computer training by small to medium-sized enterprises (SMEs) and large organizations

Figure 4.14. Computer-related activities in computer training courses

The need to provide training for older workers. Twenty-three employers (79%) agreed there was a need to provide training for older workers. Among them almost half of the employers believed all employees need to be trained at both professional and support level to keep up with current practices and job requirements. “When it comes to training we make no distinction between older and younger workers. Much of our training is compulsory. Our career development training is open to all.” It is also crucial to “encourage our older workers and help them believe that they can learn and be successful in the modern workplace. Computers are becoming easier to use and being able to operate
them effectively is a confidence issue.” Employers commented there was a need to provide “training in dealing positively with age discrimination and seeing the positive [things] in what [older workers] can offer.”

The minority of employers (21%) who disagreed with the need to provide training remarked, “Views and attitudes become fixed and it’s difficult to get older workers to see outside the square.” The nature of industry determined whether training was necessary: “As yet computers do not form a large part of our manufacturing process. However, the little that we do have has not presented any problems to older workers involved. As for our administrative staff, we have not had an employee leave for more than 10 years so we have not had the experience of considering an older employee for administrative work.”

Contents of training. Employers believed that job content determined what would be involved in the training. However, most (63%) commented on the need to provide in-house seminars in technical and general training as well as external courses in management and computer skills. It was notable that the qualities of computer training were equally important: “Use quality, professional trainers who understand the culture of the organisation.”

Influence of computers on employment status. Opinions were evenly divided when asked whether computer training affected older workers’ employment status. On one hand, there were employers who saw computer training as a way of keeping older workers contemporary, increasing their productivity, and making them more “employable” and “enjoyable”:

Simply that this is their ‘Achilles’ heel’ and older workers owe it to themselves to push their computer skills up to date. This is the main area of expertise where it is lacking. They draw unnecessary attention to themselves from the younger workers who are particularly intolerant of the lack of computer skills in this area.

On the other hand, employers who disagreed insisted that older workers in their companies were either already familiar with computers or their work did not involve the use of computers. Either way, they said, would not influence older workers’ employment status.

In summary, employers envisaged that the impact of having older workers on board would be more positive in the long term. Although older workers were generally well perceived by employers at work, employers agreed that older workers could experience physical difficulties and could be being reluctant to make change at work. Most employers acknowledged the need to provide computer training for older workers. What would be taught in the computer training course would have to be determined by the job contents.
TOPS Trainees Questionnaire

One hundred and forty participants from Training Opportunities Programmes (TOPS) in the Canterbury region returned a completed questionnaire (a return rate of 35%).

Characteristics of Participants

Ninety participants (64%) were younger than 40 years old. This group, called hereafter the ‘younger trainees’, included nineteen trainees who were younger than 19 years; thirty-three trainees aged between 20 and 29; and thirty-eight trainees aged between 30 and 39. The other group consisted of fifty trainees (36%) who were older than forty years old. This group, hereafter the ‘older trainees’, included thirty-nine trainees who were aged between 40 and 49; ten trainees aged between 50 and 59; and one trainee aged between 60 and 69 (Figure 4.15).

Figure 4.15. Percentage of TOPS trainees in age groups

The proportion of males and females in the older group was about the same (52% vs. 48%). However, female participants significantly outnumbered male participants in the younger group (60% vs. 40%) (Figure 4.16).
Background of the Eligibility for Training Opportunities

Training Opportunities trainees are people who registered with Department of Work and Income (DWI) and/or Workbridge who met the following criteria (Training Opportunities and Youth Training, 2001):

- 18 and 19-year-olds who have left school in the past six months with low qualifications;
- unemployed job seekers who have been registered with DWI for at least 26 weeks, available to work for 20 hours or more a week, with low qualifications;
- people with a physical/psychiatric/intellectual/learning disability who enrolled with and referred by Workbridge;
- recipients of the Domestic Purposes Benefit or the Widows Benefit for at least 12 months, with low qualifications;
- refugees who have entered the country within the past 12 months; and
- former prisoners who have served a sentence of six months or more within the last six months.

General Health Questionnaire (GHQ-12)

The General Health Questionnaire (GHQ-12) is a self-report type of survey for detecting non-psychotic psychological disorder. The GHQ-12 scores range from 0 to 36 with lower values indicating a low chance of non-psychotic psychological disorder. Conversely, high values indicate a high probability. A ¾ cut-off point (corresponding to a score of 27 or more) indicates that people can be considered as having high probability of
psychological health problems (Goldberg & Williams, 1988). The overall distribution is skewed, indicating few individuals had psychological health problems (Figure 4.19). The minimum score is 0, the lower quartile is 7, the median is 10, the upper quartile is 15 and the maximum score is 32. There was no significant difference (z-score, p-value = .3936) found between older and younger trainees on this scale in terms of the numbers with psychological disorders. Older trainees had a mean score of 11 and a standard deviation of 5.88 whilst younger trainees had a mean score of 11.29 and a standard deviation of 6.19 (Figure 4.17 and 4.18, respectively).

*Figure 4.17. Frequency distribution of older trainees’ scores in General Health Questionnaire (GHQ-12)*

![Frequency distribution of older trainees’ scores in General Health Questionnaire (GHQ-12)](image)

*Figure 4.18. Frequency distribution of younger trainees’ scores in General Health Questionnaire (GHQ-12)*

![Frequency distribution of younger trainees’ scores in General Health Questionnaire (GHQ-12)](image)
Work History

**Full-time work history.** One hundred and eighteen trainees (84%) had been in full-time employment for 30 hours or more per week. These included forty-six older trainees (92%) and seventy-two younger trainees (80%). It is worth noticing that 7 (5%) younger trainees were actually in full-time work at the time of the study even though they were only allowed to work in part-time or temporary work and “keep looking for full-time work” (Training Opportunities and Youth Training, 2001).

*When stopped working full-time.* On average older trainees stopped working full-time at age 38 (range 18 – 55). On average younger trainees stopped working full-time at age 24 (range 16 – 36 years).

*Part-time work history.* Most trainees (63%) had worked part-time at some stage of their lives. Twenty-seven trainees (54%) in the older group and sixty younger trainees (67%) had worked part-time before.

*When stopped working part-time.* On average older trainees stopped working part-time at age 40 (range 16 – 48 years). On average younger trainees stopped working part-time at age 24 (range 14 – 48 years).

*Number of part-time jobs.* Both older and younger trainees had on average nearly two (mean = 1.7) part-time jobs in the past twelve months.

*Income.* Seventeen older trainees (34%) and forty-four younger trainees (40%) had earned income in the past twelve months from paid employment. Older trainees had earned
an average of $4,860 (range from $500 to $14,400) from jobs in the past twelve months whereas younger trainees had earned an average of $10,211 (range from $500 to $38,000).

Past Occupations

The majority of older trainees had worked as labourers (40%) followed by office workers (34%). The remaining older trainees had worked as teachers, engineers, retail workers, cooks, doctors or as self-employed. The majority of younger trainees had worked as labourers (39%), followed by office workers (20%). The remaining younger trainees had worked in a large variety of occupation including teachers, nurses, nannies, cooks, hairdressers, pharmacists, retail workers, lawyers and engineers.

Work Aspect Preference Scale (WAPS)

The test is divided into thirteen subscales, with each ranging from 4 to 20. Differences between age groups on each subscale were tested using a large-sample hypothesis test for the difference between two population means (see Table 4.4). Older trainees scored significantly higher than younger trainees on two subscales. The first is Life Style, which measures the effect that employment might have on where and how one lives. The second, Altruism, measures a concern for assisting others.

When comparing people who worked as office workers in older and younger trainees, older trainees scored significantly higher in Independence, Co-Workers, Creativity, Life Style, Detachment, Physical Activity, and Surroundings subscales.

Yet when comparing people who worked as labourers in older and younger trainees, older trainees scored significantly higher in Life Style and Altruism subscales although younger trainees scored significantly higher in Money and Physical Activity subscales.
<table>
<thead>
<tr>
<th>Work Aspect</th>
<th>Definition</th>
<th>Mean (SD)</th>
<th>Interpretation of Scores of Older and Younger Trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subscale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Style</td>
<td>Low score = Not concerned about the effects of work on non-work life</td>
<td>14.54</td>
<td>13.46</td>
</tr>
<tr>
<td></td>
<td>High score = Do not want work to interrupt non-work life</td>
<td>(3.09)</td>
<td>(3.12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Significant difference was found. Older trainees did not want work to interrupt other aspects of life more so than younger trainees did.</td>
</tr>
<tr>
<td>Altruism</td>
<td>Low score = Unwilling to help people</td>
<td>14.46</td>
<td>13.17</td>
</tr>
<tr>
<td></td>
<td>High score = Willing to help people</td>
<td>(3.61)</td>
<td>(3.69)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Significant difference was found. Older workers were more willing to help others</td>
</tr>
<tr>
<td>Independence</td>
<td>Low score = Allow imposed constraints at work</td>
<td>13.38</td>
<td>12.80</td>
</tr>
<tr>
<td></td>
<td>High score = Free from constraints at work</td>
<td>(3.19)</td>
<td>(2.95)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Both groups wanted to be free from constraints at work</td>
</tr>
<tr>
<td>Co-Workers</td>
<td>Low score = Disregard friendship and understanding from co-workers as important</td>
<td>15.38</td>
<td>15.58</td>
</tr>
<tr>
<td></td>
<td>High score = Value friendship and understanding from co-workers</td>
<td>(2.81)</td>
<td>(2.68)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Both groups valued friendship and understanding from co-workers</td>
</tr>
<tr>
<td>Work Aspect</td>
<td>Definition</td>
<td>Mean (SD)</td>
<td>Interpretation of Scores by</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Preference</td>
<td></td>
<td></td>
<td>Older and Younger Trainees</td>
</tr>
<tr>
<td>Subscale</td>
<td></td>
<td>Older Trainees</td>
<td>Younger Trainees</td>
</tr>
<tr>
<td>Self-</td>
<td>Low score = Not concerned about developing or use one’s skills and abilities</td>
<td>16.66 (2.32)</td>
<td>Both groups preferred to</td>
</tr>
<tr>
<td>Development</td>
<td>High score = Prefer to develop and using one’s skills and abilities</td>
<td>16.61 (2.64)</td>
<td>develop and using own skills and abilities</td>
</tr>
<tr>
<td>Creativity</td>
<td>Low score = Not concerned about developing original work</td>
<td>13.26 (3.23)</td>
<td>Both groups preferred to</td>
</tr>
<tr>
<td></td>
<td>High score = Prefer developing original work</td>
<td>12.61 (3.04)</td>
<td>develop original work</td>
</tr>
<tr>
<td>Money</td>
<td>Low score = Not concerned about obtaining large financial rewards from work</td>
<td>14.22 (3.12)</td>
<td>Both groups aimed to receive large financial rewards from work</td>
</tr>
<tr>
<td></td>
<td>High score = Aim to obtain large financial rewards from work</td>
<td>14.93 (2.71)</td>
<td></td>
</tr>
<tr>
<td>Prestige</td>
<td>Low score = Not concerned whether work allows one to obtain both recognition and status at work</td>
<td>12.72 (3.04)</td>
<td>Both groups valued the recognition and status at work</td>
</tr>
<tr>
<td></td>
<td>High score = Obtain both recognition and status at work</td>
<td>12.99 (2.69)</td>
<td></td>
</tr>
<tr>
<td>Work Aspect</td>
<td>Definition</td>
<td>Mean (SD)</td>
<td>Interpretation of Scores of Older and Younger Trainees</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td>-----------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>Preference</td>
<td></td>
<td>Older</td>
<td>Younger</td>
</tr>
<tr>
<td>Subscale</td>
<td></td>
<td>Trainees</td>
<td>Trainees</td>
</tr>
<tr>
<td>Security</td>
<td>Low score = Not concerned about being able to maintain one’s job</td>
<td>16.10</td>
<td>16.47</td>
</tr>
<tr>
<td></td>
<td>High score = Concerned about being able to maintain one’s job</td>
<td>(3.87)</td>
<td>(3.40)</td>
</tr>
<tr>
<td>Management</td>
<td>Low score = Not concerned about planning and organising the work of other workers</td>
<td>11.12</td>
<td>11.07</td>
</tr>
<tr>
<td></td>
<td>High score = Concerned about planning and organizing the work of other workers</td>
<td>(3.66)</td>
<td>(2.60)</td>
</tr>
<tr>
<td>Detachment</td>
<td>Low score = Not able to separate work and its influence from other aspects of life</td>
<td>13.84</td>
<td>12.91</td>
</tr>
<tr>
<td></td>
<td>High score = Able to separate work with other parts of life</td>
<td>(3.43)</td>
<td>(3.77)</td>
</tr>
<tr>
<td>Work Aspect Preference Subscale</td>
<td>Definition</td>
<td>Mean (SD)</td>
<td>Interpretation of Scores of Older and Younger Trainees</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>Low score = Not concerned about integrating physical activities with work</td>
<td>12.43 (2.99)</td>
<td>Both groups concerned about integrating physical activities with work</td>
</tr>
<tr>
<td></td>
<td>High score = Concerned about being able to exert oneself and to avoid inactivity in carrying out the duties of one’s life</td>
<td>12.81 (3.10)</td>
<td></td>
</tr>
<tr>
<td>Surroundings</td>
<td>Low score = Not concerned about work conditions and environments</td>
<td>15.50 (2.46)</td>
<td>Both groups regarded safe and comfortable work surroundings as important</td>
</tr>
<tr>
<td></td>
<td>High score = Concerned about working in safe, attractive and comfortable working conditions and environments</td>
<td>15.13 (2.57)</td>
<td></td>
</tr>
</tbody>
</table>
Participants’ comment on the Work Aspect Preference Scale (WAPS) in terms of their goals for work. For older trainees, it seemed important to work in a secure and friendly workplace where individual effort is recognised. An older trainee remarked, “It is good to work in a pleasant, reliable place where you gain pride by good performance and contribution of new ideas, being an important worker, contributing a lot to the workplace for the interest and benefit of the organisation.”

A portion of older trainees further emphasised that the dollar value of salaries received was not an important issue. “I am not concerned about the payment to be higher but I am thinking about satisfaction with what I am doing.”

Also, “A friendly and honest workplace is important (no bitchiness, etc). It’s nice if good work is recognized by a thank-you (not necessarily money). A good livable wage is acceptable not a high wage. Honesty and openness from an employer is nice (not secretive or favouritism).”

More importantly “The workplace should always be an uplifting situation, where a person is happy to work there. As well as for security and enjoyment, it is important to feel secure. A combination of job satisfaction and to be paid well for your work is the best balance.”

Conversely, younger trainees had greater expectations about work especially in terms of flexibility at work: “To work not too long hours, and have security for the job. Work in nice surroundings and work with good people and to have a good boss. I’d like to be flexible in my work and able to move around if need to. It is also important to me that I work with good people and in an attractive work environment. The work also has to be challenging and intellectually/creatively stimulating.”

*Computer Attitudes Scale (CAS)*

The Computer Attitudes Scale (CAS) is an instrument that measures attitudes towards learning about and using computers. The instrument provides a total score and scores on four subscales: Computer Anxiety, Computer Confidence, Computer Liking and Computer Usefulness. Correlations between the subscales are shown in Table 4.5. The lowest correlation between subscales was .74 for Computer Anxiety with Computer Liking whereas the highest correlation between subscales was .93 for Computer Confidence with the overall computer attitudes.
Table 4.5

*Intercorrelation Matrix for Computer Attitudes Scale (CAS)*

<table>
<thead>
<tr>
<th>CAS subscale</th>
<th>Computer Confidence</th>
<th>Computer Liking</th>
<th>Computer Usefulness</th>
<th>Overall computer attitudes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Anxiety</td>
<td>.82</td>
<td>.74</td>
<td>.77</td>
<td>.91</td>
</tr>
<tr>
<td>Computer Confidence</td>
<td>.79</td>
<td>.79</td>
<td>.93</td>
<td></td>
</tr>
<tr>
<td>Computer Liking</td>
<td></td>
<td>.78</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>Computer Usefulness</td>
<td></td>
<td></td>
<td>.91</td>
<td></td>
</tr>
</tbody>
</table>

The scores for each subscale ranged from 10 to 40. Higher scores correspond to more positive attitudes towards computers, for example, a higher confidence score means more confidence and a higher anxiety score means less anxiety. There was no significant difference found between older and younger trainees on any of the four subscales using a large-sample hypothesis test for the difference between two population means (Table 4.6). When previous computer experiences were taken into consideration, older trainees with some/lots/extensive computer experiences were found to score significantly higher in all CAS subscales compared with the younger trainees (see Table 4.6). Older trainees with no or limited computer experiences were also found to score significantly higher in all CAS subscales except the Computer Usefulness subscale when compared with younger trainees.

Moreover, older trainees who attended computer training courses scored significantly higher than younger trainees across all CAS subscales. Younger trainees who did not attend computer training courses scored significantly higher than older trainees who did not attend computer training courses in Computer Liking subscale.
<table>
<thead>
<tr>
<th>Computer Subscale</th>
<th>Definition</th>
<th>Mean</th>
<th>p-value</th>
<th>Interpretation of Scores</th>
<th>Older and Younger Trainees Mean Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitudes</strong></td>
<td>Score = Meaning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Standard Deviation in parenthesis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Computer Anxiety</strong></td>
<td>Low score = More anxiety</td>
<td>33.08</td>
<td>0.3669</td>
<td>Both groups had less computer anxiety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High score = Less anxiety</td>
<td>(5.59)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>32.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6.23)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Computer Confidence</strong></td>
<td>31.56</td>
<td>0.5000</td>
<td>Both groups had more computer confidence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low score = Less confidence</td>
<td>(6.15)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High score = More confidence</td>
<td>31.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6.51)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Computer Liking</strong></td>
<td>30.26</td>
<td>0.2843</td>
<td>Both groups liked computers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low score = Less liking</td>
<td>(5.79)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High score = More liking</td>
<td>29.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6.56)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Computer Usefulness</strong></td>
<td>32.42</td>
<td>0.4602</td>
<td>Both groups found computers useful</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low score = Less usefulness</td>
<td>(6.28)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High score = More usefulness</td>
<td>32.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5.98)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>127.32</td>
<td>0.3936</td>
<td>Both groups had positive attitudes towards computers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low score = Positive attitudes</td>
<td>(22.12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High score = Negative attitudes</td>
<td>126.24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(22.96)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Attitudes towards computers. The results from the CAS (Table 4.6) suggested that both groups of trainees held slightly positive attitudes towards computers (a total score of 120 or more would have indicated a positive attitude towards computers) (Nash & Moroz, 1997). Older trainees who had experiences in using computers believed that computers made filing easier and that they were easy communication tools. However, for those who had been doing work manually, computers were difficult to learn.

Younger trainees acknowledged that familiarity with computers made a positive impact on job prospects and that computer training was an essential step. A few younger trainees believed that their attitudes towards computers could be improved with more computer training. Nonetheless, some younger trainees resisted computer training based on the reason that computer learning was difficult to grasp or that computer training was too easy for them.

Experiences with Computers

Experiences with computer use. Thirty percent of older trainees and 25 percent of younger trainees had no or very limited experience with computers (Figure 4.20). The majority (42% vs. 38%) had some experience. About one third had quite a lot of experience, but very few had had extensive experience. Differences in experience between younger and older trainees were small (Figure 4.20).

Figure 4.20. TOPS trainees’ experience in computer use

Computer ownership and access. A higher percentage of older trainees had computers at home compared with younger trainees (54% vs. 41%). More older trainees
than younger trainees had access to computers when not at home (86% vs. 80%). Twenty-five (58%) older trainees used computers in class, whereas the rest of the older trainees used computers in other people’s places (21%), libraries (4%) and Internet cafés (17%). Forty-five (63%) younger trainees used computers in class, whereas the rest of the younger trainees used computers in other people’s places (22%) and Internet cafés (16%).

**Current use.** Computer use was predominantly devoted to word-processing and Internet and email use. Other computer usage included chat, creating music, database, desktop publishing, educational programs, Endnote, games, graphics, keyboard skills, MS Office, MYOB, multimedia, paintbrush, payroll, Photoshop, presentation, programming, research, share trading, spreadsheets, and web authority. Older trainees used computers to email and to do other things more often than younger trainees (Figure 4.21). Younger trainees used computers to do word-processing and Internet surfing more often than older trainees. However, nearly half of the younger trainees were reported to spend time on games (46%).

*Figure 4.21. Computer usage by TOPS trainees*

![Computer Use Chart]

**Computer usage in the workplace.** Eighteen (36%) older trainees had used or were still using computers at work. The activities older workers did with computers at work included: badge design, banking, computer repair, data entry, data dispatch, editing, email, filing, invoicing, MS Office, MYOB, paintbrush, payroll, program design, publishing, teaching preparation and word-processing. Thirty-two (64%) older trainees did not use computers at work. Their reasons included: computers are not needed in the workplace.
(44%), currently unemployed (31%), no computers are available (16%) and lack of opportunity to use computers at work (9%).

Even fewer younger trainees had used or were still using computers at work (30%). Computer-related activities they did at work were similar to that of the older trainees. Sixty-three (70%) did not use computers at work. Their reasons included: computers are not needed in the workplace (51%); currently unemployed (25%); no computers are available (21%); and a lack of opportunity to use computers at work (3%).

Experiences with Computer Training

Involvement with a computer training course. Forty (80%) older trainees and fewer younger trainees (71%) had participated in or were enrolling in a computer training course. Older trainees started to participate in computer courses from 1998 whereas enrolment of younger trainees in any of the computer courses could be traced back to 1993. Older trainees spent an average of eight months in a computer training course compared with an average of nine months taken by younger trainees.

Computer packages acquired. The most popular computer courses consisted of word-processing, spreadsheets, databases, desktop publication, and presentation packages. Older trainees took part in courses such as multimedia, statistics and others (for example, educational packages and web designs) more often than younger trainees (Figure 4.22).

Figure 4.22. Computer packages learnt in computer training courses
Reasons for not participating in computer training courses. Ten (20%) older trainees and 26 (29%) younger trainees did not participate in any computer training courses. Older trainees’ reasons for not attending a computer training course included: not ready for a computer training course (40%), not interested (30%), unable to afford one or had no need to learn it (30%). Younger trainees’ reasons for not attending a computer training course included: not ready for a computer training course (54%), not interested or not needed (27%), too busy, enjoy learning by discovery, unable to afford one and haven’t thought about it (19%). Fifteen (88%) older trainees, but only 21 (68%) younger trainees said they would consider attending a computer training course in the future.

More than half of the older trainees (53%) believed that taking part in a computer training course in the future would increase their computer knowledge and update skills. Another half of the older trainees believed they should be in a computer training course in order to learn more about computers (27%), follow trends about computers (13%) and to advance their job prospects (7%). Younger trainees who said they would consider attending a computer course also believed that it would increase their job prospects (38%), expand their computer knowledge and update skills (24%), follow trends about computers (19%) and help them to learn about computers (19%)

Computer packages in which trainees are interested. Older trainees were enthusiastic in learning word-processing (22%), followed by presentation packages (16%) and desktop publication (14%) (Figure 4.23). Younger trainees were interested in learning word-processing (18%), desktop publication (18%) and multimedia (15%).

Figure 4.23. Computer packages that trainees would like to learn in computer training courses
Computer Training Styles

One-to-one computer training versus group training. Thirty (60%) older trainees and fifty (60%) younger trainees preferred one-to-one computer training style (Figure 4.24). Both groups regarded one-to-one computer training as easier to understand (48% vs. 50%), that trainees learnt more about computers (21% vs. 20%), that trainees were able to receive more direct assistance (13% vs. 10%), that trainees had more time to ask questions or complete tasks (8% vs. 10%) and that trainees could receive more skills (3% vs. 4%). Older trainees believed that one-to-one computer training suited their individual style (7%). A small portion of younger trainees (6%) preferred a one-to-one training method because they did not want to wait for others, did not want to cause damage to computers and because of family/time restrictions.

Figure 4.24. Advantages of one-to-one computer training style

Seventeen (34%) older trainees and twenty-six (29%) younger trainees preferred to be trained in a class environment because “computer training classes might be cheap or free.” Three (6%) older trainees and eight (9%) younger workers were either not interested in computer training of either kind, did not think they needed computer training, or they were only interested in computer games.
Instructors. Over a quarter of older trainees (28%) preferred to be taught by co-workers. The rest of the older trainees were equally divided and chose to be taught by either their supervisors or experienced tutors. Nearly a third of younger trainees (31%) opted to be taught by co-workers. A few younger trainees (27%) chose supervisors as their computer trainer whereas nearly half (42%) of younger trainees preferred to be taught by experienced tutors.

Seventeen (34%) older trainees wished to be taught by people of the same age. Their reasons were that older instructors had better understanding of learning (47%) and more life experiences (6%), and that they felt more comfortable with (35%) and related more easily to older instructors (12%). Thirty-one (32%) younger trainees wished to be taught by people of the same age. Their reasons were that they felt more comfortable (61%) and related more easily (13%) with instructors of the same age, and that younger instructors were easier to talk to (26%).

Thirty-three (66%) older trainees and forty-seven (81%) younger trainees did not mind being taught by people of the same age “as long as they were computer literate”. Eleven (19%) younger trainees preferred to be taught by older instructors because “older are wiser”, “older people have more knowledge”, and “younger people do not show courtesy”.

Equal numbers of older trainees and younger trainees (48% respectively) favoured being trained with people their own age. Older trainees’ believed that they could relate better with people of the same age (92%) and that “younger trainees wasted time” (8%). Younger trainees also believed that they could relate well with people of the same age and share similar life experiences (80%) and that “younger trainees might experience same computer questions.” (20%) Over half (52%) of older and younger trainees did not mind being trained with people of different ages because “everyone can learn from others”.

Most older trainees (90%) preferred to use their own computers in a computer training class. The majority of younger trainees (85%) also chose to have own computers. A small percentage (2%) of younger trainees did not mind to using their own computers or shared ones.

Learning schedule. Forty-three (86%) older trainees enjoyed working with computers at their own pace. Their reasons included: take time to understand (53%), concentrate more (19%); less confusing (14%); do not have to wait for others (12%); and dislike class atmosphere (2%). Seventy-six (84%) younger trainees enjoyed working with computers at their own pace because they believed they could take time to understand
(66%), concentrate more (12%), did not have to wait for others (12%) and that it would be less confusing (11%).

Seven (14%) older trainees disliked working on their own because they learned better in a structured and challenging environment, learned more effectively with others and believed in time management. Fourteen (16%) younger trainees disliked working on their own because they learned more effectively with others, learned more in a structural and challenging environment and wanted to develop discipline.

Materials and assistance used in computer training. An overwhelming number of older and younger trainees chose the tutorial manual as their preferred teaching material (61% vs. 60%). Their second choice was a picture of the keyboard (18% vs. 21%) followed by other aids (15% vs. 11%) ranging from hands-on practice to “someone physically telling me.” Cue cards were rated the least favoured teaching material (6% vs. 7%).

Thirty-nine (78%) older trainees and seventy-three (81%) younger trainees approved the development of a help desk in the computer training class. They expected a help desk to provide the following services which included: answering questions (31% vs. 32%), dealing with technical problems (26% vs. 27%); offering suggestions on exploring Internet (14% vs. 16%); providing one-to-one support (27% vs. 24%); and others such as online support, general help and translation (2% vs. 1%).

Conclusion

The principle similarities between the two groups included that before becoming TOPS trainees, the majority of both older and younger trainees worked either full-time or part-time as labourers, followed by those who worked as office workers. Both older and younger trainees had some computer experience and most had their own computers. Most of them did not use computers at work because it was not needed as part of their work. Computer training experiences were common among older and younger trainees because they wished to increase computer knowledge and skills. In the Computer Attitude Scale (CAS), both older and younger trainees had computer anxiety, less computer confidence but liked computers in general. Both groups preferred one-to-one computer training method because they believed it would be easier to understand. Older and younger trainees liked to use their own computers and to work at their own pace during a computer training session. In addition, they preferred to have a tutorial manual and both groups favoured the idea of a help desk where they could ask questions.

The principle differences include the followings. In the Work Aspect Preference Scale (WAPS), unemployed older trainees valued Life Style and the Altruism more than
unemployed younger trainees did. It showed that unemployed older trainees were concerned about the effect of employment on their lives and how they could assist others. Older trainees who worked as office workers emphasized their work preference in aspects such as Independence, Co-Workers, Creativity, Life Style, Detachment, Physical Activity, and Surroundings. Yet when comparing people who worked as labourers in older and younger trainees, older trainees again favoured Life Style and Altruism although younger trainees seemed to concentrate more on Money and Physical Activity.

When the data was interpreted according to computer experiences, older trainees with some/lots/extensive computer experiences were found to have less computer anxiety, more confidence towards computers, liked computers better and found computers as more useful than younger trainees with the same experiences. Similar results were found in older trainees who attended computer training courses. On the other hand, younger trainees who did not attend computer training liked computers better than older trainees who did not attend computer training courses. Moreover, older trainees preferred to be taught by an experienced tutor or a supervisor regardless of the trainer’s age whereas younger trainees preferred to be taught by an experienced tutor regardless of the trainer’s age.

Older trainees longed for a harmonious working environment where they could contribute what they had to the organisations. A higher salary was not their main concern and this was reflected on their average earning of $4,860 dollars within the last 12 months. However, flexibility in terms of job content and job varieties was seen as the priority for younger trainees when asked about their attitudes towards work. They earned an average of $10,211 in the past 12 months.
CHAPTER FIVE
Discussion

The aim of the study was to investigate views held by Canterbury employers and Training Opportunities trainees regarding work and computer training. Results will be discussed in three sections. First, the data from the research will be interpreted in light of the hypotheses and discussed in relation to the previous literature. Table 5.1 below provides a summary of the hypotheses that were tested. Conclusions and implications of the research will then be discussed. Finally, limitations of the present design and suggestions for future research will be considered.

Table 5.1
Hypotheses and Results Summary

<table>
<thead>
<tr>
<th>Hypotheses Summary</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Employers' overall attitudes towards older workers are negative, and the impact of having an ageing labour force is negative</td>
<td>The first part of the hypothesis was not supported because the majority of employers agreed with most of the positive attributes of older workers (Table 4.2 and 4.3). The second part of the hypothesis was also rejected because more than half of the employers expected an ageing labour force to be positive or no effect (Figure 4.10).</td>
</tr>
<tr>
<td>2. Employers from larger organisations and small to medium-sized enterprises (SMEs) differ in terms of providing computer training for all employees</td>
<td>Since employers from Small to Medium-sized enterprises (SMEs) are more likely than larger organisations to provide computer training for all employees, this hypothesis was supported (Figure 4.13).</td>
</tr>
<tr>
<td>3. Older trainees had higher probability of having psychological health problems</td>
<td>Since no significant differences were found, this hypothesis was not supported (Figure 4.17 and 4.18).</td>
</tr>
</tbody>
</table>
Table 5.1 continued

<table>
<thead>
<tr>
<th>Hypotheses Summary</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Income from the past 12 months differs between older and younger trainees</td>
<td>Since younger trainees earned more than twice what older trainees did, this hypothesis was supported.</td>
</tr>
<tr>
<td>5. Older and younger trainees value different aspects of work</td>
<td>Since significant differences were found on several subscales of the Work Aspect Preference Scale (WAPS), this hypothesis was supported (Table 4.4).</td>
</tr>
<tr>
<td>6. Older trainees have fewer computer experiences, attended fewer computer training courses and have negative attitudes towards computers</td>
<td>The first part was supported because older trainees had fewer computer experiences (Figure 4.20). The second part of the hypothesis was not supported because older trainees attended more computer training courses. The third part was also rejected because older trainees had positive attitudes towards computers (Table 4.6).</td>
</tr>
<tr>
<td>7. Older and younger trainees prefer different computer training styles</td>
<td>Since no significant differences were found, this hypothesis was not supported.</td>
</tr>
</tbody>
</table>

Hypothesis one of the present research predicted that employers’ overall attitudes towards older workers would be negative, and the ageing labour force would bring negative impact on businesses. The first part of the hypothesis was not supported since employers’ overall attitudes towards older workers were mostly positive as evidenced from the results of the Attitudes towards Older Workers Questionnaire. The majority of employers agreed with the statements favourable to older workers (69%) and disagreed with the statements unfavourable to older workers (63%). The majority of employers also valued the skills or attributes of their older workers.

Also, upon analysing the impact on businesses of an ageing labour force, the majority of employers expected positive or no impact in the short term (74%). A similar number of them (73%) also anticipated positive or no impact in the long term. Therefore,
the second part of hypothesis one was not supported either. It is worth noticing that slightly over half (56%) of the employers anticipated some effects (both positive and negative) for the ageing workforce in the short term and 60% of employers anticipated some effects in the long term. This finding is consistent with a New Zealand wide study by Sparrow (1999) but in contrast to a regional study by O’Donohue (2000). Sparrow found that 87.9% of organisations surveyed anticipated different degrees of impact on their businesses as a result of the ageing labour force. O’Donohue’s study in the Canterbury region, however, has less than half of the participants anticipating any effect at all from the ageing labour force. Reasons for the similarities and differences may be due to several factors. First, both Sparrow’s study and the present research drew samples from the New Zealand Who’s Who Business Directory whereas in O’Donohue’s study, samples were drawn from the Canterbury Employers Chamber of Commerce website. The differing samples possibly reflect regional differences in the labour market. Second, the result was likely to be affected by the size and the structure of businesses surveyed. The majority of employers in Sparrow’s research were identified as small to medium-sized enterprises (SMEs) with a younger workforce. Most organisations in O’Donohue’s study were categorised as SMEs with an older workforce. The present research, however, was dominated by large organisations with a younger workforce.

Hypothesis two was supported by the results. Small to medium-sized enterprises (SMEs) in the study provided more computer training courses for all workers than did larger organisations. Larger organisations, on the other hand, were unable to provide enough computer training for the employees despite the fact that a larger number of older workers had expressed their interests in learning about and using computers. A possible explanation for this could be that since small to medium-sized organisations rely heavily on their older, more skilled workers to undertake a wider range of work, computer training courses were considered essential (Doeringer, 1990, cited in O’Donohue, 2000).

The third hypothesis was not supported because no significant relationship was found between the older and younger trainees’ non-psychotic psychological health status in the General Health Questionnaire (GHQ-12). Nordenmark and Strandh (1999), when examining the effects of unemployment on household income and resources, found that unemployment had a substantial and damaging effect on psychological health ($r = .32$). However, it has not been possible to know to what extent the age of the individuals contributed to the finding. In addition, individual differences might have been obscured by the aggregate data (Lange, 1985). As McGregor and Gray (2001) cautioned, the depth of
older trainees' feelings about unemployment was “a trajectory of emotion…. that cannot be expressed in any description of quantitative data or its analysis.”

Hypothesis four predicted that income from the past 12 months would differ between older and younger trainees, was supported. Younger trainees reported earning more than twice the amount of income in the past 12 months than older trainees did. However, this conclusion has been reached without the endorsement of other research studies. Although discussions of unemployment in both popular media and academic journals commonly highlight that economic and psychological problems are central to the negative consequences of unemployment (Ansley, 1999; Crystal, 1995), consideration of the relationship between these problems is remarkably rare. Consequently, there exists a great deal of confusion regarding the manner in which the relationships between unemployment, age, income, and financial hardship ought to be conceptualised. When income is measured at a household level, it clearly bears significant correlations to unemployment \( r = -.42 \) and GHQ-12 \( r = -.21 \) (Nordenmark and Strandh, 1999).

Hypothesis five was supported by the finding that older and younger trainees valued different aspects of work preferences. Older and younger trainees differed significantly in the Life Style and the Altruism subscales. Older trainees did not want work to interrupt other aspects of their lives more often than younger trainees did. Older trainees were also more willing to help others when compared with their younger counterparts. However, upon analysing previous types of work, older trainees valued most aspects of work preferences while younger trainees regarded money and physical activity as more important.

Technology obsolescence has been identified as one of the major barriers faced by older workers and it was obvious in the present research. Hypothesis six predicted that older trainees would have fewer computer experiences, attend fewer computer training courses and have negative attitudes towards computers. The first part of hypothesis six was supported because a slightly larger number of younger trainees had some, quite a lot, or extensive computer experiences. This finding disagreed with Laguna and Babcock (1997) who claimed that older adults typically have little computer experience.

The second part of hypothesis six was not supported because older trainees attended more computer training courses as compared with younger trainees. The finding could be compared with the study by McGregor and Gray (2001) in which only one third of mature job-seekers over the age of 40 attended computer training. In addition, mature job-seekers recognised that their present skills were not appreciated and that the skills they
were being encouraged to learn in class bear little resemblance to the skills required by industry (McGregor & Gray, 2001). Therefore, even though most trainees in the present research attended computer training courses, it was questionable whether the gap between a job’s requirements and the skills and needs of trainees could be narrowed.

The third part of hypothesis six that predicted older trainees would have negative attitudes towards computers, however, was not supported. According to the results from the Computer Attitudes Scale (CAS), older trainees in general had better attitudes towards computers than younger trainees did.

No significant differences were found between age and computer training styles. Therefore, hypothesis seven which predicted that older and younger trainees preferred different computer training styles, was not supported. Knowles (1987, cited in Yeatts, Folts & Knapp, 2000) concluded that older adults would benefit from a supportive and encouraging learning environment accompanied by peers of the same age.

Limitations of the Present Study

This section outlines several conceptual and methodological limitations of the present study, and offers suggestions as to how future research could address these limitations.

Sample. Because of methodological problems, the findings of this study must be regarded as tentative. First, the number of research participants was small, and the sample was drawn from a potentially skewed subgroup of unemployed persons. Therefore, the generalisability of the conclusions about overall attitudes towards older workers based on the results may be questionable. Future research would need to include larger sample groups. Second, the way in which the researcher approaches respondents may itself bias the sample. Since many of the programmes were finished or about to finish when the study was undertaken, the number of trainees available for surveys was affected and for several providers no trainees were available.

Measurement. The adverse effects of unemployment on well-being have been found to be mediated by the individual’s economic situation, gender, social class, age, marital status, duration of unemployment, previous unemployment experience, ethnicity and work involvement (Brief et al., 1995; Chen et al., 1994; Walsh and Jackson, 1995). Hence, age alone might not sufficient in determining older unemployed trainees’ attitudes towards work and computer training.

Scales. Evidence has shown that although high scores on the General Health Questionnaire (GHQ-12) are found among those who are unemployed, scores were
generally unrelated to age, job level, or marital status (Banks, et al., 1980). It is therefore unknown whether age makes a difference in determining the psychological health of older and younger trainees.

Statements in the Work Aspect Preference Scale (WAPS) were regarded as being repetitive and tedious in nature, especially for younger TOPS trainees. Understandably, several of the respondents took issue with the personal nature of the question. One trainee felt offended by the statement about work security when she/he had been made redundant.

Limitations of the Computer Attitudes Scale (CAS) include the nature of the scale and the sample. Chen (1986, cited in Woodrow, 1991) commented that anxiety generally has a more emotional aspect associated with it than does confidence. However, results from the present study showed that the Computer Attitudes Scale (CAS) was insensitive to such subtle differences and showed many overlapping similarities between the Anxiety and the Confidence subscales. Woodrow (1991) thus strongly suggested that the CAS was in fact three dimensional, not two as claimed by Loyd and Gressard (1986). This is evidenced in TOPS trainees’ replies where they commented that statements in CAS were identical in nature and it became a laborious task to fill in the survey.

Chua, Chen and Wong (1999) acknowledged that computer anxiety is most commonly related to age, gender and computer experience. Hence, the inclusion of more measurements may allow for more detailed investigation of which aspect of computer attitudes affects computer performance (Laguna & Babcock, 1997). For example, computer self-efficacy, computer experience, and physiological arousal are examples of potential components of computer anxiety that are responsible for differences in computer attitudes.

Design. Problems experienced with the questionnaire included the advantages and disadvantages of using a postal survey, differing interpretations of some questions by participants, inappropriately structured questions, some confusion over requirements and, possibly missed opportunities to gather additional information.

The present research used postal surveys as a way of collecting information from respondents. A postal survey involves sending all the questionnaires out through the mail, and having respondents fill them in and send them back to the researcher. A postal survey was considered to be appropriate for the present research because: (1) it is the least expensive option as there are no interviewers. (2) Since all respondents get the same instructions, it thus reduces the chance of interviewer bias. (3) It is useful when access to human resources is limited. (4) Respondents may not be comfortable discussing sensitive
questions with an interviewer (Statistics New Zealand, 1996). However, the researcher had little control over the order in which respondents answer the questions or over who actually completed the questionnaire. Also, postal surveys do not suit a very tight time frame because it takes longer than face-to-face or telephone interviews to complete. Finally, postal surveys are subject to response bias because it is easy for respondents to skip questions they do not understand or do not want to answer (Czaja & Blair, 1996).

It was also acknowledged that poor questions and questionnaires design may possibly give rise to respondents interpreting questions differently (Statistics New Zealand, 1996). While the majority of participants in this study completed the questions as they were intended, confusion was evident on occasion. Clearer wording of some questions and clearer instructions would have overcome this problem. For example, “go to” instructions should have been used for question 6 through to 11 in the Attitudes towards Computer Training section in the Training Opportunities trainees’ questionnaire. If participants gave a yes response to question 6 then they were not required to answer question 8 and 9. While not a major problem, this highlights the need to carefully consider all aspects of the questionnaires prior to research initiation.

It was identified during the analysis phase that the research would have benefited from the acquisition of other information. An example of this included collecting data on the age of respondents who are employers to see if that affected the interpretation results in any way. It would have also been useful to establish at what age respondents thought that a worker moved into the older worker category. On the other hand, respondents who are trainees should be asked questions about their previous job conditions, reasons for redundancy, length of time out of work, and barriers respondents face in getting a job. Collecting a greater level of detail from respondents as to why they held certain opinions would also have added value to the study.

In retrospect, the research would have been improved by pre-testing the questionnaires or conducting a small pilot study (O’Donohue, 2000). This would have provided valuable feedback on the questionnaire design and content and allowed changes to be made prior to the survey. The additional use of face-to-face or telephone interview methods would also have improved the quality of the information gathered. The methods would have allowed the researcher to better explain any difficult questions and also to prompt participants to comment on their views.

Moreover, the anonymity of respondents meant that non-responses did not allow any follow-ups (O’Donohue, 2000). If respondents could be identified initially, contact
could have been established in an effort to increase the response rate. Financial and time constraints prohibited a follow-up survey by mail or telephone as did concerns that participants may be reluctant to answer questions again, or they may unknowingly respond twice to the survey, and duplicate some responses.

Implications of Findings

A number of practical and theoretical implications can be drawn from the present research. These will be discussed in terms of Canterbury employers and Training Opportunities trainees.

Employers. Despite the relatively low level of negativism for employers, it should be noted that 31% of the respondents disagreed with the statements favourable to older workers and 37% of the respondents agreed with the statements unfavourable to older workers. Hence, there is not enough evidence to reject the claim that discrimination against older employees is unfound in the present research (Hassell & Perrewé, 1995). Fortunately, many employers among these groups indicated that they were reluctant to generalise about older workers, and that there was a consensus that a positive attitude and competence towards work rather than age was the key to success for employees.

Employers in large-sized organisations with more than 100 workers, in particular, should be aware of the need to provide computer training courses for their older workers. In terms of future research, there is also a need for multivariate studies which focus on examining the process of computer training rather than mere descriptions of the content of training.

Training Opportunities trainees. The present research has revealed that a wide variety of computer training programmes have been provided for and well accepted by older and younger trainees. However, statistics packages appeared to be less available and poorly received by trainees. Careful course planning may be needed to ensure greater alignment of learning needs.

With regard to preferred computer training styles, one-to-one computer training taught by experienced tutors (regardless of age) was preferred by both older and younger trainees. Realising this method may not be available, trainees rated being taught by experienced tutors with a mixed-age group within a classroom setting as an alternative. Trainees benefited from having their own computers while learning to use computers, and working at their own pace with the assistance of a tutorial manual and a help desk.

The newly published Building Futures, Te Aro Whakamua – Review of Training Opportunities and Youth Training (2002, p. 26) recommended “the focus of the
programmes should be on learners acquiring a critical bundle of foundation skills, which will enable them to move effectively into higher levels of tertiary education and sustainable employment”. In light of this view, it is suggested that a follow-up study that examines the influence of participation in Training Opportunities programmes on further education and/or employment, should be conducted. Attention should also be given to the psychological health of trainees especially after the training. Again, larger and more representative samples are needed, including men and women and people of different ethnicities in a variety of cultures.

Implication for Future Studies

When results from the employers’ questionnaire was compared with that of the trainees’, it was found that on the one hand, employers viewed older workers highly, and on the other hand, older trainees had an optimistic view of work. Future research might take a look at the divergence between the two groups, and in particular, why employers were reluctant to accept older job seekers when they fit the criteria sought by employers.

Conclusion

The present research focused on attitudes towards older adults and computer training. Both the literature and the perceptions of employers and trainees have been considered. Contrary to popular belief that age discrimination exists in the workplace, employers’ attitudes towards older workers were positive and employers were optimistic about the impact of the ageing labour force on their organisations. Employers, especially those with less than 100 workers, are willing to provide computer training that is relevant to job content. On the other hand, older trainees do not suffer from psychological health problems because of unemployment. Participating in Training Opportunities training apparently gives them a more positive perspective towards work. Computer training is believed to increase job prospects and most trainees are willing to take part in the training using preferred teaching styles. In terms of future studies, a larger sample of employers and trainees/employees is recommended so more thorough comparisons can be made.
References


review and recommendations for research and intervention. *Journal of Vocational Behavior, 55*: 188-220.


Warr, P., & Pennington, J. (1994). Occupational age-grading: jobs for older and


Appendix 1
Letter Sent to Canterbury Employers Inviting Participation

[Business name]
[Business address]

Dear Sir or Madam,

You are invited to participate in a study investigating employers’ attitudes toward older workers, particularly in regards to computer skills and training.

My name is Chia-Chun Lin and I am a Masters student in the Department of Education at the University of Canterbury. As part of my qualification I am conducting a piece of research under the supervision of Dr. Kathleen Liberty (Education) and Neville Blampied (Psychology). Your organisation has been selected to participate in this research from a database of Canterbury employers. The enclosed questionnaire will take 15 minutes to complete and can be returned to me in the stamped, self-addressed envelope provided.

Participation in this study is voluntary and if you wish, anonymous. The information you provide will be handled in the strictest confidence and the analysis will be carried out in such a way that no individual or organisation can be identified. There are no known or anticipated risks to participation in this study.

The findings of the research will be made available to participants through a summary sheet. If you would like a copy of this please contact me by calling me at 3431905 or email me at CCL27@student.canterbury.ac.nz. Alternatively, you can also contact my supervisors. Their details are shown below.

Dr Kathleen Liberty
Department of Education
University of Canterbury
Private Bag 4800
Christchurch
Ph: 364-2545
k.liberty@educ.canterbury.ac.nz

Neville Blampied
Department of Psychology
University of Canterbury
Private Bag 4800
Christchurch
Ph: 366-7001 ext. 6199
n.blampied@psyc.canterbury.ac.nz

Finally, I wish to thank you very much for taking time to complete and return the questionnaire.

Yours sincerely,

Chia-Chun Lin (Nicole)
Appendix 2
A Questionnaire of Canterbury Employers

Job title / Position in organisation: ________________________________

Type of Organisation: ________________________________
(e.g., manufacturing, electrical, etc)

Name of your organisation: ________________________________
(leave blank if you wish the organisation to remain anonymous)
Below are a series of questions about your organisation and your views toward the ageing workforce. There are no correct answers to these questions. Please choose the answer that is closest to your situation and write your comments in the blanks.

1. Approximate number of employees employed by the organisation:


2. Approximately what percentage (%) of all employees are in each age group?

_______ younger than 19 years

_______ 20-29 years

_______ 30-39 years

_______ 40-49 years

_______ 50-59 years

_______ 60-69 years

3. Do you think that having older workers will impact upon your organisation?

(a) In the short term i.e. next 5 years (circle one)

YES  NO  Don’t know

(b) In the longer term i.e. 5 years plus (circle one)

YES  NO  Don’t know

4. If you answered yes to question 3(a) or (b), do you consider any impact on your organisation will be: (circle one)

(a) In the short term (circle one)

<table>
<thead>
<tr>
<th>Very positive</th>
<th>Positive</th>
<th>No effect</th>
<th>Negative</th>
<th>Very negative</th>
<th>Don’t know</th>
</tr>
</thead>
</table>

Please explain briefly why do you think that?

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

(b) In the longer term (circle one)

<table>
<thead>
<tr>
<th>Very positive</th>
<th>Positive</th>
<th>No effect</th>
<th>Negative</th>
<th>Very negative</th>
<th>Don’t know</th>
</tr>
</thead>
</table>
Please explain briefly why do you think that?

________________________________________________________________________

________________________________________________________________________

5. Do some of your organisation’s older employees have attributes or skills that would be difficult to replace when they retire? (circle one)

YES  NO

If YES, please indicate the attribute or skill: (tick one or more)

☐ Useful experience related to organisation/industry
☐ Strong work ethic
☐ Low absenteeism
☐ High productivity
☐ Effective in job
☐ Interpersonally skilled
☐ Customer/Client knowledge
☐ Loyal to organisation
☐ Enthusiasm

Others (please specify): _______________________________________________________

________________________________________________________________________

________________________________________________________________________

6. Do some of your organisation’s older employees experience difficulties at work? (circle one)

YES  NO

If YES, please explain.

________________________________________________________________________

________________________________________________________________________

7. Do you think there is a need to provide training for older workers? (circle one)

YES  NO
If YES, why do you think that?

________________________________________________________________________

________________________________________________________________________

And what will be involved in the training?

________________________________________________________________________

________________________________________________________________________

If NO, why not?

________________________________________________________________________

________________________________________________________________________

8. Please indicate whether you agree or disagree with the following statements by placing a tick in the box.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Slightly Agree</th>
<th>Slightly Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older workers are hard to train</td>
<td>❑</td>
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</tr>
<tr>
<td>Older workers do not want to train</td>
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<td>❑</td>
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<tr>
<td>Older workers have a lot of mileage left in them</td>
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<td>❑</td>
<td>❑</td>
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<tr>
<td>Older workers lack creativity</td>
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<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Older workers are too cautious</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Older workers are employees marking time until employment</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Older workers are very productive employees</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Older workers cannot adapt to new technology</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Older workers are more reliable than young workers</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>Slightly Agree</td>
<td>Slightly Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>----------------</td>
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<tr>
<td>Older workers cannot do heavy physical work</td>
<td></td>
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<tr>
<td>Older workers are interested in technological change</td>
<td></td>
<td></td>
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<tr>
<td>Older workers are inflexible</td>
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<tr>
<td>Older workers dislike taking orders from younger workers or supervisors</td>
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<tr>
<td>Older workers have fewer accidents</td>
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</tbody>
</table>

Any additional comments on older workers:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

Please check all your answers to make sure you have not left out any answers.
The Role of Computer in the Workplace

Please answer the questions about the role of computer in your workplace. Any additional information can be added in the blanks or attached on a separate sheet.

1. Does your organisation use computers? (circle one)
   YES   NO

2. What proportional of employees in your organisation use computers at work?

3. What do they use computers for?

4. How do you rate the perception of computers your organisation?

5. Do your employees receive computer training (circle one)
   YES   NO
   If YES please indicate what has been put into the course? (tick \(\Rightarrow\) one or more)

   □ Word-processing Packages
   □ Spreadsheets
   □ Databases
   □ Presentation Packages
   □ Statistics Packages
   □ Desktop Publishing
   □ Multimedia
   □ Others (please specify): _________________________________

6. Have any older workers (40 years and over) expressed an interest in learning or upskilling their computers skills on the job? (circle one)
   YES   NO
If YES how many workers have expressed this interest? _________

If NO will you consider providing such training for older workers?

YES. Why? _________________________________________________

NO. Why not? ______________________________________________

7. Does computer training affect older workers’ employment status? (circle one)

YES. In what ways?
__________________________________________________________
__________________________________________________________
__________________________________________________________

NO. Why not?
__________________________________________________________
__________________________________________________________
__________________________________________________________

8. What skills or attitudes do older workers need to keep or retain jobs?
__________________________________________________________
__________________________________________________________
__________________________________________________________

9. What skills or attitudes cause older workers to lose jobs?
__________________________________________________________
__________________________________________________________
__________________________________________________________
Any additional comments on computer training for older workers:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Please check all your answers to make sure you have not left out any answers.

Thanks for completing this questionnaire. Please enclose the survey in the stamped envelope and post to the author.
Appendix 3
List of Training Opportunities Programmes (TOPS) Providers

Achievement Institute of Language
Adept Secretarial and Training Services Ltd
Agriculture New Zealand
Amuri Area School
Aranui High School
Avonmore Tertiary Academy Ltd
Carich Computer Training Ltd
Christchurch Academy Ltd
Christchurch Polytechnic Institute of Technology
Deep Wells Trust
Framework Solutions
Glen Albyn Farm
Greymouth High School
Hagley Community College
Homecare 2000
Impact Training Limited
Linwood College
National Trade Academy
Nelson Marlborough Institute of Technology
New Zealand Institute of Sport
Nga Hau E Wha National Marae
Nga Peka Matauranga O Waitaha Trust
Nui Ngakau Ltd
Oscar Development in Christchurch Inc
Paparua Maori Charitable Trust
Pasefika Education Employment Training Centre Ltd
Rangiora Academy
Southern Institute of Technology
Stainless Steel and Aluminium
Welding Academy Ltd
Tai Poutini Polytechnic
Te Runanga O Nga Maata Waka
The Salvation Army Employment Plus
Trade and Commerce Centre Limited
University of Canterbury Continuing Education
Work Peninsula
Y.M.C.A. Christchurch
YMCA of South Canterbury Inc
Appendix 4
Letter Sent to Training Opportunities Programmes (TOPS) Trainees

Dear Sir or Madam,

I am a Masters student in the Department of Education at the University of Canterbury conducting research under the supervision of Dr. Kathleen Liberty (Education) and Neville Blampied (Psychology). The survey is about older workers’ views toward work and computer training and is organised in a way that participants are asked to select responses from a range of provided options. Additional information or comments can be added in the blanks or on a separate sheet.

I would appreciate if you would complete the attached survey. Completion of the survey is expected to take about 40 minutes of your time. There are no known or anticipated risks to participation in this study. Participation in this study is voluntary and if you wish, anonymous. Further, all information you provide will be considered confidential. The data collected through this study will be kept for a period of one year in a secure location.

It would be great if you would return the completed survey in the self-addressed, stamped envelope by (preferred return date). If you have any questions about the survey upon receiving this letter, or if you prefer to do the survey via telephone, please feel free to contact me at 3431905.

Thanks you in advance for your participation in this study.

Yours sincerely,

Chia-Chun Lin (Nicole)

☐ Please tick ☐ the box if you wish to receive a summary of the survey when the study is completed

Win a free LOTTO TICKET by returning the survey!! You’ll be in the draw simply by writing your name, address and phone number in the blanks below and return the survey. The winner will be notified by mail.

Name:

Address:

Phone number:
Appendix 5
A Questionnaire of Training Opportunities Programmes (TOPS) Trainees

Name: ________________________ (leave blank if you wish to remain anonymous)

Please continue from here ....

What is your age range? (tick one)

Less than 19 ____
20-29 ______
30-39 ______
40-49 ______
50-59 ______
60-69 ______

Gender (tick one): Male ______ Female_______
Work History

I would like to know your work history. Please circle the answer which you think most nearly applies to you. Additional information can be added in the blanks next page.

1. Have you ever been in paid work for 30 hours a week or more? (circle one)
   YES       NO

2. Were you working 30 hours a week or more at any time when you were aged between 40 and 49? (circle one)
   YES       NO

3. What was your occupation then? __________________________

4. Are you still working 30 hours a week or more? (circle one)
   YES       NO

5. If you answer NO to question 4, how old were you when you stopped working for 30 hours a week or more for the last time?
   __________________________

6. Have you ever worked part time? (circle one) Part time is paid work for less than 30 hours per week
   YES       NO

7. If you answer YES to question 6, how old were you when you stopped working part time for the last time?
   _______ Or still working part time

8. In the last 12 months, have you earned any income from wages or salaries? (circle one)
   YES       NO

9. In the last 12 months, how many different jobs have you had?
   _____

10. For (all) the job(s) you got wages or salary for in the last 12 months, how much in total did you get? __________________________ (please leave blank if you refuse to answer)
Work Aspect Preference Scale

Different people are attracted to different aspects of work. This scale lists some of the aspects of work that people consider important. **You have to consider which of these aspects of work you prefer.** When doing this scale, it does not matter whether you are working or not; you just have to indicate your personal preference. Place a tick in the box under the label which is closest to your agreement or disagreement with the statements.

<table>
<thead>
<tr>
<th>Totally Unimportant</th>
<th>Of little Importance</th>
<th>Moderately Important</th>
<th>Quite Important</th>
<th>Extremely Important</th>
</tr>
</thead>
</table>

1. Work in which you can work as fast or slowly as you like ............................................................... □

2. Work in which you have pleasant people to work with ................................................................. □

3. Work in which you improve the skills you have .................................................................................. □

4. Work in which you are paid a high salary ......................................................................................... □

5. Work in which you design new things .............................................................................................. □

<table>
<thead>
<tr>
<th>Totally Unimportant</th>
<th>Of little Importance</th>
<th>Moderately Important</th>
<th>Quite Important</th>
<th>Extremely Important</th>
</tr>
</thead>
</table>

6. Work in which you know that other people think your work is important .................................................. □

7. Work in which you are free to live wherever you like ........................................................................... □

8. Work in which you are certain of keeping your job .............................................................................. □

9. Work in which you help Build a better society .................................................................................. □

10. Work in which you are not required to do work in your spare time .................................................. □
11. Work in which you plan and
Arrange the work of other ...........□................................□...........................................................□

12. Work in which you do your job
in a safe workplace ................................□........................................................................□

13. Work in which you work hard
physically ........................................□........................................................................□

14. Work in which you get to know
your fellow workers quite well ................□........................................................................□

15. Work in which you add to the
abilities you already have .....................□........................................................................□

16. Work in which you can do your
own work in your own way ..................□........................................................................□

17. Work in which you originate
new ideas and/or products .................□.........................................................□.............................□

18. Work in which you receive more than
your normal pay for good work ........□........................................................................□

19. Work in which you do not have
to change the way you live ....................□........................................................................□

20. Work in which you get a good
reputation for your good work .............□........................................................................□

21. Work in which you give aid to
those in need ........................................□.........................................................□.............................□

22. Work in which you can be sure
you will always have a job ..................□........................................................................□

23. Work in which you set goals for
workers to reach ................................□........................................................................□
24. Work in which you can forget the work while you are not there doing it ..............................................

25. Work in which you do not have to spend all of your time behind a desk ..............................................

26. Work in which you do your job in a physically attractive environment ..............................................

27. Work in which you are always increasing your knowledge ..............................................

28. Work in which you can start and finish your work when you like ..............................................

29. Work in which you are really liked by your fellow workers ..............................................

30. Work in which you become quite wealthy ..............................................

31. Work in which you experiment with different ways of doing things ..............................................

32. Work in which you are looked up to by other people in society ..............................................

33. Work in which you are not expected to move wherever the organisation wants to put you ..............................................

34. Work in which you are certain your job will last ..............................................

35. Work in which you help others live a fuller life ..............................................
<table>
<thead>
<tr>
<th></th>
<th>Totally Unimportant</th>
<th>Of little Importance</th>
<th>Moderately Important</th>
<th>Quite Important</th>
<th>Extremely Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>36. Work in which you do not have to think about work once you leave the workplace</td>
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<tr>
<td>37. Work in which you have authority over others</td>
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<tr>
<td>38. Work in which you can work in a pleasant area of the town or countryside</td>
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<td>39. Work in which you are not just sitting down all day</td>
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<tr>
<td>40. Work in which you determine the way your own work is done</td>
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<tr>
<td>41. Work in which you enjoy the company of the people you work with</td>
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<tr>
<td>42. Work in which you can acquire specialised skills</td>
<td></td>
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<tr>
<td>43. Work in which you use ideas, materials to develop new ideas, materials</td>
<td></td>
<td></td>
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<tr>
<td>44. Work in which you receive enough pay to live well</td>
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<tr>
<td>45. Work in which you do not have to change where you live to gain promotion</td>
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<tr>
<td>46. Work in which you can obtain a high status in the eyes of others</td>
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<tr>
<td>Question</td>
<td>Scale</td>
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<td>Work in which you make an important contribution to the community</td>
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<td>Work in which you have a secure future</td>
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<td>Work in which you set out the best way for others to do a job</td>
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<tr>
<td>Work in which you are not expected to take work home</td>
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<td>Work in which you are physically active</td>
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<tr>
<td>Work in which you have a workplace that is clean and tidy</td>
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</table>

Any additional comments on your aspects of work:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
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____________________________________________________________________

Please check all your answers again to make sure you have not left out any answers.
Computer Attitude Scale

Below are a series of statements. There are no correct answers to these statements. They are designed to permit you to indicate the extent to which you agree or disagree with the ideas expressed. Place a tick in the box under the label which is closest to your agreement or disagreement with the statements.

1. Computers do not scare me at all. □ □ □ □ □
2. I'm no good with computers. □ □ □ □ □
3. I would like working with computers. □ □ □ □ □
4. I will use computers many ways in my life. □ □ □ □ □
5. Working with a computer would make me very nervous. □ □ □ □ □
7. The challenge of solving problems with computers does not appeal to me. □ □ □ □ □
8. Learning about computers is a waste of time. □ □ □ □ □
9. I do not feel threatened when others talk about computers. □ □ □ □ □
10. I don't think I would do advanced computer work. □ □ □ □ □
11. I think working with computers would be enjoyable and stimulating. □ □ □ □ □
12. Learning about computers is worthwhile. □ □ □ □ □
13. I feel aggressive and hostile toward computers. □ □ □ □ □
14. I am sure I could do work with computers. □ □ □ □ □
15. Figuring out computer problems does not appeal to me. □ □ □ □ □
<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Slightly Agree</th>
<th>Slightly Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. I'll need a firm mastery of computers for my future work.</td>
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<td>17. It wouldn't bother me at all to take computer courses.</td>
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<td>18. I'm not the type to do well with computers.</td>
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<td>19. When there is a problem with a computer run that I can't immediately solve, I would stick with it until I have the answer.</td>
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<td>20. I expect to have little use for computers in my daily life.</td>
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<td>21. Computers make me feel uncomfortable.</td>
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<td>22. I am sure I could learn a computer language.</td>
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<td>23. I don't understand how some people can spend so much time working with computers and seem to enjoy it.</td>
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<td>24. I can't think of any way that I will use computers in my career.</td>
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<td>25. I would feel at ease in a computer class.</td>
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<td>26. I think using a computer would be very hard for me.</td>
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<td>27. Once I start to work with the computer, I would find it hard to stop.</td>
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<td>28. Knowing how to work with computers will increase my job possibilities.</td>
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<tr>
<td>29. I get a sinking feeling when I think of trying to use a computer.</td>
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</tr>
</tbody>
</table>
30. I could get good grades in computer courses. □ □ □ □ □
31. I will do as little work with computers as possible. □ □ □ □ □
32. Anything that a computer can be used for, I can do just as well some other way. □ □ □ □ □
33. I would feel comfortable working with a computer. □ □ □ □ □
34. I do not think I could handle a computer course. □ □ □ □ □
35. If a problem is left unsolved in a computer class, I would continue to think about it afterward. □ □ □ □ □
36. It is important to me to do well in computer classes. □ □ □ □ □
37. Computers make me feel uneasy and confused. □ □ □ □ □
38. I have a lot of self-confidence when it comes to working with computers. □ □ □ □ □
39. I do not enjoy talking with others about computers. □ □ □ □ □
40. Working with computers will not be important to me in my life’s work. □ □ □ □ □

Any additional comments on your attitudes toward computers:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

Please check all your answers again to make sure you have not left out an answer.
Attitudes toward computer training

Below are a series of questions regarding your attitudes toward computer training. Please circle the answer that is closest to your situation and write your comments in the blanks.

1. Experience with computers: (circle one)

| None | Very limited | Some experience | Quite a lot | Extensive |

2. Do you own a computer? (circle one)

YES

NO

3. Do you have access to a computer when you are not at home? (circle one)

YES. Where do you have access to a computer? ________________

NO

4. What kind of activities do you do with a computer? (circle one or more)

- Word-processing
- Internet
- Email
- Others (please specify) ________________

5. Have you ever used a computer at work? (circle one)

YES. What kind of activities do you do with a computer at work?

________________________________________

NO. Why not? ____________________________

6. Have you ever attended a computer training course or class? (circle one)

YES. When? ________________ For how long? ____________________

NO. Why not? ____________________________
7. If you answer Yes in question 6, please indicate (circle one or more) the computer packages (software) you have used:

Word-processing Packages
Spreadsheets
Databases
Presentation Packages
Statistics Packages
Desktop Publishing
Multimedia
Others (please specify): _______________________________________________________

8. If you answer No in question 6, will you consider taking a computer training course or class in the future? (circle one)

YES. Why? _________________________________________________________________
NO. Why not? ______________________________________________________________

9. If you answer YES to question 8, please indicate (circle one or more) the computer packages (software) you would like to learn:

Word-processing Packages
Spreadsheets
Databases
Presentation Packages
Statistics Packages
Desktop Publishing
Multimedia
Others (please specify) ______________________________________________________________________

10. Do you prefer one-to-one computer training? (circle one)

YES. Why? _________________________________________________________________
And where do you like to be trained? ___________________________________________
If NO, why not? _____________________________________________________________
11. If you indicate NO in question 10, do you prefer to be taught by: (circle one)
   Co-worker(s)
   Supervisor
   Others (please specify): ________________________________

12. Do you feel more comfortable if you are taught by people your own age? (circle one)
   YES. Why? ____________________________________________
   NO. Why not? _________________________________________

13. Do you feel more comfortable being trained with people your own age? (circle one)
   YES. Why? ____________________________________________
   NO. Why not? _________________________________________

14. Do you like to have own computer to use while training or do you like to share with others? (circle one)
   Own computer
   Share with others

15. Do you prefer to work at own pace when doing computer training? (circle one)
   YES. Why? ____________________________________________
   NO. Why not? _________________________________________

16. What kind of reference material do you prefer to use in computer training? (circle one or more)
   Tutorial manual
   Cue cards
   A picture of keyboard
   Others (please specify): ________________________________

17. Do you prefer to have a help desk in the computer training class? (circle one)
   YES
   NO
18. What kind of service(s) do you wish the help desk to provide? (circle one or more)

Answering questions
Deal with technical problems
Offer suggestions of what to do on the Internet
Provide one-on-one support
Others (please specify): ____________________________

Any additional comments on your attitudes toward computer training:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Please check all your answers again to make sure you have not left out any answers.
Finally, I would like to know if you have had any medical conditions and now your health has been in general. Please answer ALL the questions. Simply circle the answer which you think most nearly applies to you. Remember that we want to know about present and recent conditions, not those that you had in the past.

It is important that you try to answer ALL the questions.

Have you recently ...

<table>
<thead>
<tr>
<th>Question</th>
<th>Better than usual</th>
<th>Same as usual</th>
<th>Less than usual</th>
<th>Much less than usual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. been able to concentrate on whatever you’re doing?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. lost much sleep over worry</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>3. felt that you are playing a useful part in things?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less useful than usual</td>
<td>Much less useful</td>
</tr>
<tr>
<td>4. felt capable of making decisions about things?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less so than usual</td>
<td>Much less than usual</td>
</tr>
<tr>
<td>5. felt constantly under strain?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>6. felt you couldn’t overcome your difficulties?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>7. been able to enjoy your normal day-to-day activities?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less so than usual</td>
<td>Much less than usual</td>
</tr>
<tr>
<td>8. been able to face up to your problems?</td>
<td>More so than usual</td>
<td>Same as usual</td>
<td>Less so than usual</td>
<td>Much less than usual</td>
</tr>
<tr>
<td>9. been feeling unhappy and depressed?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>10. been losing confidence in yourself?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>11. been thinking of yourself as a worthless person?</td>
<td>Not at all</td>
<td>No more than usual</td>
<td>Rather more than usual</td>
<td>Much more than usual</td>
</tr>
<tr>
<td>12. been feeling reasonably happy, all things considered?</td>
<td>More so than usual</td>
<td>About same as usual</td>
<td>Less so than usual</td>
<td>Much less than usual</td>
</tr>
</tbody>
</table>