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The Link between Age, Career Goals and Adaptive Development for Work Related Learning amongst Local Government Employees

Abstract

More recently, lifespan development psychology models of adaptive development have been applied to the workforce to investigate ageing worker and lifespan issues. The current study uses the Learning and Development Survey to investigate employee selection and engagement of learning and development goals, and opportunities and constraints for learning at work in relation to demographics and career goals. It was found that mature age was association with perceptions of preferential treatment of younger workers with respect to learning and development. Age was also correlated with several career goals. Findings suggest that younger workers learning and development options are better catered for in the workplace. Mature aged workers may compensate for unequal learning opportunities at work by studying for an educational qualification or seeking alternate job opportunities. The desire for a higher level job within the organization or educational qualification was linked to engagement in learning and development goals at work. It is suggested that an understanding of employee perceptions in the workplace in relation to goals and activities may be important in designing strategies to retain workers.

Keywords: Work related learning; Career goals; Retirement; Training and development; Lifespan development; Selective optimisation with compensation; Developmental regulation

Introduction

Since the mid 1990's, learning and development has increased in importance as a prerequisite for maintaining employment where technological change and contingent employment has become the norm (Tikkanen, Lahn, Withnall, Ward & Lyng, 2002). The constant need for human capacities such flexibility and adaptability has become a necessity for work related learning and development as can be seen in constructs such as "career adaptation" (Hall & Mirvis, 1995) or "career resilience" (Noe, Noe, & Bachhuber, 1990), both of which describe an ability to cope with change and maintain occupational skills. More recently, links between organizational research and lifespan developmental psychology have begun to appear in the literature to explore themes related to the maintenance of employment. These include work life balance (Young, Baltes & Pratt, 2007), the retention of older workers (Robson, Hansson, Abalos & Booth, 2006; Robsson & Hansson, 2007), and career success of younger workers (Weise, Freund & Baltes, 2000; 2002). The convergence of career development and the lifespan development psychology adds value to understanding organizational research, as it is parsimonious and applicable to any phenomenon across an individual's lifespan, acknowledges adaptation and change in participants, (Baltes & Dickson, 2001). Thus, the two global constructs that influence how individuals accommodate work-life balance involves the individual and the work organization. A more detailed discussion of the above constructs and related factors are presented in the next section. The purpose of the current study is to investigate the stability of the Revised Learning and Development Survey (R-LDS; Tones & Pillay, 2008), which was constructed to measure lifelong learning and adaptive development within the context of work. The R-LDS is available as an appendix from the first author. Two studies are reported here; Study

1 replicates the exploratory factor analysis described in previous research (Tones & Pillay, 2007; Tones & Pillay, 2009) to measure the stability of the revised instrument, while study 2 explores demographic and career correlates of the learning and development survey as preliminary evidence of construct validity.

Study 1 – Replication of Exploratory Factor Analysis

The learning and development survey originally contained 84 items, and was administered to a sample of 112 local government workers aged 18-65 years as part of the process of instrument development (Tones & Pillay, 2007; Tones & Pillay, 2008). After the initial EFA a total of 38 items were retained. As can be noted in this table, the questions are divided into eight factors, four of which reflect individual and organizational aspects of work related learning and development. The individual factors reflect the three processes of goal selection (Individual Goal Selection), goal engagement (Individual Goal Engagement – Behavioral; Individual Goal Engagement – Cognitive), and goal disengagement (Individual Goal Disengagement). The organizational factors describe opportunities for development (Organizational Opportunities – Learning Climate; Organizational Opportunities – Work Tasks), and constraints to development (Organizational Constraints – Preferential Treatment; Organizational Constraints – Negative Age Stereotyping).

Reciprocal interaction between the individual and environment is a central theme in lifespan developmental psychology (Baltes & Smith, 2004), and has been observed in organizational settings, most notably in the rigorous empirically work of Kohn, Schooler and colleagues (Kohn & Schooler, 1973; Kohn & Schooler, 1978, Kohn & Schooler, 1982; Miller, Schooler, Kohn, & Miller, 1979; Schooler, Mulatu, & Oates, 2004). They investigated the reciprocal relationship between work environments and intellectual development in a sample of 3101 employed men (at

the commencement of their research) over a period of 30 years.. Their key findings were that work complexity reciprocally influenced intellectual development, and ultimately led to work and leisure related intellectual growth, whilst routine work and close supervision had the opposite effect on intellectual development. As such, employees in complex occupations with opportunities for autonomy may have experienced growth in cognitive functioning, while employees in simplistic occupations may have struggled to maintain their cognitive functioning due to a lack of opportunity to exercise and develop such skills at work.

The questions for the individual factors are based on previous models of adaptive development discussed in the lifespan development psychology literature, which include the meta theory of selective optimization with compensation (SOC; Baltes, Freund & Li, 2005), the dual process model of self regulation (Brandstadter & Rothermund, 2002), and developmental regulation via optimization and primary and secondary control (Heckhausen, 2001). All these models identify processes of goal selection, engagement and disengagement with respect to goal pursuit (Boerner & Jopp, 2007; Greve & Wentura, 2008).

The goal selection process may be influenced by opportunities and constraints in the environment (Heckhausen, 2001) or personal preferences (Baltes & Baltes, 1990), or in response to some form of loss or change (Baltes & Baltes, 1990). An example would be the decision to enroll in a tertiary qualification to prepare for employment in a specific occupation. This decision would also be influenced by knowledge of opportunities and constraints, such as personal academic abilities or availability of jobs. The decision to undertake education may also result from a loss, such as an injury which prevents a worker from returning to his or her line of work, or retrenchment and limited opportunities for alternate employment within one's

range of skills. Items of the R-LDS survey that describe Individual Goal Selection (IGS; Tones & Pillay, 2008) related primarily to opportunities and constraints (for example “It is the right time for me to improve my work skills”) and personal preferences (“I know exactly what skills I want to improve”).

Goal engagement manifested R-LDS as two factors. One factor constituted primarily behavioral manifestations of engagement (eg., “If training and development opportunities are available in my workplace, I will participate in them”), while the other was purely cognitive (eg., “I stay focused on my learning and development goals”). Heckhausen (2001) split behavioral and cognitive processes of engagement into the constructs of primary control and secondary control respectively. Furthermore, Poulin, Heckhausen & Hase,(2005) state that primary control possessed more pragmatic and survival drivers , while the role of secondary control was to harness attention and motivation to support primary control. Similarly, Rothermund & Brandtstadter (2002) note the complementary behavioral and cognitive drivers targeted at achieving goals aligned with self regulation.

The goal disengagement process is regarded as a distinct cognitive process which serves to prevent the investment of personal resources in futile goals and consequently protect self esteem (Heckhausen (2005). This may include psychological disengagement from a goal, self protective attributions, adaptation of standards, or social comparisons (Rothermund & Brandtstadter, 2003). For example, a job seeker may decide to accept any form of employment if attempts to obtain a desirable job have failed, thus lowering their personal standards (Poulin et al, 2005).
Questions in the

R-LDS refer to goal disengagement (“Learning and development goals are not important to me”) or self protective attributions (“When my learning and development goals do not work, it’s because I am unlucky”).

While the broad themes of opportunities and constraints were adopted from lifespan development psychology literature (Heckhausen, 2005; Settersten & Hagedsted, 1996), organizational literature (eg. Maurer, 2002; Mikkelsen, Ogaard & Landsbergis, 2005; Noe et al, 1990; Tougas, Lagace, Sablonniere & Kocum, 2004; Wrenn & Maurer, 2004) was used to contextualize the questions written from these constructs. As noted earlier, individual selection of goals is partially informed by opportunities and constraints to goal achievement in the environment (Heckhausen, 2001). There were four organizational factors in the R-LDS, two each relating to opportunities and constraints. Organizational opportunity factors related to chances for development via learning climate and work tasks. By contrast, organizational constraint factors described preferential treatment of younger workers with respect to the provision of learning opportunities, and negative stereotyping of mature workers.

Organizational Opportunities – Learning Climate was influenced by literature on age management and age aware policies specific to learning and development (Illmarinen, 2006; Maurer, 2002; Rhebergen & Wognum, 1997) and learning climate (Berings, Poell & Simons 2005). As summarized by Nagele & Walker, (2006) this literature emphasizes the importance of learning and development opportunities specific to individual employee needs. Questions related to this factor focused on the appropriateness of opportunities relative to employee developmental needs (“My workplace provides job opportunities that are appropriate for me”) and preferences (“My workplace helps me to decide which skills to improve”), opportunity to diversify (“In my workplace, learning and development activities are designed to

develop a range of skills”), and a positive learning climate (“In my workplace, I have the opportunity to participate in training”). Organizational Opportunities – Work Tasks items were developed from literature which specifically related to development as a result of complex work environments (Kohn & Schooler, 1982). Key concepts in this area included the opportunities for autonomy, job control and learning during work tasks (Van der Heijden & Brinkman, 2001), as well as cognitive demands of work (Mikkelsen et al, 2005)().

Two further themes emerged in the organizational literature with respect to constraints for individual development, which was preferential treatment of employees with respect to the distribution of learning opportunities, and age stereotyping. The preferential treatment of employees is often age specific, as younger workers are often given more training and development opportunities than older workers (Tougas et al, 2004). Factors such as education or occupation status do moderate the relationship between age and opportunities for training, as mature aged workers who possess tertiary education or a white collar occupation are more likely to be offered training than mature aged workers with secondary schooling only, or employment in manual occupations (OECD, 2006). Negative age stereotypes primarily disadvantage older workers with respect to learning and development (Maurer, Wrenn & Weiss, 2003). Research (Dendrick & Dobbins, 1991; Rupp, Vodanovich & Crede, 2006; Wrenn & Maurer, 2004) suggests that negative age stereotypes were related to perceptions of limited ability and interest to learn in mature aged workers.

Hypothesis 1: The R-LDS will be composed of eight factors: Organizational Opportunities – Learning Climate, Organizational Opportunities – Work Tasks, Organizational Constraints – Preferential

Treatment, Organizational Constraints – Negative Age Stereotypes, Individual Goal Selection, Individual Goal Engagement, Individual Goal Engagement – Cognitive, Individual Goal Disengagement

The model of adaptive development for work related learning is illustrated in Figure 1. Individual Goal Selection, Individual Goal Engagement-Behavioral, Individual Goal Engagement-Cognitive, Organizational Opportunities-Learning Climate and Organizational Opportunities-Work Tasks share a number of positive correlations with each other. These five constructs are grouped together under the theme “engagement.” That is, selection and engagement with learning and development goal co-occurs with opportunities to learn and develop in the workplace. By contrast, in the presence of constraints to learning and development, workers disengage from learning and development goals. Individual Goal Disengagement, Organizational Constraints – Preferential Treatment, and Organizational Constraints – Negative Age Stereotypes are also positively inter-correlated (Tones & Pillay, 2009). These three factors were grouped together as “disengagement.”

Three negative correlations are also observed that link the “engagement” and “disengagement” groups together. These occur between Individual Goal Disengagement and Individual Goal Engagement, and between Organizational Opportunities – Learning Climate and both Organizational Constraint factors (Tones & Pillay, 2009). As such, constraints to development are viewed in the absence of a favourable learning climate, and workers who disengage from learning and development goals no longer actively pursue learning activities.

Hypothesis 2: The correlations between the eight factors of the R-LDS observed in the pilot study will be replicated in the current study.

Method

Participants and Procedure

All data was collected in the author's home state and participants included 137 local government employees from rural or regional areas. Fifty-eight percent were aged less than 45 years, 64% were female, and 41% were employed in professional or managerial roles. Online distribution was used for administration to the local government workers. The survey was uploaded onto the local government website, which was accessible to employees state wide.

Measures

The Revised Learning and Development Survey. The R-LDS was used to measure the individual processes of selection, engagement and disengagement, as well as perceptions of opportunities and constraints, with respect to work related learning and development. Constructed and refined by Tones and Pillay (2007; 2008; 2009), the LDS consists of eight subscales: Organizational Opportunities – Learning Climate, Organizational Opportunities – Work Tasks, Organizational Constraints – Preferential Treatment, Organizational Constraints – Negative Age Stereotypes, Individual Goal Selection, Individual Goal Engagement, Individual Goal Engagement – Cognitive, Individual Goal Disengagement. Internal consistency is acceptable for all subscales at $\alpha = .752$ or better, and $\alpha = .826$ overall. For all questions, a five point scale was used which ranged from “1 - Strongly Agree” to “5 - Strongly Disagree.”

Design and Analysis

An exploratory factor analysis was conducted on the data collected from the LDS for the study sample. Factor extraction methodology incorporated a maximum likelihood (ML) extraction method was used, and both unrotated and promax (oblique) rotation solutions were obtained for comparison to identify the solution with the most salient factors.

Results

Data screening for normality revealed that IGD2 (“Learning and development goals are not important to me”) was negatively skewed, $Z_{skewedness} = -2.077$. This item was deleted as Finney and Distefano (2006) state that Maximum Likelihood factor analysis is robust to moderate violations of normality, defined as a skewedness of less than +/-2.0.

The Kaiser-Meyer-Olkin measure of sampling adequacy was .820 and the Bartlett’s test of sphericity was significant, $\chi^2(666) = 2317.654, p = .000$, both of which indicated factorability (Tabachnick & Fidell, 2006). There were eight factors with an eigenvalue exceeding 1.0, however the scree plot suggested a six factor solution. A promax rotation was accepted as the most interpretable solution, which represented a good fit to the data $\chi^2(398) = 407.225, p = .364$.

A total of six items failed to load onto any factor, which were IGS5 (“I decide what learning and development goals are important to me”) and IGS6 (“I know exactly what skills I want to improve”) from the Individual Goal Selection scale, IGD4 (“When my learning and development goals do not work, it's because I am unlucky”) and IGD6 (“I do not need to participate in learning and development because I am competent in my job”), both from the original Individual Goal Disengagement scale, and OGE1 (“Learning new knowledge and skills is important for my job”), and OGE5 (“In my job, I am able to try new ways of doing things”)

from the Organizational Opportunity – Work Tasks scale. Deletion of these items reduced the number of items to 31.

The next stage of EFA was to remove single item loadings and cross loadings. Three items were observed to cross load onto two factors. The item IGS2 (“It is important for me to influence the future of my workplace”) shared a loading of .438 on the seventh factor (which contained another Individual Goal Selection item), and .334 on the second factor (which contained a mixture of Individual Goal Selection and Individual Goal Engagement items). With IGS2 deleted, the seventh factor was reduced to one item, IGS1 (“It is important for me to teach work skills to younger workers”), so this factor was deleted.

Similarly, OGE20 (“In my workplace I am given useful feedback to improve my skills”) loaded onto the first and eighth factors with pattern coefficients of .303 and .425 respectively. Both the first and eighth factors contained items from the Organizational Opportunity – Learning Climate scale. Upon deletion, OGE19 (“In my workplace, my supervisor is supportive of learning and development”) was the only item to load onto the eighth factor, which was removed.

Lastly, OGD9 (“In my workplace, younger workers are considered to be more successful in learning and development activities than older workers”) loaded onto the third (.405) and sixth (.337) factors and was removed, with each factor left with two or more items. The third and sixth factors correspond to the Organizational Constraints – Preferential Treatment and Organizational Constraints – Negative Age Stereotypes scales respectively. The deletion of these five items from the LGAQ factor structure reduced the solution to six factors and 26 items.

Each factor was evaluated for internal consistency, with retained factors displayed in Table 1. A total of three items were due to an improved or unchanged

internal consistency upon deletion. The item IGS3 (“It is the right time for me to improve my work skills”) did not contribute to the internal consistency of the second factor which contained a mixture of Individual Goal Engagement and Individual Goal Selection items. This factor was renamed Individual Goal Engagement (Behavioral; IGE-B) after this item was deleted. From the Organizational Constraints – Preferential Treatment scale, OGD3 (“In my workplace, knowledge of the latest technologies is valued over direct industry experience”) was deleted as internal consistency was unaffected. Internal consistency of the Organizational Opportunity – Work Tasks scale was improved from $\alpha=.779$ upon omission of OGE8 (“My work is challenging for me.”). However, the remaining two OO-E items were strongly intercorrelated ($r= .725$), which according to Boyle (1991) inflates internal consistency and suggests item redundancy. As the OO-E factor no longer matched the original construct, it was deleted. The revised LDS was reduced to 21 items and five factors. The EFA is available from the first author on request.

INSERT TABLE 1 HERE

Descriptives and intercorrelations are shown in Table 2 for the LDS.

Moderate skewedness and kurtosis was apparent for Organizational Constraints – Preferential Treatment. This indicates that participants had slight tendency to report higher scores, which indicate disagreement with the construct, as well as scores at the upper and lower extremes. There was also a floor effect for the Individual Goal Engagement – Behavioral factor as just over a third of participants reported the lowest score. Strong negative correlations were observed between both organizational constraint factors and Organizational Opportunities – Learning climate, which indicates that constraints to development is associated with a lack of

opportunities for development. Each pair of organizational constraint and individual goal engagement factors was also strongly correlated. A small positive correlation was observed between Individual Goal Engagement – Behavioral and Organizational Opportunities – Learning Climate. This was noted in the pilot study (Tones & Pillay, 2008) and suggests that employees respond to opportunities to develop in the workplace with by engaging in learning and development behaviors, or create opportunities for themselves as a result of demonstrating learning behaviors. The positive correlations between Individual Goal Engagement – Cognitive and both organizational constraint factors were not noted in the pilot study. However, they suggest that workers may attempt to compensate for constraints to development by increasing their motivation and self efficacy to achieve learning goals at work. Alternatively, some workers who exhibit strong motivation and self efficacy to learn may be actively discouraged by the employer if there are not opportunities for training and development.

INSERT TABLE 2 HERE

Discussion

Five of the eight factors of the LDS were replicated in the current study, and organizational factors were replicated with greater stability than individual factors. These factors were Organizational Opportunities – Learning Climate, Organizational Constraints – Preferential Treatment, Organizational Constraints – Negative Age Stereotyping. Individual Goal Engagement – Behavioral and Individual Goal Engagement – Cognitive. As in the pilot study, Organizational Opportunities – Learning Climate, Individual Goal Engagement – Behavioral, and Organizational

Constraints – Preferential Treatment contributed the greatest proportion of variance in LDS scores. As such, hypothesis 1 was partly supported.

Mean scores for items of the organizational factors (Organizational Opportunities – Learning Climate, Organizational Constraints – Preferential Treatment, and Organizational Constraints – Negative Age Stereotypes) suggested neutral responses with respect to opportunities and constraints. However the majority of workers indicated that they engaged with learning and development goals at work, evidenced by agreement with the Individual Goal Engagement-Behavioral and Individual Goal Engagement-Cognitive constructs. Despite the claims of age discrimination in the literature, the participants disagreed that learning and development opportunities were disproportionately distributed according to age.

Hypothesis 2 was partly supported. Factor intercorrelations between Organizational Opportunities – Learning Climate and both Organizational Constraints – Preferential Treatment and Organizational Constraints – Negative Age Stereotypes were consistent with the pilot study. It was interesting that the individual goal engagement factors were strongly correlated with each other as they were in the pilot study, yet shared a differential pattern with organizational factors. Individual Goal Engagement – Behavioral was correlated with Organizational Opportunities – Learning Climate as it was in the pilot study. However Individual Goal Engagement – Cognitive was positively correlated with both organizational constraint factors, but not Organizational Opportunities – Learning Climate. While the link between Individual Goal Engagement – Behavioral and Organizational Opportunities – Learning Climate has considerable empirical support (eg Maurer, 2002; Kohn & Schooler, 1982), the link between Individual Goal Engagement – Cognitive and organizational constraints to development opposes previous findings

(Tones & Pillay, 2009) and seems to contradict literature. However, according to lifespan development psychology theory, cognitions serve to motivate action towards goals, however they are also used to fight distractions and obstacles to achievement in the face of environmental difficulties (Heckhausen et al, 2001). According to Billet and Van Woerkum (2006), mature aged workers may be required to capitalize on their own resources to create opportunities in the workplace due to limited opportunities as a result of age discrimination. As such, the positive association between cognitive resources and constraints to development may illustrate respondents' use of motivation and self confidence to persist in learning and development goals despite obstacles in the work environment.

Given the pivotal role of environment in work related learning and development, it was surprising that Organizational Opportunities – Work Tasks was not replicated. Although the factor did emerge in the current study, it consisted of two highly correlated items that did not reflect the breadth of the original construct. It is possible that opportunities for development due to work tasks are less stable than opportunities owing to the learning climate of the organization. As such, Organizational Opportunity – Work Task factor that emerged from the EFA conducted on survey data collected in April 2007 differed from the factor obtained from data collected in November 2007. The local government organization was also undergoing an amalgamation of several councils, which resulted in significant job losses and change, which may have contributed to the instability of this factor.

The other significant finding was the loss of the Individual Goal Selection and Individual Goal Disengagement factors. Goal selection features prominently in the meta-theory of SOC (Baltes & Freund, 2003) and developmental regulation via OPS (Poulin et al, 2005), so the loss of this factor was unexpected. However, in the

context of the workplace, the selection of learning and development goals may have been more driven by opportunities in the workplace rather than personal preferences. This is supported by the strength of the remaining organizational opportunity factor in its contribution of variance to LDS scores.

Explanation for the instability of Individual Goal Disengagement is more complex. One of the mechanisms of goal disengagement is externalizing failure to outside sources (Brandstadter & Greve, 1994). Therefore, the organizational constraint factors (Preferential Treatment and Negative Age Stereotyping) may also be measuring an individual's attempt to disengage from goals if they perceive constraints that don't actually exist. In addition, the goal disengagement process differs between the meta-theory of SOC, the dual process model of self regulation, and developmental regulation via OPS (Boerner & Jopp, 2007). Previous studies that have supported goal disengagement have also focused on loss of biological functioning, such as childbearing goals in mature women (Light & Issacowitz, 2006). As such, individual goal disengagement may be less relevant to work related learning. Cognitive abilities related to learned knowledge and verbal skills do not objectively decline until the seventh or eighth decade of life (Baltes & Baltes, 1990), and individuals who are capable of working are unlikely to possess severe cognitive deficits (Ilmarinen, 2006). Research by Settersten and Hagestad (1996) has also failed to show distinct social norms related to education and work goals.

Study 2

The second study investigates the construct validity of the refined LDS factors by exploring relationships between some key demographic and career related variables and the LDS. These variables include age and intention to retire, the

intention to obtain an educational qualification or higher level job within the organization, as well as the intention to change jobs within the same or another industry.

Age and Intention to Retire

Age is expected to influence individual engagement, as well as perceptions of opportunities and constraints at work. Younger workers participate in formal training and development more frequently than older workers (Australian Bureau of Statistics [ABS], 2005). However, engagement in informal learning activities is more difficult to quantify, and the literature suggests that age has limited or no impact in this respect (Livingstone & Snowe, 2007; Tikkanen et al, 2002). Despite this, perceptions of learning and development opportunities are likely to vary according to age. In her review of older workers and lifelong learning, Tikkanen (2006) notes that age stereotyping influences the social work environment, such that older workers' limitations may be focused upon rather than their strengths. Stereotypical beliefs may influence employer decisions, such that older workers are offered limited opportunities to learn and develop at work, or excluded from learning activities entirely (Maurer, Wrenn & Weiss, 2003). To compensate for and challenge the negative social stigma associated with age, Billett and van Woerkom (2006) theorise that the individual agency of older workers will enable them to better engage with learning experiences encountered via performing their jobs, obtain access to learning and development opportunities via self initiated social exchanges, and the development of a work identity that capitalises on their competence. For example, Van Veldhoven and Dorenbosch (2008) investigated developmental proactivity, defined as an active orientation towards learning and development via a survey of 619 older employees from 11 Dutch organizations. Age was found to be

independent of developmental proactivity and negatively associated with career opportunities.

Hypothesis 3. Mature aged workers will report fewer opportunities for learning and development at work (higher scores on organizational opportunity factors), and greater constraints to learning and development at work (lower scores on organizational constraint factors) compared to younger workers. Age will not affect engagement in learning and development activities at work (scores on individual goal engagement factors).

Most Australians intend to retire when they are financially secure or too ill to continue working (ABS, 2007), and this goal represents the extreme in reducing career involvement. Within local government, 97% of mature aged workers intend to remain employed under transitional employment arrangements (Pillay et al, 2008). It is expected that workers who intend to retire will report lower engagement in learning and development goals.

Hypothesis 4a: Mature workers will report closer retirement proximity than younger workers.

Hypothesis 4b: Proximity to intended retirement will be associated with higher scores on the Individual Goal Engagement – Behavioral and Individual Goal Engagement – Cognitive constructs.

Career Related Goals in Work Related Learning and Development

Two pairs of career related goals for work related learning and development will be investigated in terms of their relationship with R-LDS scores. The first pair is associated with career advancement within the individuals' current organization of employment, and includes obtaining an educational qualification or obtaining a higher level position. These goals are expected to be linked to agreement with individual engagement and opportunity factors. The next pair includes goals

associated with lateral career mobility, specifically changing jobs within one's current industry or a new industry. These goals are also expected to be linked to agreement organizational constraint constructs, as they represent seeking opportunities outside the organization.

Goals associated with career advancement within current organization.

Learning and development for career advancement generally occurs early in career before the age of 25 years (Illmarinen, 2006). While older workers continue to learn and develop, their investment in such activities may be lower, especially for formal activities (OECD, 2006). In local government, younger workers aged under 40 years were more interested in improving their qualifications than mature aged workers (Pillay, Kelly & Tones, 2006), although mature aged workers were also willing to learn and develop to prolong their employability (Pillay et al, 2008). Similarly, obtaining a higher level position at work was considered as an advancement goal, since mid career is considered to be characterized by gaining greater responsibility and autonomy in one's work (Noe et al, 1990).

Hypothesis 5a: Younger workers will be more likely than mature aged workers to report career advancement goals.

Hypothesis 5b: Employees who intend to obtain an educational qualification or a higher level job within the organization will report greater agreement with Organizational Opportunity – Learning Climate factor and lower scores on the individual goal engagement factors.

Goals linked to career change/ mobility outside organization (change jobs within the same or a different industry). The goal of changing jobs within the same or to a different industry may reflect a desire for more challenging work, greater opportunities for learning and development, or to overcome barriers to training and

development or other objectionable aspects of an individual's current work.

Intention to change jobs may occur at any age, as job mobility is high in the exploratory stage at the beginning of career (Noe et al, 1990), while mature aged workers may change careers at retirement to accept less demanding bridge or transitional employment (Pillay et al, 2006).

Hypothesis 6a: In addition to hypothesis 5a, employees who intend to obtain an educational qualification will report lower scores on the organizational constraint constructs.

Hypothesis 6b: Employees who intend to change jobs will report lower scores on the individual goal engagement and organizational constraint factors, and higher scores on the Organizational Opportunity – Learning Climate scores.

Method

Participants and Procedure

Participants from study one constituted the sample for study two.

Measures

The Revised Learning and Development Survey. The five factor, 21 item version of the R-LDS refined in study 1 was used in study 2.

Intention to Retire and Career related goals. Participants were asked to rate the five items (retire, obtain an educational qualification, obtain a higher level position at work, change jobs to a different industry, change jobs within the same industry) in terms of goal proximity. The scale ranged from “1-Yes, as soon as possible” to “5 – No, I don't plan to ever do this”.

Design and Analysis

First, a series of *t* tests for independent means was undertaken to evaluate age group differences for responses to the R-LDS and goal proximity questions. Second, correlational analysis was undertaken to determine intercorrelations between factors of the R-LDS for younger and mature aged workers, as well as relationships between the R-LDS and goal proximity.

Results

Descriptive statistics and associated *t* tests are shown in Table 3. Age had a significant impact on only one factor of the R-LDS, as mature aged workers were more likely than younger workers to perceive preferential treatment of learning opportunities due to age, although the effect size was small. Age also had a small impact on three goals, as mature workers reported closer proximity to retirement, while younger workers indicated closer proximity to goals related to career advancement within the organization. As such, hypothesis 3 was partially supported, as perceptions of opportunities or organizational constraints due to negative age stereotypes did not differ by age. Hypotheses 4a and 5a were both supported as the relationship between age and goal proximity was as expected.

INSERT TABLE 3 HERE

Intercorrelations between R-LDS scores for younger and older workers are shown in Table 4. The relationship between Organizational Constraints – Preferential Treatment and both Organizational Opportunities – Learning Climate and Organizational Constraints – Negative Age Stereotypes was stronger for mature aged workers compared to younger workers. As mature aged workers were more likely to agree with items on the Organizational Constraints – Preferential Treatment

scale, this may explain the stronger correlations. The correlation between both individual goal engagement factors was stronger for younger workers, and a significant correlation between Individual Goal Engagement – Behavioral and Organizational Opportunities – Learning Climate was significant for younger workers but not mature aged workers. By contrast, the correlation between Organizational Constraints – Preferential Treatment and Individual Goal Engagement – Cognitive was significant in the mature aged sample only. Taken together, these findings suggest that opportunities for learning and development are more likely to elicit engagement in learning behaviors amongst younger workers, or that younger workers are more likely to be given more opportunities following engagement. Also, younger workers may be more able to use their cognitive resources to support learning behaviors, while mature aged workers use their cognitive resources to overcome constraints to development.

INSERT TABLE 4 HERE

Lastly, correlations between R-LDS scores and goal proximity are listed in Table 5 for the entire sample, and for younger and mature aged workers. Proximity to retirement was negatively correlated with Individual Goal Engagement – Behavioral scores, which indicates that closer proximity to retirement is associated with lower engagement. Hypothesis 4b was supported. Partial support was obtained for hypothesis 5b, as intention to obtain a higher level job was linked to lower scores on the Individual Goal Engagement – Behavioral factor. The intention to obtain an educational qualification was associated with agreement with the individual goal engagement constructs, with the exception of Individual Goal Engagement –

Behavioral for younger workers. Hypothesis 6a was not supported as intention to obtain an educational qualification was not associated with constraints within the workplace. Support for hypothesis 6b was weak, as intention to change jobs was more strongly associated with disagreement with the Organizational Opportunity – Learning Climate factor in the mature age sample compared to the data set as a whole. In addition, intention to change jobs within the same industry was linked to agreement with items on the Organizational Constraints – Negative Age Stereotypes factor for mature aged workers, and the whole sample to a lesser extent.

INSERT TABLE 5 HERE

Discussion

In the current study, age was found to be a determinant of career goals and work related learning and development behaviors and cognitions. Mature aged workers reported more neutral age specific preferential treatment with respect to learning and development opportunities more than younger workers, who disagreed with these items. As a possible result, preferential treatment was more strongly associated with negative stereotyping and a lack of learning opportunities for mature aged workers compared to younger workers. This suggests that consistent with prior research (Nagele & Walker, 2006; Loretto & White, 2006; Tougas et al, 2004), mature aged workers are more likely to be discriminated against in the workplace with respect to learning and development compared to younger workers. However, younger and mature aged workers did not differ in their perceptions of opportunities or stereotyping, or individual goal engagement as measured by the R-LDS.

The findings with respect to links between opportunities, constraints and individual goal engagement were age specific. For mature workers, they suggest that personal agency is used to overcome potential discrimination, as Billet and Van Woerkom (2006) and Van Veldenhoven and Dorenbosch (2008) have suggested earlier. For older workers, Individual Goal Engagement – Cognitive was positively correlated with Organizational Constraints – Preferential Treatment. That is, the more older workers perceived preferential treatment for younger workers with respect to learning and development opportunities, the more likely they were to agree that they were motivated and able to complete learning and development goals. From a lifespan development perspective, this suggests a compensatory strategy, whereby individuals use personal resources to fight external difficulties. This phenomenon is described as compensation by Baltes and Baltes (1990), assimilation by Brandtstadter and Rothermund (2002), and compensatory primary control by Heckhausen (2001). For younger workers, there was a small positive correlation between Individual Goal Engagement – Behavioral and Organizational Opportunities – Learning Climate. This finding suggests that learning and development opportunities are more appropriate to younger workers, or that opportunities are more likely to be distributed to younger workers, as the link between age and constraints due to preferential treatment would suggest.

All career goals were found to be correlates of the R-LDS in the current study, with age specific findings. The intention to change jobs was more strongly related to a perceived lack of opportunity and presence of constraints for mature aged workers compared to the sample as a whole. This suggests that mature aged workers who are not provided with opportunities to learn and development will seek these opportunities elsewhere. In addition, a stronger link between behavioral engagement

and an intention to obtain an educational qualification was noted for mature aged workers compared to the entire sample. It is possible that studying provides a learning opportunity to mature aged workers who may be less likely to find such opportunities in the workplace. Like the link between cognitive engagement and preferential treatment noted above, behavioral engagement and intent to obtain a qualification may also be an example of compensatory strategies (Boerner & Jopp, 2007). Intention to obtain an educational qualification was linked to cognitive engagement in both age groups, possibly due to the lengthy commitment that study entails. In both age groups, behavioral engagement was linked to an intention to obtain a higher level job.

General Discussion

Limitations. The sample size was quite small, despite several attempts to collect more data from the organization. As a possible result, the outcomes of the EFA conducted in study one may have been context specific and influenced the lack of stability of some factors of the R-LDS.

Implications and Conclusions. The findings of study one illustrated that five of the eight factors of the R-LDS were reliable and stable indicators of engagement in learning and development goals at work, and perceptions of opportunities and constraints for work. More importantly, some potentially important age specific relationships between career related goals and engagement in learning and development activities, as well as perceptions of opportunities and constraints for development at work were found. For younger workers, these findings suggest that employees perceive opportunities to learn and develop, which they engage in, possibly with a view to a higher level position at work.

The story for mature aged workers is more complex. While mature aged workers viewed retirement as closer in proximity compared to younger workers, this did not make them less engaged in learning and development goals. In fact, behavioral engagement was associated with an intention to obtain an educational qualification. Preferential treatment with respect to younger workers and developmental opportunities was more likely to be reported by mature aged workers, although they appeared to utilize cognitive engagement to overcome potential discrimination. In addition, older workers who perceived limited opportunities and negative stereotyping with respect to learning and development at work sought jobs outside the organization. In sum, older workers used their cognitive resources possibly to maintain behavioral engagement and create opportunities for themselves in light of preferential treatment of younger workers. If they perceived fewer opportunities and age stereotyping, they were motivated to make a lateral career move outside the organization.

This study builds upon previous work by the authors (Tones & Pillay, 2007; Tones & Pillay, 2008), and contributes to the emerging literature on lifespan developmental psychology in the workplace (Robson & Hansson, 2007). In particular, the data highlights that mature aged workers may be vulnerable to neglect of their learning and development needs, as well as the potential consequences of an absence of learning and development opportunities for mature workers and the organizations in which they are employed. In light of the ageing workforce and potential for early retirement amongst baby boomers, workforce retention will become an increasingly significant issue for organizations. It is therefore in the organization's best interest to obtain an understanding of demographic profiles in the workplace, including career goals and other information which may impact upon the

employee's engagement with and perception of the workplace. Future studies could expand upon the current study to investigate the relationship between additional demographic and career goals variables and R-LDS scores, and employee turnover or retirement.

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Figure 1. *The Model of Adaptive Development for Work Related Learning.*

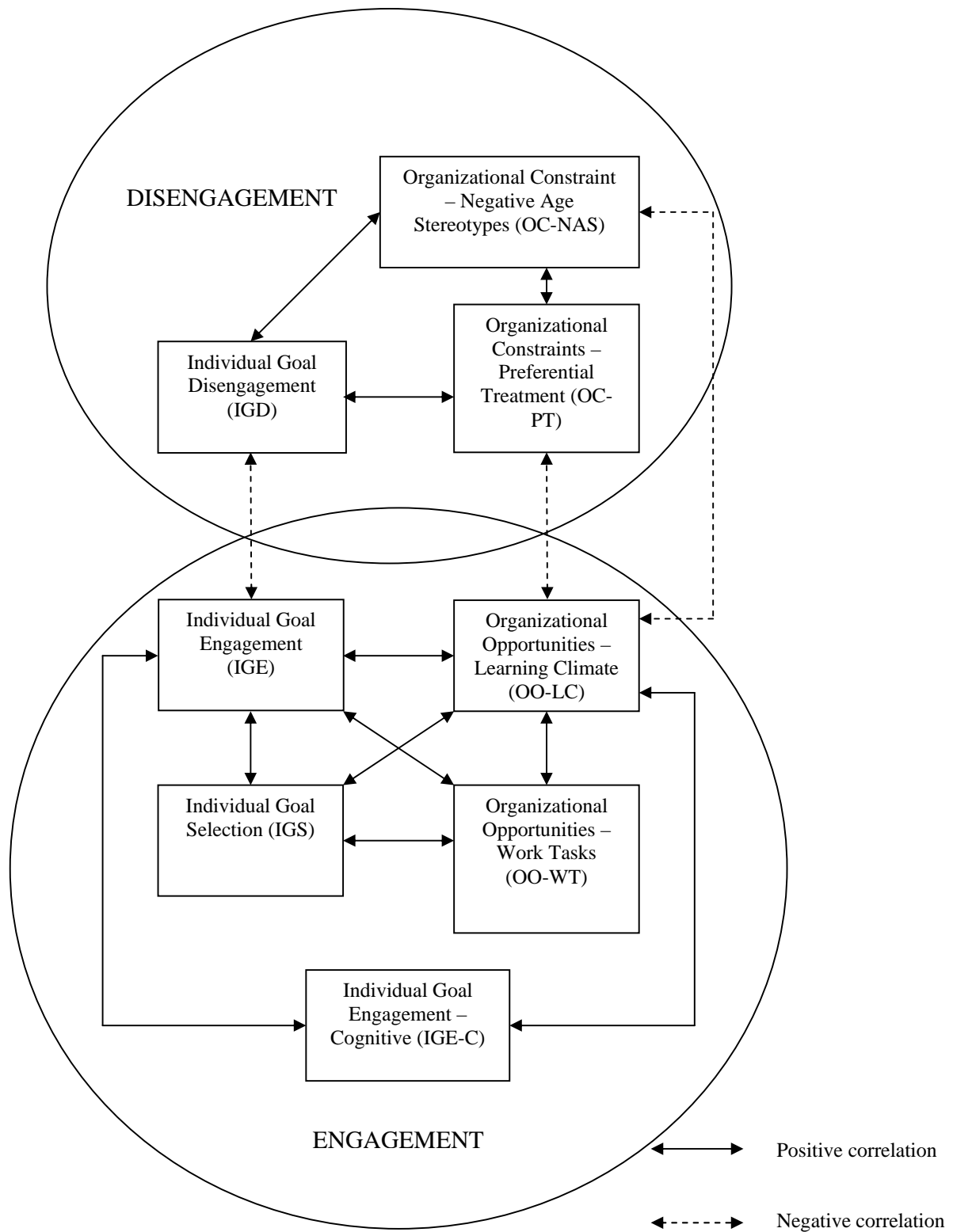


Table 1

Factor Analysis of the Learning and Development Survey

Items	Pattern Coefficients
Organizational Opportunities – Learning Climate (7 items, $\alpha=.907$)	
Eigenvalue (percentage of variance explained)	8.327 (22.50%)
OGS1 - My workplace provides job opportunities that are appropriate for me.	.782
OGS3 - My workplace provides learning and development opportunities that meet my needs	.895
OGS7 - My workplace helps me to decide which skills to improve.	.672
OGS10 - In my workplace, learning and development activities are designed to develop a range of skills.	.820
OGS12 - My workplace is willing to change learning and development activities to suit my needs.	.846
OGE13 - In my workplace, I can get help when my job becomes difficult.	.530
OGE14 - In my workplace, I have the opportunity to participate in training.	.716
Individual Goal Engagement (4 items, $\alpha=.845$)	
Eigenvalue (percentage of variance explained)	6.091 (16.46%)
IGE1 - I am willing to work hard at developing new work skills.	.722
IGE2 - I try to obtain challenging jobs in order to develop my skills.	.629
IGE3 - If training and development opportunities are available within my workplace, I will participate in them.	.854
IGE5 - I design better ways of doing my job when it becomes challenging.	.649
Organizational Constraints – Preferential Treatment (5 items, $\alpha=.855$)	
Eigenvalue (percentage of variance explained)	2.273 (6.14%)
OGD1 - In my workplace, older workers are encouraged to retire.	.838
OGD2 - Older workers are not offered training and development in my workplace.	.693
OGD3 - In my workplace, knowledge of the latest technologies is valued over direct industry experience.	.625
OGD5 - In my workplace, younger workers are considered to be more competent than older workers.	.824
OGD7 - In my workplace, I have been given fewer learning and development opportunities as I get older.	.545
Individual Goal Engagement – Cognitive (3 items, $\alpha=.820$)	
Eigenvalue (percentage of variance explained)	2.071 (5.60%)
IGE13 - I have the ability to achieve my learning and development goals.	.439
IGE15 - I stay focused on my learning and development goals.	.793
IGE16 - When I have set a learning and development goal for myself, I am confident that I will achieve it.	.668
IGE17 - When I have decided on a learning and development goal, I avoid distractions.	.779
Organizational Constraints – Negative Age Stereotyping (3 items, $\alpha=.803$)	
Eigenvalue (percentage of variance explained)	1.258 (3.40%)
OGD6 – In my workplace, older workers are thought to dislike change.	.540
OGD11 – In my workplace, older workers are thought to be unwilling to learn.	.996

Table 2

Descriptives and Inter-factor Correlations

	OO-LC	IGE-B	OC-PT	IGE-C	OC-NAS
Mean	19.9477	6.5799	19.7406	8.8558	6.8268
Std. Deviation	6.16302	2.66426	3.78086	3.14834	2.09150
Skewness	-.093	.771	-1.533	.281	-.721
Kurtosis	-.293	-.529	3.493	-.799	-.116
Minimum	7.00 (2.2%)	4.00 (34.3%)	5.00 (0.7%)	4.00 (7.3%)	2.00 (5.8%)
Maximum	35.00 (0.7%)	14.00 (0.7%)	25.00 (3.6%)	17.00 (0.7%)	10.00 (5.8%)
OO-LC	1.000				
IGE-B	.196*	1.000			
OC-PT	-.498**	.001	1.000		
IGE-C	.109	.513**	.228**	1.000	
OC-NAS	-.443**	.098	.512**	.220*	1.000

Table 3

Descriptive Statistics and t-tests for Independent Means

Learning and Development Survey	Younger Workers	Mature Workers	<i>t</i>	<i>d</i>
Organizational Opportunities – Learning Climate	19.10 (6.15)	21.10 (6.04)	-1.899	0.16
Individual Goal Engagement – Behavioral	6.46 (2.76)	6.74 (2.54)	-.618	0.05
Individual Goal Engagement – Cognitive	8.83 (3.12)	8.89 (3.21)	-.117	0.01
Organizational Constraints – Preferential Treatment	20.47 (2.62)	18.74 (4.79)	2.694**	0.23
Organizational Constraints – Negative Age Stereotypes	7.00 (2.02)	6.59 (2.18)	1.120	0.10
Goal Proximity				
Retire	3.78 (0.88)	3.33 (1.01)	2.700**	0.23
Change jobs in the same industry	2.97 (1.10)	3.33 (1.31)	-1.675	0.14
Obtain an educational qualification	2.83 (1.28)	3.59 (1.52)	-3.112**	0.27
Change jobs to a different industry	3.83 (1.05)	4.00 (1.18)	-.864	0.07
Obtain a higher level position at work	2.26 (1.16)	2.88 (1.50)	-2.608**	0.22

Table 4

	OO-LC	IGE-B	IGE-C	OC-PT	OC-NAS
OO-LC	1	.178	.235	-.549**	-.438**
IGE-B	.222*	1	.449**	.138	.111
IGE-C	.057	.590**	1	.274*	.213
OC-PT	-.375**	-.130	.216	1	.664**
OC-NAS	-.436**	.036	.201	.332**	1

Note: Upper diagonal – mature aged; Lower diagonal – younger workers

Table 5

	Organizational Opportunities			Individual Goal Engagement - Behavioral			Individual Goal Engagement - Cognitive			Organizational Constraints – Preferential Treatment			Organizational Constraints – Negative Age Stereotypes		
	All	<45	>45	All	<45	>45	All	<45	>45	All	<45	>45	All	<45	>45
Retire	-.136	-.049	-.166	-.209*	-.213	-.183	-.130	-.118	-.136	.088	-.068	.107	.050	.043	.012
Change jobs in the same industry	-.152	-.101	-.284*	.148	.132	.155	.023	.143	-.117	.125	.044	.248	.197*	.085	.353**
Obtain an educational qualification	.029	-.021	-.005	.192*	.095	.305*	.305**	.305**	.326*	.106	.081	.245	.052	-.042	.212
Change jobs to a different industry	-.203*	-.167	-.291*	.085	.042	.134	.119	.144	.089	.065	.096	.082	-.012	-.062	.059
Obtain a higher level position at work	-.084	-.085	-.172	.347**	.311**	.395**	.128	.184	.071	.014	-.083	.159	.067	.090	.095