

Department of Management, Monash University, and Australian Institute of Management (QLD/NT)

Research Report: The Impact of Age on Managerial Style

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Background

Researchers from the Department of Management, Faculty of Business and Economics, Monash University, in collaboration with the Australian Institute of Management (Queensland and Northern Territory) and with support from TestGrid Pty Ltd and Genos Pty Ltd, conducted an exploratory study of the impact of age on managerial style.

Why is this study important?

Australia's population is ageing at one of the highest rates among all OECD nations (Jacobzone et al, 1998). The proportion of workers classed as "mature age", that is, aged 45-64 years, increased from 24% in 1983 to 32% in 2003 (ABS Labour Force Survey, 2003). The ageing population is an issue of national significance, and in response, in recent years the Productivity Commission established a task force to forecast the economic impact on Australia. That task force cited studies showing that employee productivity declines as workers enter the "mature age" category. This issue particularly relates to managers, with mature age workers comprising over 50% of the country's General Managers and Administrators (ABS 2001 Census of Population and Housing).

Studies showing that individuals' productivity peaks around the age 30-40, after which it declines, focus on individual outputs such as research publications (e.g. Lehman, 1953; Simonton, 1997). These studies fail to capture the major role of managers, which is to be instrumental in the productivity of others. A study by Pirola-Merlo et al (2002) found that team managers' leadership styles significantly impacted on R&D team performance, but this impact was mediated via effective team processes. Thus, evidence of a decline in productivity with age does not necessarily mean that older managers perform less well. Accordingly, the impact of age on managers' ability to facilitate others' performance needs to be examined.

Effective managers have a large impact on organizational performance, in terms of both financial performance and organizational climate (e.g. Howell & Avolio, 1993; Yammarino, Spangler & Bass, 1993). For example, Koene, Vogelaar & Soeters (2002), in a study of over 2000 employees from 50 supermarket stores, found that leadership style significantly predicted store climate and financial performance. Given the shift towards an older workforce, and the pivotal role of managers within that workforce, it is important to understand how managerial effectiveness is affected by age.

Theoretical Framework

In addition to the age of managers, this study incorporated a number of additional manager characteristics as predictor variables. These fell under three broad categories:

- Problem solving ability (intelligence)
- Emotional intelligence
- Leadership style

The extent to which these characteristics impacted on manager effectiveness was examined, with effectiveness measures being drawn from subordinates' evaluations of them. The following categories of effectiveness dimensions were examined:

- Managerial competencies
- Subordinate psychological capital
- Subordinate emotional well-being

The specific hypotheses tested in this study were developed through a review of previous research that has examined these dimensions. A summary of that research and the hypotheses themselves is presented below.

Age and Problem Solving Ability

According to Cattell's (1941; 1987) Investment Theory, fluid intelligence (an individual's largely inherited basic reasoning ability) declines throughout adulthood, while crystallized intelligence (an individual's mental abilities learned through applying fluid intelligence to culturally valued skills) increases throughout an individual's productive life. There is a growing body of empirical evidence that demonstrates these age-related changes (c.f. Ghisletta & Lindenberger, 2004; McArdle, Ferrer-Caja, Hamagami & Woodcock, 2002). Although there is a great deal of variation between individuals in intelligence levels, the research suggests that as individuals age, there will be a general trend towards improvement in ability to solve familiar types of problems (crystallized intelligence), and concurrent decreases in ability to solve novel or unusual types of problems (fluid intelligence).

Hypothesis 1: Older managers will have higher crystallized intelligence and lower fluid intelligence than younger managers.

Hypothesis 2. Managers' problem solving ability (fluid and crystallized intelligence) will be positively associated with evaluations of their managerial competencies.

The Impact of Age on Emotional Intelligence, Leadership Style, and Managerial Effectiveness

Managers' ability to influence employees is determined to a large extent by their interpersonal style.

There is some evidence that personality changes with age may cause a decline in certain aspects of interpersonal effectiveness. Von Hippel, Silver & Lynch (2000) found that changes in a cognitive function called *inhibitory ability* result in older persons being less able to censor their thoughts and to speak or behave in socially appropriate ways. This loss of inhibitory ability may result in less social sensitivity and hence fewer effective attempts to influence others. More specifically, it may lead to a more directive or transactional leadership style, and to less of an influencing or transformational leadership style. Von Hippel et al's (2000) findings are also consistent with evidence from the largest published longitudinal study of age-related changes in managerial performance: Howard & Bray (1988) reported results from a longitudinal study of several thousand managers spanning 20 years. This study also showed an interesting pattern of change in ability test results: over time managers increased in measures related to crystallised intelligence, critical thinking, awareness of contemporary affairs, and verbal ability.

To summarise, there is evidence that age has both benefits and disadvantages for the performance of managers. On the positive side, ageing results in greater practical intelligence, knowledge and skill (crystallised intelligence) and the development of admirable character traits that increase interpersonal effectiveness; on the negative side, ageing is associated with a decline in ability to deal with novel problems or situations, and also a decline in inhibitory ability, which may diminish interpersonal effectiveness.

Hypothesis 3. Older managers will be higher on transactional leadership and lower on transformational leadership as a form of interpersonal effectiveness.

Managers who use transformational leadership behaviors are more likely to have higher levels of emotional intelligence and be more interpersonal and empathetic in their orientation (Prati, McMillan-Capehart, and Karriker, 2009; Sosik and Megerian, 1999). Leaders who present higher levels of emotional intelligence – specifically, the ability to perceive and appraise the emotions of oneself and others, facilitate thought toward goals using emotion, understand emotions and how they originate, and regulate emotional thought (Mayer and Salovey, 1997) – not only experience higher levels of job satisfaction and effectiveness (Barling, Slater and Kelloway, 2000; Bass, 2000), but also positively influence the work experiences of their colleagues and subordinates (Chrusciel, 2006). However, the research on leadership and emotional intelligence suggests the opposite to these findings. Salovey and Mayer's (1990) early and subsequent research (Mayer, Salovey and Caruso, 2002) on emotional intelligence as a sub-set of social intelligence found that it correlated with leader and organizational outcomes. Emotional intelligence has also been associated with transformational leadership (Barling, Slater and Kelloway, 2000; Leban and Zulauf, 2004), with findings that leaders who score high on emotional intelligence were perceived by followers as exhibiting more transformational leadership behaviors (Gardner and Stough, 2002; Hur, van den Berg, and Wilderom, 2011). Because emotional intelligence improves with age and experience (Baron, 1997), and because emotional intelligence is associated with more transformational leaders (Gardner and Stough, 2002; Humphrey, 2002), it follows that older leaders will be higher on emotional intelligence as well as on transformational leadership.

Hypothesis 4. Older managers will be higher on emotional intelligence.

Goleman, Boyatzis and McKee (2002) assert that the effective use of emotion is basic to successful leadership (Prati et al., 2009). A form of positive affectivity with work is psychological capital, which manifests itself in expressions of hope, optimism, resilience, and self-efficacy. Leader emotional intelligence is perceived by employees as an indication of leader effectiveness (Rosete and Ciarrochi, 2005). Therefore, employees should feel more engaged with leaders of higher emotional intelligence and record higher levels of psychological capital. Research has linked psychological capital (PsyCap) to several desired outcomes, such as favourable work attitudes and proficient job performance (see Luthans et al., 2007; Luthans, Avey, Avolio, Norman & Combs, 2006), with the followers of leaders who exhibit PsyCap demonstrating positive attitudes and performance (e.g., Luthans, Avey, Avolio, Norman, & Combs, 2006).

Hypothesis 5. Transactional leadership will be negatively associated with subordinate emotional well-being and psychological capital.

Hypothesis 6. Transformational leadership will be positively associated with subordinate emotional well-being and psychological capital.

Hypothesis 7. Emotional intelligence will be positively associated with subordinates' emotional well-being and psychological capital.

The theoretical framework and hypotheses tested in the study are shown in Figure 1 below.

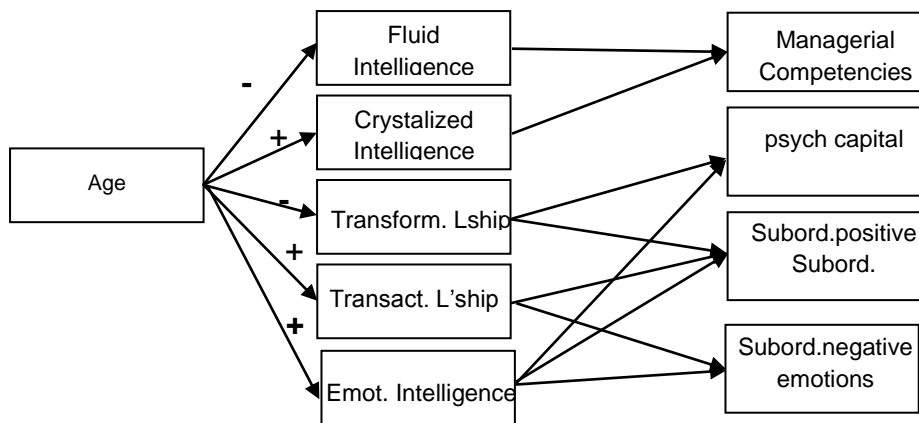


Figure 1. Conceptual Framework of the Study

Research Design

Data were collected through four online surveys hosted by TestGrid (Melbourne). The sample consisted of managers living and working in Australia who had at least three direct reports. The Australian Institute of Management (AIM) Queensland and Northern Territory branch invited their members to participate through direct email and through a promotion in their newsletter. The newsletter and email gave a link to an AIM website page giving full details of the study and interested managers were invited to register their interest. This was done by completing a brief online form (hosted by Monash University) consisting of demographic questions.

The four online surveys were:

- Three surveys for managers to complete:
 - Two timed intelligence tests (crystalized and fluid intelligence)
 - One survey on managerial effectiveness
- One survey for direct reports to complete

As an incentive to participate, managers who completed all surveys and who had at least three direct reports complete surveys were offered a feedback report. This report integrated responses from their self-assessment surveys, together with aggregated responses from their direct reports. Managers were not informed which of their direct reports had completed surveys.

To connect the direct report surveys to the correct manager, individual usernames and passwords for both managers and direct reports were generated. All interested managers received a link to the survey with their individual login details. They were also provided with invitations to give to all their direct reports. Direct reports who wished to participate then emailed the researchers directly quoting only their manager's username. Login details with the survey link were then sent to them by return email.

Method

Instrumentation

Fluid and crystallized intelligence

(Manager self)

Fluid intelligence

APTS Abstract reasoning Section 1 (timed test - 15 minutes) – All 20 items involve abstract figures. Participants are required to identify the rules or principles governing a series of figures in order to accurately predict the next item, or to identify missing parts of a figure. This test shows a participant's ability to learn quickly, demonstrate problem solving skills and think of novel/creative ideas.

Crystallized intelligence

The ACER ML (mid-level) (timed test – 15 minutes) contains 34 items, consisting of verbal analogies, vocabulary, similarities and verbal reasoning. These mid-level tests are suitable for professionals, managers and supervisors.

The above tests, both published by the Australian Council for Educational Research (ACER), were administered online by TestGrid Pty Ltd, who supported this research study. Both are timed tests of 15 minutes each. Percentile scores (as provided by TestGrid and calculated against their sample of managers) were used in analyses. These tests are commercially available (see www.testgrid.com).

Leadership TLS

(Manager self-report and assessed by direct reports)

This multi-dimensional scale, developed by Podsakoff, Mackenzie, Moorman, and Fetter (1990), measures the extent to which leaders articulate a vision, provide appropriate role modeling, foster acceptance of goals, demonstrate high performance expectations, offer individual support and provide intellectual stimulation. The scale comprises 23 items which are rated on a 7-point scale (1 = "strongly disagree" to 7 = "strongly agree"). Example items from each of the six subscales are: "have a clear understanding of where we are going" (articulates a vision); "lead by doing rather than telling" (provides appropriate role model); "foster collaboration among work groups" (fosters the acceptance of goals); "insist on only the best performance" (high performance expectations); "show respect for others' personal feelings" (provides individual support); and "challenge others to think about problems in new ways" (intellectual stimulation). This scale was completed by both leaders and their direct reports. Reliabilities for this instrument range from .86 to .93

Emotional Intelligence (EI)

(Manager self-report)

The Genos EI inventory – Concise (Palmer, Stough, Hamer, & Gignac (2009); Gignac (2010)) consists of 31 items designed to measure a total EI score as well as seven sub-scale scores (Emotional Self-Awareness (ESA), Emotional Expression (EE) Emotional Awareness of Others (EAO), Emotional Reasoning (ER), Emotional Self-Management (ESM), Emotional Management of Others (EMO), Emotional Self-Control (ESC)). This paper uses the total EI score in the analyses. Participants were asked to “click on the number that is most indicative of the way you **typically** think, feel and act at work, using a 5-point response scale (1=Almost never, 2=Seldom, 3=Sometimes, 4=Usually, 5=Almost always)

The Genos EI Inventory – Concise is available from Genos Pty Ltd (see <http://www.genosinternational.com/emotional-intelligence>) . This measure is commercially available from Genos Pty Ltd. It is also made available for research by requesting permission from Genos Pty Ltd.

Managerial competencies.

(Manager assessed by direct reports)

This measure was developed by Pirola-Merlo (2007) based on the nine dimensions identified by Tett, Guterman, Bleier & Murphy (2000):

1. Traditional Functions - (11 items) e.g. “ Problem awareness -identify situations that may require action in order to ensure success” (alpha=0.90)
2. Task Orientation - (5 items) e.g. “Task focus- stay on task despite complexity and/or ambiguity” (alpha=0.88)
3. Person Orientation - (6 items) e.g. “Compassion- am genuinely concerned about the welfare of others” (alpha=0.83)
4. Dependability - (4 items) e.g. “Orderliness- keep my physical work environment very organized” (alpha=0.81)
5. Open Mindedness -(4 items) e.g. “Appreciates differences - value judgements different from my own “(alpha=0.86)
6. Emotional Control - (2 items) e.g. “Stress management - deal effectively with job-related stress” (alpha=0.79)
7. Communication- (4 items) e.g. “Listening skills - actively attend to what others are saying” (alpha=0.81)
8. Developing Others - (2 items) “Developmental goal setting -work individually with subordinates to set objectives for their career advancement” (alpha=0.92)
9. Occupational Acumen - (4 items) e.g. “Quantity concern - work to meet or exceed organizational quotas” ((alpha=0.77)

Items were measured on 5- point scale (1= “Extremely poorly to 5 = Extremely well) , plus a “not applicable” option.

Psychological capital

(Manager and direct reports –self-report)

PsyCap (Luthans, Avolio, Avey, & Norman, 2006; Luthans et al, 2007) is a four dimensional scale measuring the extent to which individuals exhibit self-efficacy, hope, resilience, and optimism. Self-efficacy has been defined as an individual's confidence regarding his or her ability to mobilize the personal resources necessary to execute a specific task. Hope involves the agency and motivational energy to pursue a goal as well as the capacity to identify pathways to that goal. Resilience is the capacity to rebound from adversity, uncertainty, conflict, or change. Optimism is the capacity to make internal, stable, and global attributions regarding positive events. The scale consists of 24 items which are rated on a 6-point scale (1 = "strongly disagree" to 6 = "strongly agree"). Example items from each of the four subscales include: "I feel confident presenting information to a group of colleagues" (self-efficacy); "There are lots of ways around any problem" (hope); "I usually take stressful things at work in my stride" (resilience); and "I always look on the bright side of things regarding my job" (optimism). This scale was completed by leaders. Reliabilities for PsyCap range from 0.71 to 0.89.

Employee wellbeing (positive and negative emotions)

(Direct reports – self-report)

Employee wellbeing was measured by the PANAS, a 20 item measure (10 items for each of positive and negative affect) by Watson, Clark and Tellegen (1988). Two extra items were added by Pirola-Merlo, making 22 in total. Participants were asked "to what extent you have felt this way during the past month at work" (e.g. "Interested", "upset". Responses were on a 5-point scale (1= Very slightly or not at all, 2=A little, 3=Moderately, 4=Quite a bit, 5=Extremely) Reliabilities were 0.88 to 0.92.

Sample and Demographics

AIM (Qld & NT) invited their members to participate and registrations of interest were received from 116 Australian managers:

- 62 managers went on to complete at least one of the manager surveys
- 55 managers completed all three manager surveys
- 45 managers completed all three surveys and had at least one direct report complete the survey.
- 36 manager feedback reports were sent out (criteria for report was manager completed all three surveys and at least three direct reports completed survey)

The results section in this paper shows variable sample sizes, depending on which part of the sample had data suitable for the analysis.

Sample profile (N=116)

- *Gender*

53% female and 47% male

- *Age*

Majority of managers were between 31-40 (31%) and 41-50 (34%) years of age. There were 15% under 30 and 21% in the 51+ years age group.

- *Industry*

32 in Health and Community Services (28%)

14 in Education (12%)

13 in Communication Services (11%)

9 in Property and Business Services (8%)

9 in Government Administration and Defence (8%)

8 in Manufacturing (7%)

7 in Finance and Insurance (6%)

6 in Retail Trade (5%)

6 in Personal and Other Services (5%)

- *Number of direct reports*

Number of direct reports varied from 1 to 17, with the median number being 7.

- *Number of years of management experience*

Number of years of management experience varied from 1 through to 30 yrs experience. Median number was 8 yrs.

Subset (N=62: managers who completed at least one of the three manager surveys)

- *Gender*

52% female and 48% male

- *Age*

Majority of managers were between 31-40 (37%) and 41-50 (34%) years of age. There were 11% under 30 and 18% in the 51+ years age group.

- *Industry*

- 16 in Health and Community Services (26%)
- 9 in Government Administration and Defence (15%)
- 8 in Property and Business services (13%)
- 6 in Education (10%)
- 9 in Property and Business Services (8%)
- 5 in Manufacturing (8%)
- 4 in Finance and Insurance (7%)
- 4 in Communication Services (5%)
- 3 in Retail Trade (5%)

- *Number of direct reports*

Number of direct reports varied from 1 to 17, with the median number being 7.

- *Number of years of management experience*

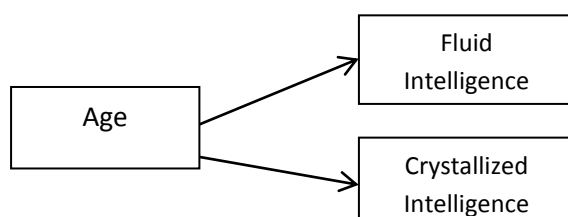
Number of years of management experience varied from 1 through to 30 yrs experience. Median number was 7 yrs.

Results

Although our sample was small (n=116 managers), we managed to obtain 45 matched sets of manager-and-subordinates data to help us verify the results. This sample was large enough for us to confidently detect differences between younger and older managers of around 9% or larger. Most of the older-younger manager comparisons were not statistically significant, indicating that either these two groups are not really different, despite common belief, or that any differences are relatively small (less than 9% magnitude).

Hypothesis 1: Older managers will have higher crystallized intelligence and lower fluid intelligence than younger managers.

Hypothesis 1 relates to this section of the model:



There was no statistically significant difference in crystallized intelligence in managers across the four age groups ($F(3, 57) = 0.941$) (see Figure 2 below). This statistical result is due to the variation in crystallized intelligence rankings within each age group.

A note about the scoring of manager intelligence tests: Percentile ranks were used to represent manager intelligence scores. These percentile rankings were provided by TestGrid and calculated against their sample of managers. That is, the scores were “norm-referenced”. For example, a percentile rank of 65 means that the score was higher than 65% of the others in the sample.

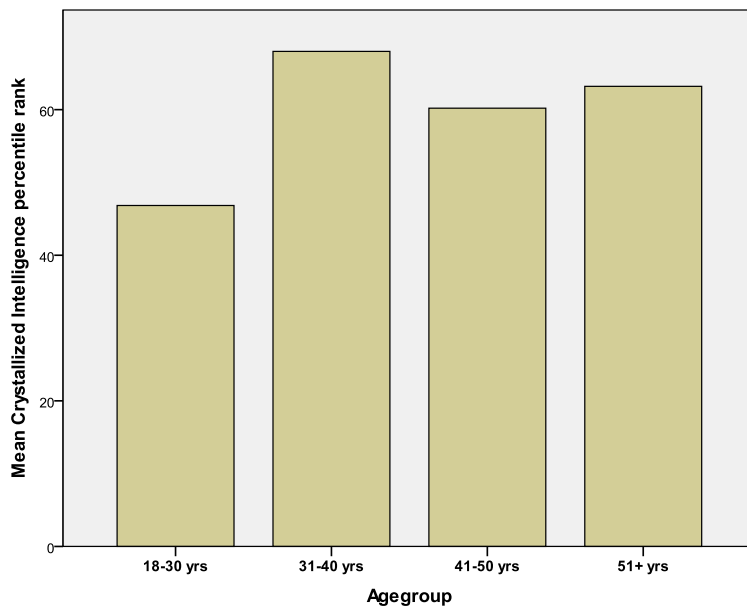


Figure 2 Mean crystallized intelligence percentile rank results for each age group of manager ($n=58$)

There were also no significant differences in manager fluid intelligence across the four age groups ($F(3,55) = 0.609, p=0.612$). However, as can be seen from Figure 3 below, fluid intelligence does decline dramatically with age on average. This statistical result is once again due to the variation in crystallized intelligence rankings within each age group

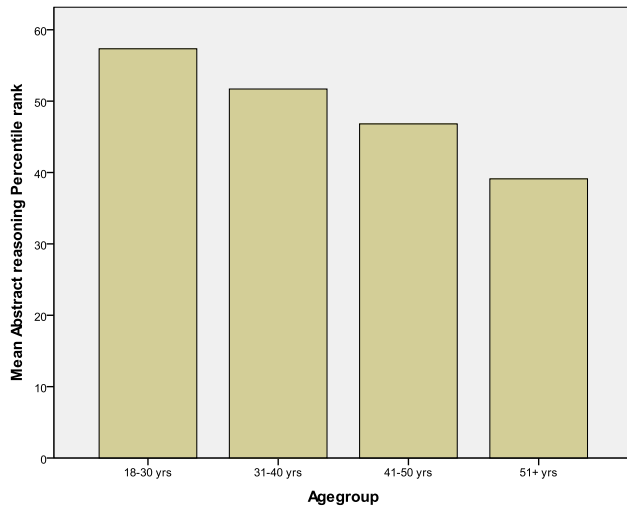
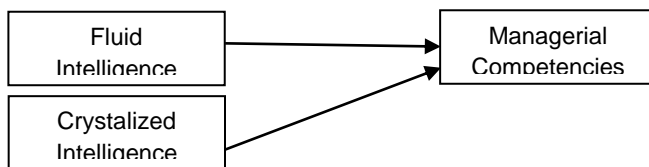


Figure 3 Mean fluid intelligence percentile rank results for each age group of manager (n=56)

Hypothesis 2. Managers' problem solving ability (fluid and crystalized intelligence) will be positively associated with evaluations of their managerial competencies.

Hypothesis 2 relates to this section of the model:



As shown in Table 1 there was no statistically significant association between manager intelligence (either fluid or crystalized) and his/her managerial effectiveness.

Table 1 *Correlations of manager intelligence variables and the outcome variables of managerial competencies*

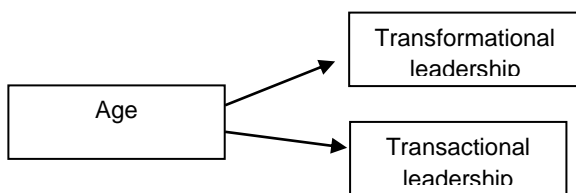
<i>DR assessment of manager</i>	<i>Manager self-report</i>	
Managerial Competencies	IQ crystalized (percentile rank)	IQ fluid (percentile rank)
Traditional functions	-0.02	0.18
Task orientation	0.07	0.27
Person orientation	0.09	0.09
Dependability	0.17	0.19
Open mindedness	0.18	0.12
Emotional control	0.24	0.16
Communication	0.16	0.15
Developing others	0.10	0.10
Occupational Acumen	0.11	0.23
Performance	0.15	0.13
Comparison	0.04	0.20

N=45

No significant correlations

Hypothesis 3. Older managers will be higher on transactional leadership and lower on transformational leadership as a form of interpersonal effectiveness.

Hypothesis 3 relates to this section of the model:



There was no statistically significant difference in transformational leadership scores among the four age groups ($F(3, 54) = 0.965, p=0.416$) (see Figure 4 below).

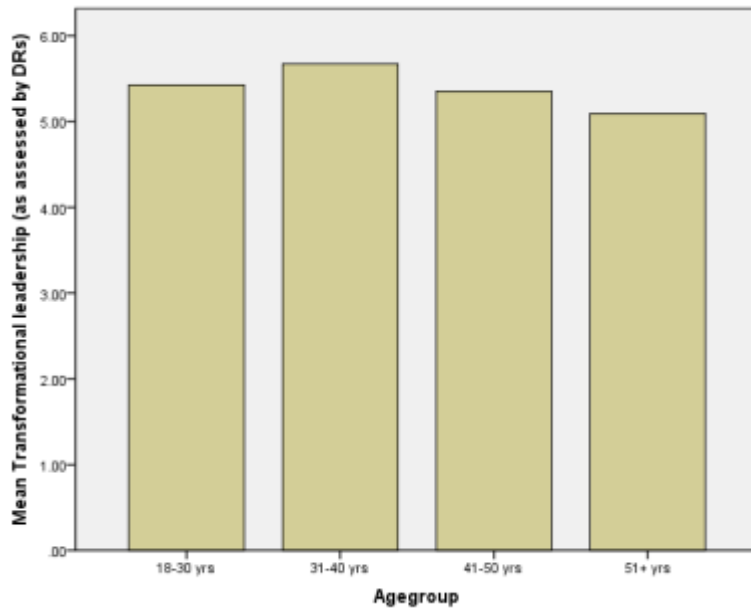


Figure 4 Mean transformational leadership (as assessed by DRs) for each age group of manager (n=55)

This hypothesis was also not supported for transactional leadership. There was no statistically significant difference in transactional leadership scores across the four age groups ($F(3, 54) = 0.572$, $p=0.636$) (see Figure 5 below).

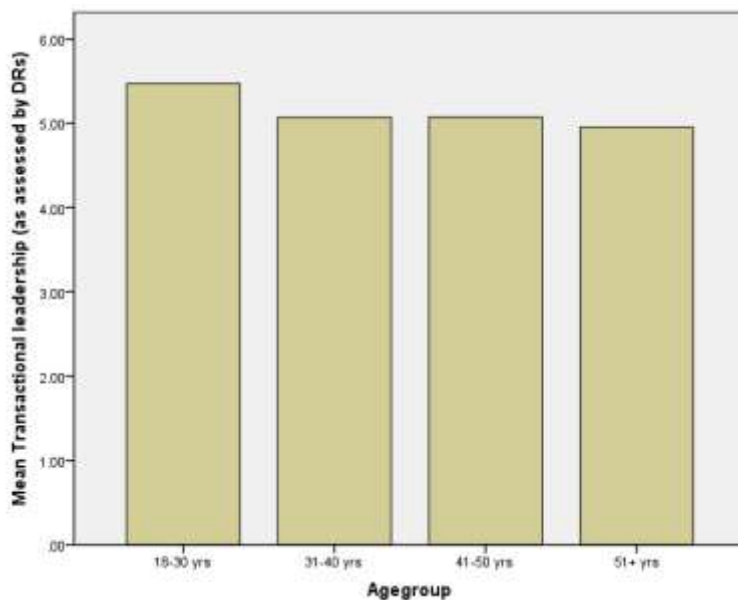


Figure 5 Mean transactional leadership (as assessed by DRs) for each age group of manager (n=55)

Hypothesis 4. Older managers will be higher on emotional intelligence.

Hypothesis 4 relates to this section of the model:



This hypothesis was not supported. There was no statistically significant difference in manager emotional intelligence across the four age groups ($F(3,54) = 0.632, p=0.598$) (see Figure 6 below).

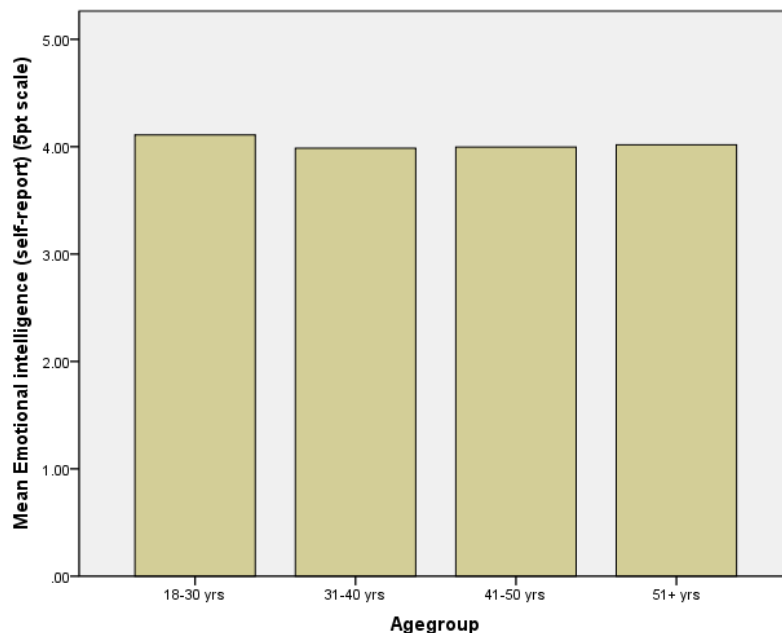


Figure 6 *Mean manager emotional intelligence (self-report) for each age group of manager (n=55)*

The following series of tables (Tables 2,3 and 4) gives further details about managerial effectiveness and leadership styles. Table 2 gives the means of TLS and PsyCap from both the managers and direct reports as compared to results from other studies. In our study (2007) managers rated themselves good at leading by example and less confident in demonstrating they expect high performance from their subordinates. Their direct reports rated managers as most confident at providing rewards for their subordinates' efforts and rated them least confident in demonstrating high performance expectations, the latter agreeing with the manager self-report ratings. In contrast, in the ABL5 4 study conducted in 2010, direct reports rated their manager best at expecting high performance

from their subordinates and less confident at demonstrating respect for their subordinates. The managers agreed with the direct reports rating of their being less confident at showing individual support for their subordinates and rated themselves best at getting subordinates to work together towards common goals.

Overall the ABL4 results show the highest scores for both leadership behaviours and manager psychological capital than both our current study and the ABL3 (2006). This is as expected as the sample for the ABL4 consisted of Fellows of the AIM (i.e. senior management experience of at least 10 years in the overall operations of the organization) whereas the other samples were of Australian managers in general. The current study PsyCap results were similar to those from the global sample in the Avey, Patera and West (2006) study.

The correlations among the variables in our model are shown in Table 3. Basically no significant relationships were found between direct report PsyCap, affect and Manager EI and IQ. That is, employee wellbeing was a result of factors independent to rather than because of the leader's emotional, crystallized, or fluid intelligence. Also no associations were found between managerial effectiveness (assessed by direct reports) and manager EI and IQ. The only significant correlation found was between manager awareness of others in the workplace and direct reports' self-confidence ($\rho=0.31$) (but not their resilience, sense of hope or optimism at work).

The significant correlations in Table 3 are principally between manager effectiveness and manager transformational and transactional leadership styles. As all these scales are measured by direct reports the data need to be checked for common method variance. To do that we created Table 4, which shows the correlations between managerial effectiveness *as rated by direct reports* and the TLS as rated by the managers themselves (self-report). Once again there were only a couple of significant correlations. There was even a negative correlation between managers' self-report ratings of demonstrating appropriate role model behaviour and their direct reports' perceptions of their occupational acumen (e.g. job knowledge and quality concern). The positive correlation between managers' capability of fostering a common goal and their direct reports' assessment of their communication skills makes far more sense than the previous negative result.

Table 2 Comparison of means and standard deviations of Transformational leadership scale and PsyCap across three different manager samples.

VARIABLE	Study sample N=45 (2007)		ABLS4 N=142 (2010)		Other study samples (2006)	
MANAGER (self-report)	<i>Mean</i>	<i>Standard deviation</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Mean</i>	<i>Standard deviation</i>
Provides Appropriate Role Model	6.21	0.57	6.16	0.64	6.01**	0.72
Fosters Acceptance of Goals	6.19	0.58	6.41	0.58	5.99**	0.68
Contingent Reward (Transactional leadership)	6.11	0.81	6.30	0.72	5.82**	0.70
Intellectual Stimulation	5.88	0.64	6.10	0.66	5.82**	0.71
Provides Individual Support	6.09	0.84	5.90	0.89	5.78**	0.71
High Performance Expectations	5.41	1.08	6.02	0.77	5.60**	0.70
Contingent Punishment (Transactional leadership)	4.93	0.95	Not avail		4.84**	1.05
Articulates Vision	5.85	0.66	6.09	0.66	5.69**	0.78
PCAPeffic	5.36	0.57	5.65	0.53	5.03*	0.57
PCAPopt	4.96	0.58	4.95	0.64	4.59*	0.57
PCAPhope	5.18	0.52	5.24	0.61	4.82*	0.56
PCAPresil	5.13	0.45	5.16	0.55	4.92*	0.48
DIRECT REPORT						
Provides Appropriate Role Model	5.49	1.06	5.70	1.08	6.01**	0.72
Fosters Acceptance of Goals	5.64	1.18	5.75	0.96	5.99**	0.68
Contingent Reward	5.68	1.05	5.67	1.09	5.82**	0.70
Intellectual Stimulation	5.41	.95	5.57	0.84	5.82**	0.71
Provides Individual Support	5.60	1.20	5.25	1.02	5.78**	0.71
High Performance Expectations	5.39	.81	5.89	0.71	5.60**	0.70
Contingent Punishment	4.48	.80	Not avail		4.84**	1.05
Articulates Vision	5.43	1.11	5.78	0.89	5.69**	0.78
PCAPeffic (self-report)	5.07	.61	Not avail		5.03*	0.57
PCAPopt	4.68	.62	Not avail		4.59*	0.57
PCAPhope	4.82	.51	Not avail		4.82*	0.56
PCAPresil	4.93	.49	Not avail		4.92*	0.48

* Avey, J. B., Paterson, J. K., & West, B. J. (2006). The implications of positive psychological capital on employee absenteeism. *Journal of Leadership and Organizational Studies*, 13(2), 42-60. N=105, Sample: Self report managers

** Sarras Gray Densten Parry Hartigan and Cooper (2006) THE AUSTRALIAN BUSINESS LEADERSHIP SURVEY #3 (ABLS3) : Leadership, Organizational Culture, and Innovation of Australian Enterprises , Unpublished. N = 2376. Sample: Australian managers

Table 3 Correlations among the variables in the model

<i>OUTCOME VARIABLES</i>	<i>EI -Self- awareness</i>	<i>EI- Emotional expression</i>	<i>EI- Aware of others at work</i>	<i>EI- Emotional reasoning at work</i>	<i>EI- Self- managem ent at work</i>	<i>EI-- Managem ent of others at work</i>	<i>EI-- Emotional self- control at work</i>	<i>EI- TOTAL</i>	<i>Transform ational (DR evaluation of manager)</i>	<i>Transactio nal (DR evaluation of manager)</i>	<i>IQ crystalized (percentile rank)</i>	<i>IQ fluid (percentile rank)</i>
PCAP- efficacy (DR) (DR)	-0.07	0.11	.314*	0.00	0.20	-0.03	0.01	0.08	.148	.192	0.17	-0.10
PCAP- optimism (DR)	0.04	0.02	0.06	0.01	-0.02	-0.10	0.08	0.04	.436*	.316*	0.08	-0.14
PCAP – hope (DR)	-0.02	0.09	0.11	-0.11	0.08	-0.19	0.07	-0.01	.352*	.316*	-0.04	-0.19
PCAP-resilience (DR)	-0.12	-0.02	0.21	-0.21	0.03	-0.26	0.02	-0.07	.176	.254	0.05	-0.09
Positive affect (DR)	-0.02	0.09	-0.03	0.00	-0.04	-0.14	0.15	0.01	.484*	.386*	-0.02	0.08
Negative affect (DR)	0.02	-0.07	-0.01	0.25	0.02	0.13	-0.06	0.04	-.338*	-.146	-0.01	-0.11
Managerial Competencies (DR assessment of manager)												
Traditional functions	-0.11	-0.10	-0.08	0.02	-0.20	-0.13	-0.21	-0.19	.817*	.608*	-0.02	0.18
Task orientation	-0.05	-0.16	-0.18	-0.08	-0.27	-0.15	-0.09	-0.20	.677*	.436*	0.07	0.27
Person orientation	-0.06	-0.09	-0.16	0.10	-0.05	-0.07	0.07	-0.08	.757*	.531*	0.09	0.09
Dependability	-0.14	-0.18	-0.06	0.05	-0.18	-0.17	-0.13	-0.17	.662*	.352*	0.17	0.19
Open mindedness	-0.02	-0.03	-0.13	0.06	-0.01	-0.13	0.04	-0.07	.808*	.551*	0.18	0.12
Emotional control	-0.15	-0.04	-0.06	0.12	0.04	0.13	0.11	0.04	.561*	.373*	0.24	0.16
Communication	0.12	0.05	-0.06	0.22	0.05	0.12	0.23	0.13	.743*	.369*	0.16	0.15
Developing others	-0.02	-0.05	-0.02	0.09	-0.12	0.00	-0.09	-0.04	.782*	.604*	0.10	0.10
Occupational Acumen	-0.02	0.03	-0.08	0.11	-0.15	-0.02	-0.08	-0.06	.691*	.377*	0.11	0.23

N=45 Matched manager and direct report data

**p<0.05*

Table 4 Correlations between managerial competencies as rated by direct reports and Transformational leadership scales (TLS) as rated by the managers self-report

	<i>Manager self-report</i>									
	TLS scales									
	TLS - Transformational	TLS- Transactional	Provides appropriate role model	Fosters acceptance of goals	Articulates vision	Intellectual stimulation	Provides individual support	High performance expectations	Contingent reward	Contingent punishment
<i>Managerial Competencies (DRs assessing manager)</i>										
Traditional functions	-.108	.096	-.222	.133	.167	-.121	-.049	-.147	.196	-.017
Task orientation	-.101	.154	-.134	.040	.071	-.109	-.100	-.052	.178	.055
Person orientation	-.138	.032	-.235	.131	.072	-.131	.164	-.229	.214	-.126
Dependability	-.086	-.036	-.172	.208	.116	-.205	.060	-.238	.141	-.188
Open mindedness	.019	.129	-.143	.023	.283	.057	.005	-.077	.239	-.042
Emotional control	.039	-.022	-.025	.245	.146	.006	.123	-.041	.132	-.109
Communication	.103	-.077	.016	.345*	.188	.101	.184	-.093	.251	-.274
Developing others	.013	.177	-.173	.161	.210	.064	-.043	-.137	.238	.088
Occupational Acumen	-.128	.110	-.300*	.084	.068	-.125	.010	-.267	.275	-.089

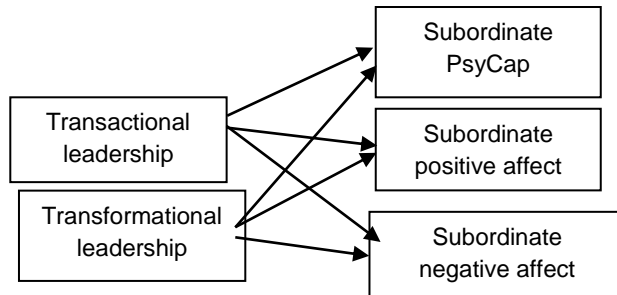
N=45 Matched manager and direct report data

* $p < 0.05$

Hypothesis 5. Transactional leadership will be negatively associated with subordinate emotional well-being and psychological capital.

Hypothesis 6. Transformational leadership will be positively associated with subordinate emotional well-being and psychological capital

Hypotheses 5 and 6 relates to this section of the model:



Contrary to our hypothesis transactional leadership was found to be *positively* (rather than negatively) associated with subordinate emotional intelligence ($\rho = 0.581$), hope ($\rho = 0.341$), resilience ($\rho = 0.273$) and positive affect ($\rho = 0.432$). As hypothesised, transformational leadership was found to be positively associated with subordinate emotional intelligence ($\rho = 0.794$), optimism ($\rho = 0.494$), hope ($\rho = 0.405$), and positive affect ($\rho = 0.530$). These results are shown in Table 5 below. **Table 5 Correlations between transformational and transactional leadership and Subordinate EI, PsyCap and positive and negative affect.**

All DR self-report variables	DR assessment of manager	
	Transformational leadership	Transactional leadership
EI	.794***	.581***
PCAP- Self efficacy	.221	.245
PCAP - Optimism	.494***	.354
PCAP- Hope	.405**	.341*
PCAP- Resilience	.261	.273*
Positive affect	.530***	.432**
Negative affect	-.391**	-.200

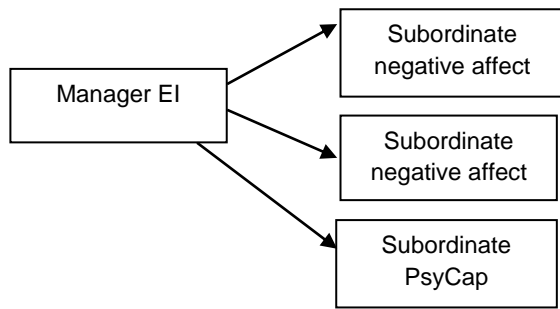
N=55

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Hypothesis 7. Emotional intelligence will be positively associated with subordinates’ emotional well-being and psychological capital.



This hypothesis was not supported. There was no statistically significant association between manager’s emotional intelligence and subordinates’ emotional well-being and psychological capital (see Table 6 below)

Table 6 Correlations between manager Emotional Intelligence and Subordinate EI, PsyCap and positive and negative affect.

<i>All DR self-report variables</i>	<i>EI (manager self-report)</i>
EI	.174
PCAP- Self efficacy	.107
PCAP - Optimism	.108
PCAP- Hope	.032
PCAP- Resilience	-.033
Positive affect	.005
Negative affect	.031

N=48

No significant correlations

Conclusion

Are older managers still effective in organizations? Do they use different but valuable skills in the workplace compared to their younger colleagues?

In times of dynamic and unpredictable change, the emphasis is on managing this change through energetic and visionary leadership. But good leadership also needs a degree of emotional intelligence and general people skills. Good leaders wear many hats. But do these hats fray a little with age, and does it matter?

Contrary to all expectations, our study shows that the opposite applies. Australian leaders, be they young or older and more experienced, record similar levels of leadership and have a similar impact on employee morale and performance. That is, while older managers do not add significantly more to the organization as measured by specific employee outcomes (employee well-being and psychological capital (PsyCap)), nor do they compromise these outcomes.

Nonetheless, there are subtle indicators that older managers do contribute different skills to the organization. It is these skills that may need further recognition as companies determine who to retain and who to retrench in times of dynamic flux.

Primarily, the levels of fluid intelligence (reasoning ability) and crystalized intelligence (abilities learned through experience) of managers were not significantly different across the 31-51+ age categories. However, older more experienced managers recorded higher levels of crystalized intelligence compared with managers younger than 30 years of age and between 41-50 years of age. More dramatically, but again not statistically significant (perhaps a result of the small sample size), the fluid intelligence of managers steadily declined with age. This finding may have implications for how jobs are assigned to individuals.

That is, tasks requiring dynamic and creative skills unencumbered by learned skills which are acquired through past experience may best be tackled by younger managers. In comparison, tasks that require the use of standard operating procedures may best be assigned to older managers. Both sets of managers make valuable contributions to the company, but in different ways. The important proviso we need to remember in these findings is that the small sample of our study may not adequately reflect reality. In other words, any small difference in the problem solving approaches of managers (fluid and crystalized intelligence) as revealed in the data may in fact be a significant difference in the much larger business world. Our assertion that older managers are more likely to use crystalized ahead of fluid intelligence has been supported. This important finding provides companies with evidence to use older managers more meaningfully in the decision-making and strategy creation processes.

Again, perhaps because of the small sample, problem solving, regardless of which type was used (fluid or crystalized), had no significant impact on manager effectiveness, as measured by nine competencies: traditional functions, task orientation, person orientation, dependability, open mindedness, emotional control, communication, developing others, and occupational acumen. These findings suggest that retaining older managers does not necessarily lead to a diminution of their skills as managers, nor does it compromise organizational outcomes. In other words,

managerial effectiveness works independently of reasoning capacity (fluid and crystalized intelligence) according to our study. This is an important finding, as it indicates that most managers can achieve suitable outcomes based on different levels of individual expertise. The challenge for organizations is identifying the individual talents and skills of managers, and then channelling these talents and skills in ways beneficial to organizational productivity and employee morale and well-being.

Similar results were found for leadership and emotional intelligence. There were no statistically significant differences in levels of transformational and transactional leadership and emotional intelligence for older compared with younger managers. However, both transformational and transactional leadership were positively associated with some aspects of psychological capital (hope and optimism,) of direct reports. We would expect a negative association between transactional leadership and PsyCap, but found a positive relationship instead. This outcome is puzzling, and, given our sample size (N=45 of matched data), requires further research to validate or refute the finding. Transactional leadership consists of the two factors, contingent reward and contingent punishment, and includes items such as: "Give others special recognition when their work is very good" and "Point it out to employees when their work is not up to par". It has been noted in an earlier study however, that contingent reward for example "involves an impersonal exchange process [which] includes providing recognition to subordinates which is more personal and may involve transformational leadership" (Yukl (1999) as cited in Sarros & Santora, 2001).

Further, leader emotional intelligence did not relate significantly to any dimension of PsyCap for direct reports.

So our results present a conundrum. Older managers and their impact on employee well-being and PsyCap, and in their use of competencies as indicators of effectiveness, are not significantly different in these associations than are their younger colleagues. But as mentioned above, sample size in studies of this nature makes all the difference. A larger sample may in fact return different results. Our findings do not mean that organizations are not sufficiently stimulating younger managers to achieve more compared with their older colleagues. If that were the case, it may go some way to explaining the poor record of Australian innovation and competitiveness on the world stage. It may mean that we are just not developing our talent to the extent required for international competitiveness. The alternative view may be that organizations are applying relentless demands on all managers at all levels of seniority, to the extent that older managers need to continually improve just to remain competitive with their peers. Whatever the reasons, our results are some cause for concern, because there are no significant differences, but also cause for reflection, because older managers are performing just as well as younger managers. But we cannot deny the implication that if indicators of leadership and management effectiveness are no different across all levels of management, then either our companies are not challenging our managers sufficiently to improve their standard, or are not providing the ongoing training and development needed to improve their skills and talents. These are fundamental questions of performance, morale, leadership development, and organizational strategic intent that must be answered if Australian management is to mature sufficiently to meet the challenges of the 21st century.

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