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Being on PAR: Outcomes of a pilot trial to improve mental health and well-being in the workplace with the Promoting Adult Resilience (PAR) program

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Being on PAR: Outcomes of a pilot trial to improve mental health and well-being in the workplace with the Promoting Adult Resilience (PAR) program

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Abstract

There is an urgent need to find strategies to promote positive mental health in the workplace. The current study presents outcomes of a pilot trial of the Promoting Adult Resilience (PAR) program, an innovative mental health promotion program, which is conducted in the workplace over 11 weekly sessions. The PAR program is a strengths-based resilience building program that integrates Interpersonal and CBT perspectives. Pre, post and follow-up measures on 20 PAR participants from a resource-sector company were compared with a non-intervention matched comparison group. At follow-up, the PAR group had maintained significant post-test improvements in coping self-efficacy and lower levels of stress and depression, and reported greater work-life fit than the comparison group. The program appeared to be ecologically valid and treatment integrity was maintained. Process evaluations of PAR program showed that skills were rated highly and widely used in everyday life at both post and follow-up measurement times.

Being on PAR: Outcomes of a pilot trial to improve mental health and well-being in the workplace with the Promoting Adult Resilience (PAR) program

With mental health problems predicted to increase in the future, mental health researchers and professionals, as well as governments, are challenged to find ways to lessen the impact and prevalence of these problems. It is estimated that 18% of Australian adults at some time in their lives will have mental health problems, interfering with their work, families and communities (Andrews, Henderson, & Hall, 2001; Australian Health Ministers, 2003). Universal prevention programs are necessary components in mental health planning in Australia and programs that are located in the workplace are likely be a valuable means by which to promote positive mental health in working adults (Commonwealth of Australia, 2000).

The workplace is an important focus of an adult's life, through the time and commitment involved and the economic benefits that employment brings. The costs of mental health problems extends from the individual's lost working time, the costs on their family to provide care and support for them, through to their employers, through lost productivity, and to the community, through greater healthcare costs (de Vries & Wilkerson, 2003; World Health Organization, 2001). The workplace can also provide conditions and relationships that increase well-being and mental health, through greater autonomy on the job, social support from colleagues and greater income (Greenhaus & Powell, 2006).

Previous research in children and older adults has identified the risk and protective factors "around" and "within" resilient people, finding that many of the factors are based on everyday, normative personal resources and processes available to all individuals (Masten, 2001). By managing the ups and downs in life, resilient individuals can be more effective in managing the changing nature of the current workplace and finding a balance between work and personal lives (Luthans, 2002). Further, resilience is a multi-dimensional construct and the efforts to be

resilient, such as adaptive strategies to manage demands, should be considered separately to resilient outcomes, such as better mental health or better relationships (Kumpfer, 1999). In this way, the efforts to be resilient can be targeted and normative adaptive processes can be enhanced through promoting competence in the appropriate contexts (Yates & Masten, 2004).

There is a convergence of research that highlights the common threads of feelings of competence to deal with life's setbacks, the expectations of future successes, an internal sense of control and emotional stability (Semmer, 2003). These include personal resources, such as core self-evaluations; defined as self-esteem, general self-efficacy, locus of control, and emotional stability (Judge, Locke, Durham, & Kluger, 1998), positive organizational behaviour; defined as self-efficacy, optimistic expectations and positive reactions to stress (Luthans, 2002), and personal resilience; defined as self-esteem, dispositional optimism, and perceived control (Major, Richards, Cooper, Cozzarelli, & Zubek, 1998).

Interpersonal relationships and connections with other people are equally important to mental health and well-being. The lack of interpersonal skills can be influential in maintaining depressive symptoms, through seeking excessive reassurance and self-consistent negative feedback from peers, which increase the likelihood of rejection by those same peers (Joiner & Metalsky, 2001). In the workplace where organizational support and recognition of effort was low, employees with better social skills were rated more highly on job performance by their supervisors as they had the skills to make use of the limited resources available to them. Good social skills allowed these workers to make the most of less than ideal working conditions, although these skills became less crucial to job performance as organizational support improved (Hochwarter, Witt, Treadway, & Ferris, 2006).

Implicit in resilience research is positive psychology's focus on psychological strengths, positive emotions and outcomes, rather than on dysfunction and psychopathology (M.E.P.

Seligman & Csikszentmihalyi, 2000). Actively using skills and resources to control and manage daily life increases the individual's well-being and mental health. Several therapies have been trialled that are based on positive psychological principles, such as targeting specific facets of psychological well-being (Fava & Ruini, 2003) and a strengths-base program delivered on-line (M. E. P. Seligman, Steen, Park, & Peterson, 2005). These programs were found to provide increases in well-being and mental health. Positive behaviours reinforce and elicit positive reactions from others, improving personal relationships and mental health.

The pilot program described in the current research is designed to enhance resilience in the working population and is based on the insights from the coping and resilience literature described above, interpersonal perspectives, CBT and positive psychology. The intervention draws on successful, existing programs for children and adolescents, such as the Resourceful Adolescent Program RAP (Shochet et al., 2001; Shochet & Ham, 2004). The RAP is a school-based prevention program which significantly reduces the incidence of depression, utilising cognitive-behaviour therapy and interpersonal approaches. The program fosters affect regulation, positive cognitive and attribution styles and improved interpersonal connectedness (Shochet, Dadds, Ham, & Montague, 2006; Shochet et al., 2001; Shochet & Ham, 2004).

To date there has been limited research specifically focusing on adult resilience as many of the available work-based programs tend to have a narrow focus on one particular area, such as stress management, rather than broad life skills (Murphy, 2003; Quillian-Wolever & Wolever, 2003). The Promoting Adult Resilience (PAR) program is developed as comprehensive resilience building program set within the ecological framework of the work place to draw on everyday examples of workplace situations and work-life balance issues. The workplace is an important component of the mental health community and provides a suitable and practical location for the delivery of resilience enhancing programs. The PAR program has been designed to evaluate a

practical, sustainable, and easily delivered universal prevention program for the workplace to promote mental health and individual resilience. This study will evaluate a pilot trial of the PAR program. It is expected that the PAR program will promote wellbeing, improve coping self efficacy and reduce mental health problems when compared to a non-intervention comparative group.

Methods

Participants

All employees of WP (n = 150), a resource sector company based in Queensland, were eligible to take part in the PAR program, with a small cohort of staff (n=28, 18.7% response rate) volunteering to take part. Because there were insufficient volunteers to randomly assign volunteers to a wait-list control group within WP, it was necessary to construct a non-intervention comparison group for the PAR program with similar characteristics (based on age, gender, working hours, education, income, and family structure) which would provide a comparison of the functioning of working adults in the community over the same time frame as the intervention was to be conducted.

A comparison group was taken from a larger, parallel (in timing and content), on-line study of well-being in working adults. University Alumni (n = 9000) were recruited through a monthly alumni e-magazine, where an article called for volunteers to take part in the research by following a link to an on-line survey (n = 71, 0.8% response rate, from volunteers who responded at the same time as the pre-test for WP). It is acknowledged that a comparison group constructed in this manner does not meet the CONSORT guidelines (Boutron, Moher, Altman, Schulz, & Ravaud, 2008) as it is not as rigorous as a wait-list control group taken from the initial pool of volunteers from WP. To overcome this limitation, a number of protocols were instigated to strengthen the rigor of the comparison group. Careful attention was paid to ensuring that identical

measures, ordering of questions within the surveys and similar timing of data collection were undertaken to minimise any possible differences between the groups.

When the composition of the volunteer group from WP and the alumni comparison group were analyzed, t-tests showed that there were no differences in the profiles of the groups based on gender, age, marital status, health, or hours worked per week. The volunteer group from WP had on average slightly more children and significantly younger children than those in the comparison group ($t(29.6) = 2.33, p = 0.027$). The volunteer group also reported higher incomes than the comparison group ($t(69) = 2.74, p = 0.008$), despite the comparison group's higher levels of education, $t(38.6) = -2.714, p = 0.010$. The disparity between income and education can be explained as the volunteer group is employed in the resources sector which is currently experiencing boom economic conditions, and advanced degrees do not currently represent an employment advantage. All employees in the volunteer group from WP were permanent employees, whilst the comparison group comprised both permanent and contract/temporary employees, $t(50) = -3.845, p < 0.001$. Note that variations in degrees of freedom for the t-tests reflect adjustments due to violations of the homogeneity of variance assumptions for those particular comparisons.

Research Design

Following the revised CONSORT statement for non-pharmacological trials (Boutron et al., 2008), a flowchart about participant involvement in the pilot of the Promoting Adult Resilience program is shown in Table 1. At Time 1, all the volunteers from WP ($n = 28$) were allocated to the Treatment (or PAR) Group, as there were not sufficient numbers to form a control group from the pool of volunteers at WP. Attrition of participants during the time the PAR program was run ($n = 8$) was due to employees leaving the company ($n = 2$), employees being moved interstate within the company ($n = 2$), and employees not finishing the program due

to work commitments ($n = 4$). The volunteers from the university alumni ($n = 71$) were allocated to the Comparison Group (CG) and this group had no contact with the researchers, apart from the times the Comparison Group were asked to take part in the second and third on-line surveys.

At Time 2 (3 months after Time 1), the PAR group ($n = 20$) completed the surveys post-test to the intervention and also completed questions for the participant evaluation of the PAR program, which assessed engagement and uptake of the program, their satisfaction with the program and their receptivity to carrying out the new skills. The Comparison Group ($n = 51$) completed the on-line surveys, which were identical in content and timing to the program participants. Attrition ($n = 20$) was due to participants who did not respond to the email requests to complete the second on-line survey.

At Time 3 (9 months after Time 1), the PAR group ($n = 9$) completed the surveys at follow-up and also completed questions for the participant evaluation of the PAR program. Attrition of participants ($n = 11$) was due to participants who did not return the surveys ($n = 8$) or who had left the company ($n = 3$). The Comparison Group ($n = 41$) completed the on-line surveys, which were again identical in content and timing to the PAR group. Attrition ($n = 10$) was due to participants who did not respond to the email requests to complete the survey for the final time.

Insert Table 1 about here

Analyses of the attrition of participants found that the only difference between Time 1 and Time 2 was that the group who were lost were older ($t(26) = 2.54, p = .017$). Participants who did not complete the Time 3 surveys did not differ from those that did complete the surveys on any of the measured variables. As there were no differences due to attrition and to allow for the comparisons across time, calculations for outcome measures are based on the following

participant numbers; PAR group n = 20 for Times 1 and 2 and n = 9 for Time 3, and Comparison group, n = 51 for Times 1 and 2 and n = 41 for Time 3.

Promoting Adult Resilience Program: Content, process and evaluation

Content. The PAR program was delivered in groups (of 8 to 14 people) using manuals where the content for each session was set out and with both facilitator and participants using their own workbooks. The facilitator was a registered psychologist who delivered the weekly, 1 hour sessions at the employees' workplace over 11 consecutive weeks.

Process. The sessions were presented in the following order: Strengths and Resilience (weeks 1 & 2, understanding personal strengths and resilience), Cool and Calm (weeks 3 & 4, managing stress), Challenging and Changing Self-talk (weeks 5 & 6, CBT principles), Problem-Solving Work-life Problems (weeks 7 & 8, problem-solving techniques), Preventing and Managing Conflict (weeks 9 & 10, interpersonal skills), and Bringing it Together (week 11, summary of program). By delivering the program over 11 sessions, the skills that participants learn were reinforced by each following session, and those gains were fortified and reiterated over time. The comparison group did not receive any contact from the researchers between the measurement times, when emails were sent requesting completion of the on-line surveys.

Evaluation of the PAR program. Evaluation of the PAR program comprised three components, first the quantitative changes in mental health and well-being of the participants (detailed in the Measures); second, the evaluation of treatment integrity of the PAR program; and third, the participant evaluation of the components. The study was structured to maximise treatment integrity in the following ways; delivery in a manualised format for both facilitator and participant, formal training on the PAR program for the registered psychologist who acted as the facilitator, used only volunteers as participants, and use of rigorous measures and assessments for the outcomes (Borrelli et al., 2005). The facilitator completed checklists for each session to

ensure that all salient material had been covered in that session. Further, the facilitator kept a reflective journal throughout the program to assist with formative analysis the PAR program.

At the end of the PAR program and at follow-up, participants completed an evaluation of the components of the program and rated their usefulness and gave examples of how the components had been used by the participants in work and family situations. Social validation questions included gauging how much the skills encompassed by the program had become part of the participants' repertoire of functional and adaptive strategies (Foster & Mash, 1999; Kennedy, 2002).

Measures

Demographic measures included gender, age and number of children (measured as continuous variables). Income was assessed as brackets of \$30,000, e.g. \$30,000 to \$59,999 and \$60,000 to \$89,000. Education was rated as (1) completed high school only, (2) has trade qualifications, (3) has undergraduate qualifications, and (4) has postgraduate qualifications. Parental and family demands were calculated based on the age of the youngest child, coded as (1) no children; (2) youngest child over 18 years; (3) youngest child 13 to 18 years; (4) youngest child 6 to 12 years; and (5) youngest child under 6 years, to reflect how the presence and age of a child or children change family and parental demands (Frone, Russell, & Cooper, 1992).

Mental health was measured by the **DASS-21** (Lovibond & Lovibond, 1995), where low scores on the depression, anxiety and stress scales are indicative of good mental health. Each subscale has 7 items and rated as 0, didn't apply at all; 2 applied some of the time; 4 applied a good part of time; and 6, applied most of the time. Sample items are 'I couldn't seem to experience any positive feeling at all' (depression), 'I was aware of dryness of my mouth' (anxiety), and 'I found it hard to wind down' (stress). Cronbach's alphas = 0.78 – 0.85 (stress), 0.60 – 0.88 (anxiety), and 0.82 – 0.87 (depression). Note that for all the measurement scales

described in this section, a range of the Cronbach's alphas are given, which include reliability estimated for both groups and from Times 1, 2 and 3.

Well-being was measured by life satisfaction and psychological well-being. Life satisfaction was measured as the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), 5 items, sample item 'In most ways, my life is close to ideal', in the current study, Cronbach's alpha = 0.86 – 0.92; and psychological well-being, as measured by Ryff's Scales of Psychological Well-Being (Ryff, 1989), 18 items (Cronbach's alpha = 0.78 - 0.87). Sample items are 'I sometimes feel as if I've done all there is to do in life (reversed)' and 'for me, life has been a continual process of learning, changing, and growth'. Work-life fit was assessed by a single item, 'How easy or difficult is for you to manage the demands of your work and your family/personal life?', rated from 1, very difficult to 4, very easy (Clarke, Koch, & Hill, 2004). Work-life balance was measured with a single item, 'All in all, I am satisfied with the balance between my work and family/personal life', rated from 1, strongly disagree to 5, strongly agree (Clarke et al., 2004). Job satisfaction was rated with a single item, 'I am satisfied with my work life', rated from 1, strongly disagree to 5, strongly agree.

Other individual differences measured were coping self-efficacy and social skills. Coping self-efficacy (CSE) (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003), 26 items, Cronbach's alpha = 0.94 - 0.96, relates to how confident the individual is to do the tasks in difficult time, sample items, 'talk positively to yourself', and 'sort out what can be changed, and what can not be changed', rated on a Likert scale of 1, I can't do this at all' to 7 'I am certain I can do this'. How adept an individual felt in social situations was measured by the Social Skills Scale (Ferris, Witt, & Hochwarter, 2001), of 7 items, with a sample item, 'in social situations, it is always clear to me exactly what to say and do', Cronbach's alphas = 0.70 – 0.83. Social skills scale was rated on a Likert scale of 1, strongly disagrees to 5, strongly agrees.

Results

The age of the PAR program group ($M = 35.4$ years, $S.D. = 9.2$ years) was not different to the comparison group (CG) ($M = 37.11$ years, $S.D. = 10.9$ years) and the groups worked similar hours (PAR, $M = 42.3$ hours, $S.D. = 12.6$, CG, $M = 46.5$ hours, $S.D. = 8.6$). The means and standard deviations for the mental health, well-being and individual difference variables are shown in Table 2. Based on normative ranges for the DASS scales (Lovibond & Lovibond, 1995), it can be seen that in the PAR group, mean of stress scores starts in mild range (15-18) then falls to bottom of normal range (0-14), whilst in the comparison group, the mean stress scores stay near top of normal range (0-14) over the measurement times. For depression, the mean scores of the PAR group fall from the upper end of the normal range (scores of 0-9) to the lower end, whilst the comparison group remains at the upper end of the range. Similar results occur for anxiety, with a normal range of score 0 to 7.

Insert Table 2 about here

ANCOVA analyses were conducted for each variable, using the variable's Time 1 score as the covariate for that comparison. This pattern of ANCOVA analyses overcomes the attrition of participants, which would affect numbers of participants available for RM ANOVAs, and allows the largest number of available participants to be included in each comparison. Breaches to normality assumptions meant that depression and anxiety were analyzed using non-parametric tests. Whilst there were some breaches to the homogeneity assumption (i.e., stress, work satisfaction, and work-life balance), reducing the alpha levels to compensate for the breaches did not change whether the comparisons were significant or not.

Insert Table 3 about here

The results of all the ANCOVAs are shown in Table 3 and only a number of the measures showed significant differences due to the PAR program. The levels of stress reported by the PAR

group was significantly less than the comparison group at Time 2 ($F(1,68) = 9.10, p = .004$) and fell further at Time 3 ($F(1,47) = 13.26, p = .001$). The PAR group reported greater coping self-efficacy at Time 2 ($F(1,68) = 8.68, p = .004$), and this result was maintained at Time 3 ($F(1,47) = 10.76, p = .002$). Interestingly, work-life fit was not significantly different between the groups at Time 2 but at Time 3, the PAR group reported that they felt better able to manage the demands of work and family life ($F(1,47) = 4.09, p = .049$). Given that the power of the work-life fit comparison was only modest (.508), this difference could be expected to be greater in a larger pool of participants. For stress and coping self-efficacy, the PAR program has had a robust effect on the participants, as the power for these comparisons, as shown in Table 3, are all greater than .80. Effect sizes for the significant comparisons were calculated using the means of the differences between Time 1 and Time 2 scores and Time 1 and Time 3 scores, respectively, and the standard deviations for the appropriate difference scores. For example, for the effect size on stress at Time 2, $d = 3.44 - 0.44 / 6.51 = 0.46$, where the mean of the difference scores between Time 1 and 2 for the PAR group was 3.44, the mean of the difference scores between Time 1 and 2 for the comparison group was 0.44, and the standard deviation of all difference scores between Time 1 and 2 was 6.51 (Cohen, 1988). The effect sizes range from small-medium (0.28) for work-life fit to very large (1.12 and 1.14) for coping self-efficacy. The increase in effect size for stress from Time 2 to Time 3 indicates that the influence of the PAR program on reducing levels of stress is strengthened by the passage of time and the skills involved in stress management are sustainable and ecologically valid for these individuals.

Due to non-normal distributions, median scores for depression and anxiety, using all available scores for each time, were analyzed with non-parametric tests. Examination of the means in Table 3 indicates a general trend for anxiety and depression to decrease over time in the PAR group, with the PAR group starting at higher levels. Mann-Whitney tests were conducted to

assess if the groups were different at each measurement time and the results found that at Time 3, the PAR group reported significantly lower depression ($Z = -2.34, p = .020$) and anxiety ($Z = -2.10, p = .042$) than the comparison group. Differences in the Time 1 scores are not accounted for in these calculations, therefore Wilcoxon tests were used to assess pairwise comparisons of the groups across time. There were no significant differences, based on the Wilcoxon ranked scores, for anxiety on the pairwise comparisons of times for either of the PAR group or the comparison group. For depression, there were no significant differences for the comparison group across time, although significant differences were shown for the PAR group between Times 1 and 2 ($Z = -3.471, p = .001$) and given a Bonferroni adjustment for multiple comparisons ($\alpha = .05/3 = .016$), the difference between Times 1 and 3 approached significance ($Z = -2.252, p = .024$). The levels of reported depression in the PAR group between Times 2 and 3 did not differ significantly.

Integrity measures involved the facilitator using checklists for each session to indicate 'full', 'in part' or 'no' compliance with the components and to rate the components as (1) very useful, (2) mostly useful, (3) neutral, (4) somewhat useful, and (5) not at all useful. In each of the 11 sessions, the components covered the running of the session and the exercises and salient skills for the session as listed in the participants' workbook. There was full compliance with 68 of 69 (98.6%) of the components in the checklists, with partial compliance with the remaining component (1.4%). The facilitator rated 34 components as 'very useful' (49.3%) and 30 components as 'mostly useful' (43.5%), with 2 as 'neutral' (2.9%) and 3 not rated (4.3%). These figures indicate that the manualised program was strongly adhered to by the facilitator and that the participants received the program as designed. Further, the components were considered to be mostly to very useful to fulfil the aims of the program, namely to promote adult resilience. Treatment integrity for the PAR program can be considered against a range of treatment fidelity

strategies. Assessment of the treatment design, training of providers, delivery and receipt of treatment, and the enactment of the treatment skills are necessary to establish that treatment integrity has occurred (Borrelli et al., 2005). The treatment design has been met through the information about the length and content of the program, the qualifications of the facilitator and the theoretical model that forms the basis for the program. The facilitator had been formally trained in the content of the program and the facilitator's skills were assessed through the use of the participant evaluation. The adherence to the session checklists form part of the assessment of the treatment delivery in that the components of the manualised program were delivered as designed and that the manuals had been effectively used by participants for each session. From the compliance with these strategies, it is possible to conclude that this trial of the PAR program has a high standard of treatment integrity and that the results can provide a sound basis for future replication of the PAR program.

Participant process evaluation of the PAR program was the second part of the program's evaluation. At Time 2 when the outcome measures were collected, participants were asked to rate each session on its usefulness, nominate the most enjoyable part of the program, the most useful skill they had learnt and to give examples of how they had used each skill. Again at Time 3, participants were asked similar questions about their view of the program and its usefulness to their lives. At time 2, the participants considered that the most enjoyable part of the program was meeting and interacting with work colleagues, as the group meetings allowed a sense of sharing of work issues and other concerns. Learning positive self-talk was rated as the most valuable skill, as this could be used to manage stressful situations, understand relationships, and prevent negative thinking, whilst understanding their own stress responses also connected with using more positive self-talk. The conclusion from the participants' comments was that positive self-talk underpinned stress management and problem solving, allowing their jobs to be done more

easily and their relationships to be smoother. After six months, many of the comments were in a similar vein, focusing on the benefits of positive self-talk to stress management, problem solving, and relationships. Most indicated that they had gained perspective on themselves and their concerns and that these skills could be implemented in their daily lives. This continuation of usage of the skills of the PAR program indicates that the skills were practical and had a strong social validity for the participants, as well as representing a statistically significant change in outcome measures (Foster & Mash, 1999).

Discussion

The current study details the successful pilot of the Promoting Adult Resilience (PAR) program and extends the preliminary successful results of the program (Millear, Liossis, Shochet, Biggs, & Donald, 2007). Participants reported significant improvement in levels of coping self-efficacy immediately after the program and this improvement was maintained at the follow-up six months later. Similarly, levels of stress and depression fell after the program and levels of stress continued to fall at the follow-up, whilst levels of depression were maintained at post-test levels. In the comparison group, these variables were unchanged over the nine months. Interestingly, after six months of better functioning with less stress and depression and greater coping self-efficacy, participants reported that they felt they had a better fit of work and family, in that it was easier to manage work and family demands. This result indicates that work-life fit may be the individual's assessment of how well they are managing their responsibilities and how well their work-life strategies are keeping the individual's distress under control, rather than a cross-sectional or objective assessment of working conditions as found in a study of university graduates (Clarke et al., 2004).

The changes found in coping self-efficacy, stress and depression reflect that resilience can be examined as both the efforts that individuals make and the outcomes that these efforts

(Kumpfer, 1999). The current findings for self-efficacy extend previous research on the link between increased competence and reduced mental health concerns. Coping self-efficacy reflects how the individual can manage difficult situations and the current findings extend previous research that links increased competence and the ability to solve problems to a lessening of perceived job demands and reduced distress in employees (Jex & Bliese, 1999; Jex, Bliese, Buzzell, & Primeau, 2001; Karademas & Kalantzi-Azizi, 2004). The outcomes of the PAR program indicate that addressing cognitions jointly affect both efforts and outcomes. Increasing feelings and experiences of competence are concurrent with reduced depression and stress, without changes in workload or family responsibilities.

There were no significant changes in the measures of life satisfaction, psychological well-being, work satisfaction and work-life balance. It could be speculated that these variables reflect a broad view of the conditions of an individual's life, rather than the specific skills and adaptive strategies expressed as coping self efficacy and the immediate experiences of stressful or depressive symptoms that are addressed directly by the PAR program. Large scale studies of the robustness of life satisfaction have found that these measures are relatively unchanging. When the averages of over 900 studies involving a million participants were combined, individuals rated their happiness on average as 6.75 out of 10, on a scale of 1 to 10 (Myers & Diener, 1996). Similarly, the Australian Personal Wellbeing Index found that the range of well-being from 2001 to 2005 to be remarkably stable in a large and diverse sample of Australians, averaging between 73.2 and 76.3, on a scale of 0 to 100 (Cummins, 2006). Both findings indicate stability and an underlying positive bias in self-assessment (Cummins & Nistico, 2002), and could indicate that measures of well-being are less suitable to assess change in an individual due to an intervention, such as the PAR program. However, future research could consider the relationships between

mental health problems and how an individual views their well-being to see if or at what point distress overwhelms well-being and the positive bias is lost.

Whilst there was no change in the social skills scale, the importance of connections with colleagues and family were highlighted by the qualitative reports of participants. The group format was considered the most enjoyable part of the PAR program and fostered a strong sense of community between the participants. Participants also noted that their family relationships had improved, particularly those participants with adolescent children, who found that their relationships with their children were more constructive. The outcomes from the PAR program were two-fold with respect to relationships. For the participant, the group learning format increased their enjoyment of the program and provided an effective method to acquire relationship skills, which were then used within the workplace or within the family to manage interactions with other people.

The evaluation of the integrity of the PAR program shows that the program was delivered as designed. The process was made possible by the training of the facilitator, the adherence by the facilitator to the manualised program and by having manuals for both facilitator and participants, which contributed to this successful outcome. In conjunction with the significant improvement in coping self-efficacy and reduced stress and depression, the participant evaluation of the program show that the skills were of immediate and extended use to the participants,. Participants were able to show how they had dealt with stressful work situations, troubled relationships with adolescent children, displayed more patience with family and colleagues, and how they had overcome procrastination about work projects. The ecological validity of the PAR program was also enhanced by the comments six months after the completion of the program, where the participants clearly showed that the skills taught within the PAR program continued to be useful and applicable to their everyday lives.

The PAR program has shown that the workplace is a useful place for mental health prevention strategies and that resilience can be taught in a workplace environment. Refinement of the program has seen the content of the 11 week program placed in a 7 week format with 1 ½ hour sessions, to better suit participants' work schedules. Further trials of the revised PAR program are under way and early results show similar promise to those found in the current study. Emphasis on the well-being aspects of the program in these new workplaces has in part addressed the limitation of the PAR program being seen as 'a mental health activity'. Improved recruitment in the latest trials currently underway and future implementation of the PAR program will address how to change the perception that workplace programs are only for 'sick' employees, when all employees would benefit (de Vries & Wilkerson, 2003; World Health Organization, 2001). A further limitation on the experimental design followed from the initial low rate of recruitment, as the number of volunteers did not allow the selection of a randomly selected control group. Whilst the exact reason for the small number of volunteers is unknown, it can be speculated that the stigma attached to mental illness and negative perceptions about being seen to take part in 'mental health activity' could have deterred participation in the program (de Vries & Wilkerson, 2003; World Health Organization, 2001), as this has happened in similar programs in the United Kingdom (Munn-Giddings, Hart, & Ramon, 2005). The use of the comparison group has sought to overcome this limitation by using similar timing and content of measures and assessment of demographics to minimise differences between the groups. When conducting experimental programs in workplace settings, such solutions may be necessary to acknowledge how work commitments and employee perceptions diminish the numbers of volunteers, without resorting to employees being 'nominated' to take part in the research.

The first pilot of the PAR program has seen significant and sustained improvement in coping self-efficacy and significant reductions in stress and depression that have maintained six

months after the completion of the program. The cumulative effect of this improved functioning for the participants was that they then reported a better fit of their work and family demands. The measured outcomes were complemented by qualitative responses, where participants gave examples of the benefits of using the PAR program skills and that the benefits were evident some time after the completion of the program. Taken together, the PAR program provides a practical and sustainable universal prevention program that can be easily delivered in the workplace to promote mental health and individual resilience. The skills and attitudes in the PAR program lead to significant positive change that was maintained six months after the end of the program. Importantly, the skills are considered worthwhile and useful by the participants and ecological validity would suggest that the gains could be expected to be maintained into the future.

Table 1

CONSORT flow chart for participants of the PAR program and the comparison group

WP, n = 150 employees, all eligible to take part University alumni, n = 9000, all eligible

Enrolment

WP: early July, 2006 Alumni: late July to early Aug, 2006

WP: n = 122 refused to take part Alumni: n = 8929 refused to take part

n = 28 volunteer to take part n = 71 volunteer to take part

Allocation, late July 2006: Pre-test measurements at Time 1 for both groups

WP insufficient for wait-list control group, n = 71 allocated to comparison group

N = 28 allocated to treatment group (PAR group) (CG)

PAR starts early August 2006 No contact with researchers

Follow-up in late October 2006: Post-test measurements at Time 2 for both groups

WP n = 20 received intervention n = 51 completed on-line surveys

WP: n = 8 lost at post-test n = 20 lost at post-test, did not
n = 2 who left WP respond to email request to complete

n = 2 who moved interstate with WP Time 2 on-line survey

n = 4 who discontinued intervention

Follow-up in early May 2007: Follow-up measurements for Time 3 for both groups

WP n = 9 completed questionnaires n = 41 completed on-line surveys

n = 11 lost at follow-up n = 10 lost at follow-up, did not

n = 3 who left WP respond to email request to complete

n = who 8 did not return questionnaires Time 3 on-line survey

Analysis of results

WP n = 9 analyzed, none excluded

n = 41 analyzed, none excluded

Table 2

Means and standard deviations of variables for PAR and comparison (CG) groups over time

		Time 1			Time 2			Time 3		
Measure		n	M	SD	n	M	SD	n	M	SD
Depression	PAR	20	8.40	7.75	20	3.70	3.92	9	1.78	1.64
	CG	51	6.67	7.75	51	5.92	5.91	41	6.93	7.13
Anxiety	PAR	20	7.70	7.29	20	4.05	4.64	9	0.78	0.97
	CG	51	5.41	7.66	51	4.55	7.26	41	4.73	7.69
Stress	PAR	20	15.20	9.16	20	9.05	5.43	9	3.38	2.86
	CG	51	12.32	9.36	51	12.08	7.76	41	12.27	8.84
Life	PAR	20	15.70	5.03	20	17.35	4.58	9	19.56	4.10
	CG	51	17.10	5.47	51	17.51	5.19	41	17.88	4.71
SPWB	PAR	20	68.40	10.15	20	69.50	8.61	9	71.00	5.94
	CG	51	73.10	9.50	51	71.80	9.03	41	73.00	8.66
Work	PAR	20	3.15	1.04	20	3.35	0.93	9	3.33	0.71
	CG	51	3.64	1.19	51	3.45	1.27	41	3.46	1.36
WL Fit	PAR	20	2.35	0.59	20	2.30	0.66	9	2.89	0.60
	CG	51	2.34	0.71	51	2.39	0.64	41	2.34	0.66
WL Balance	PAR	20	2.60	1.19	20	3.15	0.99	9	3.78	0.67
	CG	51	2.76	1.31	51	2.94	1.19	41	2.92	1.12
Coping SE	PAR	20	106.50	27.95	20	121.41	27.95	9	131.78	15.61
	CG	51	122.45	21.52	51	120.49	30.29	41	121.37	32.06

Social skills	PAR	20	22.70	4.27	20	22.95	5.07	9	21.89	3.62
	CG	51	24.74	5.13	51	25.43	4.61	41	24.12	4.17

Table 3

ANCOVA analyses for each variable, with Time 1 scores for each measure used as the covariate for that comparison

Measure	Time 2			Time 3		
	F(1, 68)	η^2	d	F(1,47)	η^2	d
Stress	9.10**	.118 (.844) ^a	0.46	13.26***	.22 (.946) ^a	0.96
Scales of PWB ^b	1.14	.016		0.84	.02	
Life satisfaction	1.28	.018		0.72	.015	
Work satisfaction	0.10	.001		1.00	.002	
WL Fit ^b	0.47	.007		4.09*	.080 (.508) ^a	0.28
WL Balance ^b	2.02	.029		2.91	.059	
CSE	8.68**	.113 (.827) ^a	1.12	10.76**	.186 (.895) ^a	1.14
SSS	1.35	.020		0.74	.016	

*p < 0.05, **p < 0.01, ***p < 0.001, η^2 is the partial eta-squared, d = Cohen's d, of that ANCOVA analysis

Note. ^a Power of comparison, ^b Scales of PWB is 'Scales of Psychological Well-being', 'WL fit' is Work-Life Fit and 'WL Balance' is Work-Life Balance

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