Understanding the differential benefits of training for the unemployed.

M. Anthony Machin

University of Southern Queensland

Peter A. Creed

Griffith University - Gold Coast Campus

All correspondence to Dr. Tony Machin, Department of Psychology, University of Southern Queensland, Toowoomba, 4350. Australia. Telephone +61 7 46312587. Fax +61 7 46312721. Email: **machin@usq.edu.au**

Understanding the differential benefits of training for the unemployed.

Abstract

This study examined the connection between background variables (length of unemployment and number of previous training courses), dispositional variables (positive affect and negative affect), perceptions of training climate, and psychological outcomes for unemployed trainees. The trainees in the experimental condition improved their levels of general self-efficacy and psychological distress after a two-day pre-training intervention, with many of these improvements being maintained for five weeks. The measures of length of unemployment, number of previous training courses, and the perceptions of the training climate did not account for any unique variance in either of the well-being measures at T1 or T3. Positive and negative affect accounted for 30% of the variance in initial levels of general self-efficacy and 45% of the variance in initial levels of psychological distress. The addition of PA and NA also accounted for a significant slice of the variance in the T3 levels of general self-efficacy (22%) and psychological distress (32%). It was concluded that components of dispositional affect are the main influence on how individuals perceive stimuli in the environment and subsequently regulate their emotional response.

Key words: unemployment, well-being, self-efficacy, training climate, positive affect, negative affect.

Becoming unemployed typically results in reduced levels of psychological well-being (Murphy & Athanasou, 1999). Many training interventions aimed at the unemployed have claimed to improve the mental health of participants so they may better cope with their situation and be more successful in their job search. Several large-scale training interventions for the unemployed have been developed in the United States (Caplan, Vinokur & Price, 1997; Vinokur, Schul, Vuori & Price, 2000), while similar programs have been trialed in Finland (Vesalainen & Vuori, 1999; Vuori, Siloven, Vinokur & Price, in press). One unresolved issue that has emerged from this research is why training interventions for the unemployed, such as those described above, are more effective for some participants than for others? This question is the focus of the current study.

Researchers have focused on interventions that improve self-efficacy as one means to increase the effectiveness of training. Self-efficacy is defined as people's judgements of their capabilities to organise and execute courses of action required to attain designated types of performances (Bandura, 1997). It plays a powerful role in determining the choices that people make, the effort they will expend, how long they will persevere in the face of challenge, and the degree of anxiety or confidence they will bring to the task at hand. Bandura highlighted the importance of distinguishing between component skills and the ability to organise and execute courses of action. In the area of unemployment, the job-related re-entry skills, which are the focus of most occupational training programs, need to be complemented with self-management skills that will enable unemployed individuals to successfully compete for employment, cope with setbacks, and manage their own skill development. Training individuals in occupational skills without also ensuring that trainees have

positive self-efficacy to utilise those skills will result in poorer transfer outcomes for those trainees (Saks, 1997).

Haccoun and Saks (1998) proposed that interventions prior to and subsequent to training would be most beneficial in improving self-efficacy if they focused on verbal persuasion and physiological states of arousal. The trainees most likely to benefit from these interventions would be those with low levels of pre-training self-efficacy or higher levels of pre-training anxiety. Haccoun and Saks concluded that the trainee's level of self-efficacy is one of the main determinants of whether an individual will maximise their transfer of training. Therefore, training programs for the unemployed should focus on enhancing the self-efficacy level of trainees. The current study combined a pre-training intervention that targeted trainees' general self-efficacy with a vocational training program that focused on specific job-related skills training. This setting was used to investigate the reasons for the differential benefits that trainees derive from training.

Differential benefits of training

Individuals do not all derive similar benefits from training (Creed, Hicks & Machin, 1998; Eden, & Aviram, 1993). Brockner (1988) proposed that those with lower levels of personal worth were more responsive to external cues, especially social cues, and thus responded differently to situations. Brockner termed this effect "behavioural plasticity". Brockner drew on other theories in support of this model, including Festinger's (1954) theory of social comparison that predicts that individuals with poorer psychological functioning will rely more on social cues to influence thoughts, feelings, and actions. Other theorists, such as Snyder (1981) and Baumeister (1982), have also suggested that individuals with low self-worth would have greater need for approval. This theory of behavioural plasticity has been recently tested with

training situations. Creed, Hicks and Machin (1998) found that unemployed individuals with lower levels of self-esteem when they began a training course showed greater improvement in their self-esteem than did those with higher initial levels. Eden and Aviram (1993) found that when they implemented a self-efficacy training course for unemployed people, it was those with lower levels of self-efficacy who showed greater improvement over the period of training. It is suggested that contextual variables and dispositional variables might be the main influences on the benefit that trainees derive from training.

Contextual influences. A number of contextual factors have been identified that may influence individual reactions to training. These include characteristics of the training cohort (Baldwin & Magjuka, 1997), opportunity for cooperative learning (Latham & Crandall, 1991), and the degree to which the latent functions of employment and training such as social support are present (cf. Jahoda, 1981). These contextual variables have usually been measured in previous studies by assessing trainees' perceptions of the training climate (Creed, Hicks & Machin, 1996).

The training climate has been the focus of numerous studies that involved assessments of school and tertiary classroom settings in order to determine the impact of the learning environment on student achievements (Fraser, 1981). There is also evidence that a supportive and encouraging training climate is associated with better levels of well-being in unemployed trainees, and with improvements in well-being across time (Creed et al., 1996).

In terms of our understanding of the differential benefits that trainees derive from training, the current study assessed the unique influence of training climate on participants' well-being. It is likely that the social context of the training groups will

influence the individual trainees levels of psychological well-being, and this study will attempt to specify the nature of those effects at the individual level.

Dispositional affect. Creed, Muller and Machin (2001) demonstrated that dispositional variables play an important role in explaining levels of psychological well-being in the unemployed. Creed et al. found that neuroticism was able to account for 14 percent of the variance of psychological distress. They suggested that researchers also need to consider other personality variables and the effect they have in predicting psychological well-being. For example, extraversion has been implicated as a better predictor of positive rather than negative affect (Larsen & Ketelaar, 1991) and therefore should be included in studies examining the psychological well-being of the unemployed.

Measures of dispositional positive and negative affectivity (PA and NA respectively) have also been found to be an important influence on individual's subjective well-being (Diener, Suh, Lucas & Smith, 1999). Machin and Fogarty (2001) found that PA and NA predicted pre-training self-efficacy, which was itself a mediator of the relationship between both PA and NA, and pre-training motivation. They concluded that PA and NA were legitimate markers for important and reliable dispositional traits that predict pre-training self-efficacy and should be included in future training research.

Therefore, it appears that PA and NA are important dimensions that have the potential to influence participants' reactions to training. In the current study, PA and NA were included in the data collection in order to allow the relationship between PA, NA and psychological well-being to be specified. We expect that the participants' initial levels of PA and NA will predict their initial levels of well-being, and that PA

and NA will add to the prediction of final levels of well-being after controlling for the participants' initial levels.

Summary and hypotheses

The current study extended the research previously conducted by Creed et al. (1998, 1999, 2001), by investigating the differential benefits of a pre-training intervention on unemployed trainees. This specially designed intervention was provided to unemployed trainees immediately prior to their commencing a five-week skills-oriented training program (see Figure 1 for a summary of the design of the study). The aim of the intervention was to assist trainees to maximise the benefits that they would derive from their skills-oriented training by enhancing their levels of general self-efficacy and psychological well-being. A separate non-equivalent control condition undertook the same skills-oriented training without having completed the pre-training intervention. Data were collected at three times for the intervention condition and at two times for the control condition. As well as examining the impact of the pre-training intervention on measures of psychological well-being (general self-efficacy and psychological distress), the study also examined the relationships between background variables (length of unemployment and attendance at previous training courses), dispositional variables (PA and NA), perceptions of the training environment, and well-being variables. Our goal here was to disentangle the unique effects of each of the three groups of variables (background, dispositional, and contextual) on psychological well-being, and offer an explanation for any behavioural plasticity effects that were observed.

length of unemployment and attendance at previous training courses will explain a significant unique proportion of the variance in psychological well-being at T1, but not at T3. These predictions are based on the work of Creed et al. (2001).

H3 a. For trainees in both conditions, the measures of positive and negative affect would be significantly correlated with psychological well-being at both T1 and T3. *H3b.* It was also expected that PA and NA would explain a significant unique proportion of the variance in psychological well-being at T1 and at T3 (as the T2 data only includes those participants in the pre-training intervention, the relationship between both PA and NA and psychological well-being at T2 was not analysed). To date, no interventions with the unemployed have attempted to model the influence of PA and NA on psychological well-being. However, these predictions are based on the research with employed trainees reported in Machin and Fogarty (2001).

H4 a. For trainees in both conditions, their perceptions of the training environment (measured at T3) would be positively correlated with their psychological well-being at the end of the skills-oriented training (T3). *H4b.* It was also expected that perceptions of the training climate at T3 would account for significant unique variance in levels of psychological well-being at T3 (after controlling for T1 levels). These predictions are based on work reported by Creed et al. (1996).

Method

Participants

Participants were 182 unemployed adults attending occupational skills training programs conducted by private training providers in south-east Queensland. The participants represented a broad sample of metropolitan-based unemployed people

who were registered for work with the national employment agency (Employment National). All participants were eligible for employment retraining courses funded by Employment National and they continued to receive unemployment benefits during their training.

Of the 119 initial participants in the experimental conditions, 95 (80%) completed the two-day pre-training intervention, and 83 subsequently completed the occupational skills training program (70%). There were another 63 trainees who participated only in the occupational skills training program and were assigned to the control condition with 46 (73%) of these subsequently completing the occupational skills training program. General demographic information for both conditions is presented in Table 1. Due to the skewed distributions for Months Unemployed, all scores for this variable were subsequently transformed using a square root transformation.

Pre-training intervention

The pre-training intervention was aimed at improving the psychological well-being and general self-efficacy of unemployed adults. The goals of the course were to leave trainees with measurable and lasting benefits rather than to provide training which would allow them to “feel good” in the short-term. To meet this criterion, the course had a solid theoretical and research base. A program based on the cognitive-behavioural therapy approach (Beck, Rush, Shaw & Emery, 1979; Seligman, 1990), the self-management training research of the Michigan Prevention Research Centre (Caplan, et al., 1997), and the thought self-leadership training of Neck and Manz (1996) was used to meet these requirements. A course outline is available by contacting the first author.

Table 1

Demographic Variables for Experimental and Control Conditions

Variable		Experimental condition (<i>n</i> = 119)	Control condition (<i>n</i> = 63)
Gender	1 = Female	103 (87%)	45 (71%)
	2 = Male	16 (13%)	18 (29%)
Age (Years)	<i>M</i>	32.63	36.57
	<i>SD</i>	10.60	11.15
	Range	16-56	18-54
Months	<i>M</i>	36.71	52.48
Unemployed	<i>SD</i>	53.17	77.30
	Range	0-264	0-417
Previous Training	1 = First course	34 (32%)	21 (36%)
	2 = One previous course	26 (25%)	22 (38%)
	3 = Two or more courses	46 (43%)	15 (26%)
Education	1 = < Year 11	40 (35%)	30 (49%)
	2 = Year 11/12 &/or TAFE	59 (52%)	24 (39%)
	3 = >Year 12	14 (13%)	7 (12%)

The occupational skills program was a computer and administrative skills course conducted over a five-week period on a full-time basis. The pre-training intervention was conducted for 2 days immediately prior to the occupational skills program, with eight courses being conducted.

Procedure

Participants in the experimental conditions completed questionnaires at the beginning (T1) and at the end (T2, that is, 2 days after T1) of the pre-training intervention and again at the conclusion of their occupational skills programs (T3, that is, 5 weeks after T2).

Participants in the control conditions completed questionnaires at T1 and at T3 (that is, 5 weeks after T1).

Positive and Negative Affectivity (PA and NA) were measured at T1 and T3 using the 20-item Positive and Negative Affect Schedule (PANAS: Watson, Clark & Tellegan, 1988). There are 10 items that are markers of PA and 10 items that mark NA. Markers of PA include items such as: “I feel interested” and “I feel excited”, while markers of NA include items such as: “I feel distressed” and “I feel hostile”. The instructions used for the current study asked respondents to indicate on a five-point scale the extent to which, on average, they have felt this way over the last week. The internal reliabilities for the two affectivity scales in the Watson et al. study when rated over the period of the previous few weeks were .87 for PA and .87 for NA, while in the current study, internal reliabilities ranged from .92 to .94 for PA, and from .89 to .91 for NA.

Training climate (TC) was measured at T3 using a modified twenty-five item short form of the Individualised Classroom Environment Questionnaire (ICEQ: Fraser, 1990). The ICEQ contains five sub-scales: (a) Personalisation (TC1) measures the opportunity for trainees to interact with the trainer on areas of concern for personal welfare and social growth, (b) Participation (TC2) measures how much trainees are encouraged to actively engage in the

training room rather than be passive recipients, (c) Independence (TC3) measures the extent to which trainees are able to make decisions and have control over their own learning and behaviour, (d) Investigation (TC4) measures the extent of encouragement of inquiry, investigation and individual problem solving, and (e) Differentiation (TC5) measures the extent to which trainees are treated individually. The ICEQ has been used in Australian studies (Creed et al., 1996), and has internal reliabilities for the five scales in the range .69 to .85 (Fraser, 1990). In the current study, internal reliabilities ranged from .65 to .82.

Analyses

The initial analyses consisted of a series of repeated measures ANOVAs that assessed whether the means of the well-being variables across the three times were significantly different. These analyses were conducted separately for the control and experimental conditions because there were no data collected for the control condition at T2. The correlations between the variables were used to discuss the relationships between the T1, T2 (only for the experimental condition), and T3 variables. Finally, hierarchical regression analyses were conducted using Statistical Package for the Social Sciences (SPSS) version 10.0, to assess the unique contributions of each of the three types of variables to the prediction of well-being at T1 and T3. The control and experimental conditions were combined for these analyses but separate analyses were also conducted to identify whether the relationships differed for the two conditions.

Results

Preliminary analyses and descriptive statistics

To determine whether there were differences between the experimental and control conditions on demographic variables at T1, independent-sample, two-tailed t-tests and Chi-square tests indicated no significant between-group differences for the number of previous

training courses completed, $\chi^2(2) = 5.59, p > .05$, months unemployed, $t(180) = -0.85, p > .05$, or education level, $\chi^2(2) = 3.27, p > .05$. However, there were significant differences between the experimental condition and control condition on age, $t(172) = -2.30, p < .05$, and gender, $\chi^2(1) = 6.20, p < .05$. Similarly, t-tests were conducted to determine if there were differences between the experimental and the control conditions on the dispositional and well-being variables at T1. These results demonstrated that the only significant difference at T1 was for positive affect, $t(171) = 2.34, p < .05$. In summary, differences were identified at T1 between the experimental and control conditions on two of the demographic variables, and on one of the dispositional variables. The means and standard deviations of the experimental and control conditions for the dispositional, well-being, and training climate variables at each of three times (where data were available) are displayed in Table 2.

Analyses pertaining to H1

In order to assess the first hypothesis that psychological well-being would be significantly improved at the end of the pre-training intervention for those in the experimental condition, and that these improvements would be maintained over a five week period, two repeated measures ANOVAs were performed using T1, T2, and T3 data for GSE and GHQ.

For the measure of General Self-efficacy, an overall significant effect was found for Time, $F(2, 67) = 3.69, p < .05$. Inspection of the 95% confidence intervals around the three means showed that GSE T2 was significantly greater than GSE T1, while GSE T3 was not significantly different from either GSE T1 or GSE T2. Although General Self-efficacy was raised by the psychological intervention, the improvement reversed somewhat over the next five weeks.

Table 2

Means and Standard Deviations of all variables at T1, T2, and T3.

	Experimental condition		Control condition		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
1. GSE T1	31.47	4.93	31.53	4.92	-.08
2. GSE T2	32.30	5.04			
3. GSE T3	31.70	5.36	30.71	4.92	1.02
4. GHQ T1	12.27	6.36	14.21	5.94	-1.97
5. GHQ T2	9.51	5.64			
6. GHQ T3	10.50	6.31	11.09	5.23	-.53
7. PA T1	37.21	8.78	33.90	9.00	2.34*
8. PA T3	35.98	9.09	34.07	7.96	1.19
9. NA T1	21.25	8.51	19.43	6.98	1.42
10. NA T3	18.27	7.70	16.43	5.60	1.42
11. TC1 - Personalisation (T3)	3.89	.75	3.60	.78	2.07*
12. TC2 - Participation (T3)	4.02	.63	3.75	.64	2.36*
13. TC3 - Independence (T3)	3.56	.68	3.63	.66	-.64
14. TC4 - Investigation (T3)	3.30	.68	3.33	.61	-.21
15. TC5 - Differentiation (T3)	2.92	.80	3.02	.84	-.69

Note. GSE = General Self-efficacy, GHQ = General Health Questionnaire, PA = Positive

Affectivity, NA = Negative Affectivity, and TC = Training Climate. * $p < .05$

To test for behavioural plasticity effects, further analyses were then conducted using the median score of GSE T1 for the Experimental condition to split the Experimental condition into High and Low GSE groups and testing the interaction between Time and GSE T1 status (High/Low). A significant interaction effect was found with $F(2, 67) = 6.72, p < .01$. Inspection of the 95% confidence intervals around the six means confirmed that only those participants who had Low GSE T1 scores demonstrated significant improvement between T1 and T2.

In the second repeated measures ANOVA that included the measure of Psychological Distress (GHQ), an overall significant effect was found for Time, $F(2, 68) = 22.69, p < .001$. Inspection of the 95% confidence intervals around the three means showed that GHQ T2 was significantly less than GSE T1, while GSE T3 was also significantly less than GSE T1, but not significantly different from GSE T2. Therefore, Psychological Distress was lowered by the psychological intervention, with the improvement being maintained over the next five weeks.

To test for further behavioural plasticity effects, analyses were then conducted using the median score of GHQ T1 for the Experimental condition to split the Experimental condition into High and Low GHQ groups and testing the interaction between Time and GHQ T1 status (High/Low). A significant interaction effect was found with $F(2, 68) = 20.24, p < .001$. Inspection of the 95% confidence intervals around the six means confirmed that only those participants who had High GHQ T1 scores demonstrated significant improvement between T1 and T2, and that this improvement was maintained over the next five weeks.

The final set of analyses pertaining to part *H1c* of the first hypothesis concerned whether the levels of psychological well-being for the experimental condition were significantly greater than for those in the control condition at T3. Two-way repeated measures ANOVAs were conducted separately for GSE and GHQ scores at T1 and T3, with condition membership (experimental or control) as the between subjects factor. Neither interaction term was significant with $F(1, 120) = 2.15, p > .05$ for GSE, and $F(1, 121) = .12, p > .05$ for GHQ). Inspection of the 95% confidence intervals around the four means indicated GSE T3 and GHQ T3 scores for the experimental condition were not significantly different from those same scores for the control condition.

Therefore, behavioural plasticity effects were found with only those participants in the experimental condition who had the lowest initial psychological well-being scores

demonstrating improvements between T1 and T2. At T3, some of these improvements had reversed, and the psychological well-being scores for the experimental condition were no different from the control condition.

Analyses of the correlations

In order to assess the first part of the second hypothesis that, for both conditions, the length of unemployment and attendance at previous training courses would be significantly correlated with psychological well-being at T1, but not at T3, the correlations between all variables were calculated separately for the experimental and control conditions (see Table 3). These correlations showed that the Months Unemployed was not correlated with levels of psychological well-being at either T1 or T3 in both the experimental and control conditions. The number of Previous Training courses was also not correlated with levels of psychological well-being at either T1 or T3 in both the experimental and control conditions. The lack of significant correlations with psychological well-being at T1 was contrary to what was predicted, while the lack of significant correlations with psychological well-being at T3 was in line with predictions.

The first part of third hypothesis predicted that, for both conditions, the levels of PA and NA at T1 would be significantly correlated with psychological well-being at T1, while the levels of PA and NA at T3 would be significantly correlated with psychological well-being at T3.

Table 3

Intercorrelations of all variables at T1, T2, and T3.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. GSE T1	1.00	-	.59***	-.42**	-	-.17	.55***	.26	-.27*	-.30*	-.04	.22	-.07	.25	-.16	.05	-.01
2. GSE T2	.69***	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. GSE T3	.56***	.54***	1.00	-.31*	-	-.59***	.43**	.53***	-.30*	-.37*	-.11	.16	.07	.11	-.20	.05	.04
4. GHQ T1	-.30**	-.40**	-.20	1.00	-	.40**	-.54***	-.14	.47***	.67***	-.13	-.05	.26	-.06	.32*	-.25	-.01
5. GHQ T2	-.30**	-.54***	-.41**	.64***	1.00	-	-	-	-	-	-	-	-	-	-	-	-
6. GHQ T3	-.10	-.25*	-.33**	.46***	.41**	1.00	-.26	-.50***	.39**	.55***	-.05	-.07	.05	-.02	.29	-.08	.18
7. PA T1	.46***	.49***	.41**	-.48***	-.36**	-.24*	1.00	.44**	-.21	-.45**	.24	.41**	-.04	.42**	-.26	.14	.05
8. PA T3	.37**	.38**	.63***	-.29**	-.33**	-.51***	.68***	1.00	.01	-.34*	.27	.32*	.21	.16	-.04	.29	-.16
9. NA T1	-.34**	-.37**	-.14	.57***	.46***	.33**	-.16	-.05	1.00	.73***	-.10	-.19	.21	-.20	.38*	-.01	.05
10. NA T3	-.15	-.31**	-.32**	.36**	.42**	.59***	.01	-.15	.45**	1.00	-.07	-.04	.19	-.16	.24	-.10	.09
11. TC1	.13	.21	.41**	-.11	-.08	-.23*	.23*	.47***	.18	-.10	1.00	.46***	.05	.44**	.14	.39**	.13
12. TC2	.17	.23	.34**	-.20	-.16	-.22*	.29*	.36**	.06	-.19	.67***	1.00	.08	.61***	-.19	.20	.17
13. TC3	.06	.17	.23*	-.01	-.18	-.05	.07	.20	.09	-.02	.23*	.22*	1.00	.04	.02	-.17	-.16
14. TC4	.12	.23	.37**	-.03	-.04	-.11	.22	.37**	.19	-.05	.67***	.50***	.09	1.00	-.22	.06	.16
15. TC5	.19	.26*	.06	-.01	-.25*	-.03	.05	.09	-.01	.09	.24*	.07	.41**	.08	1.00	.04	.18
16. Mths UE	.10	-.04	.12	.10	.03	-.06	-.06	.18	.12	-.08	.09	.02	-.18	.19	.11	1.00	-.01
17. Prev. train.	.04	-.13	-.12	.11	.10	.17	-.06	-.10	.04	.06	-.01	-.20	-.30**	-.06	-.02	.12	1.00

Note. GSE = General Self-efficacy, GHQ = General Health Questionnaire, PA = Positive Affectivity, NA = Negative Affectivity, TC = Training Climate, Mths UE = Square

root of Months Unemployed, and Prev. train. = Previous Training. Values below the diagonal are for the experimental condition while values above the diagonal are for

control condition (with no scores available for GSE T2 or GHQ T2). * $p < .05$. ** $p < .01$. *** $p < .001$.

With respect to General Self-efficacy, the correlations showed that GSE T1 was positively related to PA T1 ($r = .46, p < .001$ for the experimental condition and $r = .55, p < .001$ for the control condition), and that GSE T3 was positively related to PA T3 ($r = .63, p < .001$ for the experimental condition and $r = .53, p < .001$ for the control condition). The correlations also showed that GSE T1 was negatively related to NA T1 ($r = -.34, p < .01$ for the experimental condition and $r = -.27, p < .05$ for the control condition), and that GSE T3 was negatively related to NA T3 ($r = -.32, p < .01$ for the experimental condition and $r = -.37, p < .05$ for the control condition). These results were in line with predictions.

With respect to Psychological Distress, the correlations showed that GHQ T1 was negatively related to PA T1 ($r = -.48, p < .001$ for the experimental condition and $r = -.54, p < .001$ for the control condition), and that GHQ T3 was negatively related to PA T3 ($r = -.51, p < .001$ for the experimental condition and $r = -.50, p < .001$ for the control condition). The correlations also showed that GHQ T1 was positively related to NA T1 ($r = .57, p < .001$ for the experimental condition and $r = .47, p < .001$ for the control condition), and that GHQ T3 was positively related to NA T3 ($r = .59, p < .001$ for the experimental condition and $r = .55, p < .001$ for the control condition). These results were also in line with predictions.

Finally, the first part of the fourth hypothesis predicted that, for both conditions, the perceptions of the training environment (TC1 to TC5) would be significantly correlated with psychological well-being at T3.

With respect to General Self-efficacy, the correlations showed that GSE T3 was positively related to TC1 ($r = .41, p < .01$), TC2 ($r = .34, p < .01$), TC3 ($r = .23, p < .05$), and TC4 ($r = .37, p < .01$) for the experimental condition. However, the correlations showed that GSE T3 was not related to any of the measures of training

climate for the control for the experimental condition. These results were in line with predictions for the experimental condition but not for the control condition and indicate that the pre-training intervention has also had an impact on the training climate of the job-related skills training for those participants.

With respect to Psychological Distress, the correlations showed that GHQ T3 was negatively related to TC1 ($r = -.23, p < .05$) and TC2 ($r = -.22, p < .05$) for the experimental condition, partly supporting the predictions for the experimental condition. However, once again the correlations showed that GHQ T3 was not related to any of the measures of training climate for the control condition, contradicting the predictions for the control condition and supporting the above conclusion about the impact of the pre-training intervention.

Regression analyses

The previous section reported the results that pertained to first part of the second, third and fourth hypotheses. This section reports on the analyses relating to the second part of these hypotheses.

The first set of multiple regression analyses regressed GSE T1 and GHQ T1 on PA, NA, Months Unemployed and number of Previous Courses. The data for the experimental and control conditions were combined for these analyses. The results are displayed in Table 4. The results show that PA and NA both predicted significant unique variance in GSE T1 and GHQ T1, while neither Months Unemployed nor number of Previous Courses was able to account for any unique variance. The results were similar when analyses were conducted separately on each of the two conditions except for one difference. When regressing GSE T1 on the four predictors for the control condition, NA T1 did not account for significant unique variance ($\beta = -.16, t = -1.36, p = .18$).

Table 4

Regression of GSE T1 and GHQ T1 on other T1 variables.

Predictors	Dependent Variables					
	GSE T1			GHQ T1		
	β	t	sr	β	t	sr
Mths UE	.09	1.36	.11	-.04	-.64	-.05
Prev. train.	.01	.10	.01	-.01	-.22	-.02
PA T1	.45***	6.56	.47	-.44***	-7.35	-.51
NA T1	-.26***	-3.73	-.29	.46***	7.61	.52
After Step 1:	$R^2 = .31$ (Adj. $R^2 = .29$)			$R^2 = .46$ (Adj. $R^2 = .45$)		
	$F(4, 153) = 16.87, p < .001$			$F(4, 153) = 33.13, p < .001$		

Note. GSE = General Self-efficacy, GHQ = General Health Questionnaire, PA = Positive Affectivity, NA = Negative Affectivity, Mths UE = Square root of Months Unemployed, Prev. train. = Previous Training, and sr is the semipartial correlation. * $p < .05$. ** $p < .01$. *** $p < .001$

The second set of multiple regression analyses regressed GSE T3 and GHQ T3 on their respective T1 scores, PA T3, NA T3, Months Unemployed, number of Previous Courses, and all five TC variables. The data for the experimental and control conditions were also combined for these analyses. The results are displayed in Table 5. The results show that, after accounting for their respective T1 scores, PA T3 and NA T3 were both able to predict significant unique variance in GSE T3 and GHQ T3, while neither Months Unemployed nor number of Previous Courses were able to account for any unique variance. The training climate measures were also unable to account for any significant unique variance in either GSE T3 or GHQ T3. These results confirm the predictions in the second part of Hypothesis 3, but are at odds with the predictions in the second part of Hypotheses 2 and 4. The results were again similar but not identical when analyses conducted separately on each of the two conditions except when regressing GSE T3 and GHQ T3 on the predictors for the

control condition, NA T3 did not account for significant unique variance in either GSE T3 ($\beta = .06, t = .48, p = .64$) or GHQ T3 ($\beta = .37, t = 1.96, p = .06$). In addition, TC3 was a unique predictor of GSE T3 ($\beta = .28, t = 2.29, p < .05$) for the control condition.

Table 5

Regression of GSE T3 and GHQ T3 on their respective T1 scores, PA T3, NA T3, and the training climate variables.

Predictors	Dependent Variables					
	GSE T3			GHQ T3		
	β	t	sr	β	t	sr
T1 score	.58***	7.45	.58	.43***	5.07	.42
After Step 1:	$R^2 = .33$ (Adj. $R^2 = .33$)			$R^2 = .19$ (Adj. $R^2 = .18$)		
	$F(1, 111) = 55.54, p < .001$			$F(1, 112) = 25.72, p < .001$		
Mths UE	-.07	-1.10	-.11	.05	.69	.07
Prev. Train.	-.01	-.18	-.02	.07	.97	.09
PA T3	.48***	6.76	.55	-.41***	-5.72	-.48
NA T3	-.14*	-2.10	-.20	.42***	5.67	.48
After Step 2:	$R^2 = .57$ (Adj. $R^2 = .55$)			$R^2 = .52$ (Adj. $R^2 = .50$)		
	$\Delta F(4, 107) = 14.43, p < .001$			$\Delta F(4, 108) = 19.00, p < .001$		
TC1	-.01	-.14	-.01	-.02	-.21	-.02
TC2	.05	.58	.06	.03	.37	.04
TC3	.10	1.37	.13	.03	.38	.04
TC4	.07	.77	.08	.06	.67	.07
TC5	-.05	-.68	-.07	-.04	-.49	-.05
After Step 3:	$R^2 = .59$ (Adj. $R^2 = .55$)			$R^2 = .53$ (Adj. $R^2 = .50$)		
	$\Delta F(5, 102) = .91, NS$			$\Delta F(5, 103) = .31, NS$		

Note. GSE = General Self-efficacy, GHQ = General Health Questionnaire, PA = Positive Affectivity, NA = Negative Affectivity, Mths UE = Square root of Months Unemployed, Prev. train. = Previous Training, and sr is the semipartial correlation. * $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

This study reported on the effects of a pre-training intervention specifically designed to improve the psychological well-being (General Self-efficacy and Psychological Distress) of unemployed trainees. As well as examining the impact of the pre-training intervention on measures of psychological well-being, the ability of background variables (length of unemployment and attendance at previous training courses), dispositional variables (PA and NA), and contextual perceptions of the training environment to predict post-training levels of psychological well-being variables were examined. The aim was to identify variables that might be able to explain the improvements in well-being that have been found in previous training programs for the unemployed, particularly for those who initially had lower levels of well-being.

The pre-training intervention was successful at improving general self-efficacy of those participants in the experimental condition who initially reported lower levels of general self-efficacy, although the improvements reversed somewhat over a five-week period after the intervention. Changes also occurred in the levels of Psychological Distress, with those who initially reported higher distress showing the greatest improvements. Although these changes were maintained over a five-week period after the intervention, the experimental and control conditions reported similar scores at the end of the skills-based training.

These short-term benefits resulting from the pre-training intervention were consistent with previous research by the same authors (Creed et al., 1999). Creed et al. have also demonstrated that interventions based on the CBT approach (Beck, et al., 1979), and on the learned optimism work of Seligman (1990), had a long-term,

positive effect on participant's well-being. Increasingly, the focus of evaluations of training interventions for the unemployed is moving away from the short-term impact of the intervention on participants, and including the longer-term benefits that might flow from them (Vuori & Vesalainen, 1999; Vinokur, et al., 2000).

The current study has provided partial support for the positive impact of this type of pre-training intervention, and in order to better understand the behavioural plasticity effects that were discovered, a number of additional factors were also examined. The second hypothesis predicted that participants' length of unemployment and attendance at previous training courses would explain a unique slice of the variance in psychological well-being at T1 but not at T3. The basis for this prediction was the work of Creed et al. (2001) that has linked reduced access to the latent functions of employment and training with lowered levels of well-being. Unfortunately, the number of Months Unemployed and number of Previous Training courses were unrelated to either of the well-being measures at T1 and also unrelated to the well-being measures at T3. Therefore, it was concluded that the length of unemployment and number of previous training courses attended did not influence the participant's reactions to the training program.

A more precise test of the hypothesis relating to the role of the latent functions of employment and training would be possible by using a scale that directly measures the extent to which the person has been able to access the following categories of experience that are unintended or latent functions of employment: imposed time structure on the waking day, contacts and shared experiences with others outside nuclear family, collective goals and purposes, imposed status and social identity, and enforced activity. Muller, Creed, Waters and Machin (2000) developed and trialed an

instrument that allows researchers to investigate the relative contribution of each of these constructs to psychological well-being.

The third prediction was that PA and NA would be significant predictors of General Self-efficacy and Psychological Distress at T1 and T3. This was found to be the case. Both PA and NA were found to be strong predictors of Psychological Distress at T1 and T3. While both variables also were significant predictors of General Self-efficacy at T1 and T3, PA was more strongly associated with General Self-efficacy. This result confirms other research that Positive Affect has at least as much influence on psychological well-being as that exerted by Negative Affect (Diener et al., 1999). In fact, the combination of these two predictors was able to account for 30% of the variance in initial levels of General Self-efficacy and 45% of the variance in initial levels of Psychological Distress. The addition of PA and NA also accounted for a significant slice of the variance in the T3 levels of General Self-efficacy (22%) and Psychological Distress (32%). Therefore, it can be concluded that the levels of psychological well-being reported by the participants are strongly linked to dispositional affect. We agree with Judge and Larsen (2001) that dispositional variables are the main influences on how individuals perceive stimuli in the environment and subsequently regulate their emotional response. A combination of PA and NA should be included in future research into the effectiveness of training programs for the unemployed.

The fourth hypothesis predicted that perceptions of the training environment would also account for a unique slice of the variance in T3 levels of General Self-efficacy and Psychological Distress. The basis for this prediction was research that has linked the social context of the training groups with trainees' levels of psychological well-being at the individual level. This prediction was not supported.

The five training climate scales did not significantly add to the prediction of either outcome. However, when the data for the two conditions were analysed separately, one of the TC scales was able to account for a significant slice of the variance in general self-efficacy for the control condition. Further studies should attempt to model the post-intervention activities of the experimental condition, particularly as there were several significant correlations between the training climate variables and well-being measures for the experimental condition. Therefore, it can be concluded that the final levels of psychological well-being reported by the participants were not a function of the participants' perceptions of the training climate.

There are several limitations that apply to this study. First of all, the study relied on self-reports of background variables, affective states, perceptions of the training climate, and psychological well-being. This meant that there was an unknown amount of common method variance in the measures of association between the variables. Diener et al. (1999) reviewed a large amount of research in the area of subjective well-being and virtually all of the findings they described were based on self-report measures. They caution researchers not to rely so heavily on self-report surveys using cross-sectional designs. One strength of the current study was the use of a longitudinal design to assess the contribution of background variables, dispositional variables and perceptions of the training climate to the prediction of psychological well-being at different times.

A second issue concerned the relatively short period of time (five weeks) that was allowed before the trainees reported their post-training levels of self-efficacy and distress. Where transfer outcomes are measured soon after training is completed, the researcher may fail to differentiate those factors that promote longer-term transfer (Hesketh, 1997a, 1997b).

Conclusion

Training programs for the unemployed have focused on developing participants' self-efficacy and ameliorating the negative effects of being unemployed. The pre-training intervention developed by the authors was an example of a theoretically based intervention that implemented cognitive behavioural therapy techniques with a group of trainees prior to a skills-based training program. There is some evidence that the program was able to raise self-efficacy and reduce distress in the experimental condition and that some of these effects were maintained over the five-weeks until the trainees completed their skills training. The initial analyses demonstrated that behavioural plasticity effects were present. Further analyses demonstrated that participants' final levels of psychological well-being were not predicted by their number of months unemployed, their number of previous training courses, or their perceptions of the training climate. However, participants' dispositional affectivity was a strong predictor of the differential benefits that they derived from the skill-based training program.

References

- Baldwin, T. T., & Magjuka, R. J. (1997). Organizational context and training effectiveness. In J. K. Ford, S. W. J. Kozlowski, K. Kraiger, E. Salas, & M. Teachout (Eds.), *Improving training effectiveness in work organizations* (pp. 99-127). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Co.
- Banks, M. H., Clegg, C. W., Jackson, P. R., Kemp, N. J., Stafford, E. M., & Wall, T. D. (1980). The use of the General Health Questionnaire as an indicator of mental health in occupational studies. *Journal of Occupational Psychology*, 53, 187-194.
- Baumeister, R. F. (1982). A self-presentational view of social phenomena. *Psychological Bulletin*, 81(3), 3-26.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy for depression*. New York: Guilford Press.
- Brockner, J. (1988). *Self-esteem at work: Research, theory, and practice*. Lexington, MA: Lexington Books.
- Caplan, R. D., Vinokur, A. D., & Price, R. H. (1997). From job loss to reemployment: Field experiments in prevention-focused coping. In G. W. Albee & T. P. Gullotta (Eds.), *Primary prevention works* (pp. 341-379). Thousand Oaks, CA: Sage.
- Creed, P. A., Hicks, R., & Machin, M. A. (1996). The effect of psychosocial training climate on mental health outcomes for long-term unemployed individuals.

Australian and New Zealand Journal of Vocational Education Research, 4(2), 26-41.

- Creed, P. A., Hicks, R., & Machin, M. A. (1998). Behavioural plasticity and mental health outcomes for long-term unemployed attending occupational training programs. *Journal of Occupational & Organizational Psychology*, 71, 171-191.
- Creed, P. A., Machin, M. A., & Hicks, R. (1999). Improving mental health status and coping abilities for long-term unemployed youth using cognitive-behaviour therapy based interventions. *Journal of Organizational Behavior*, 20, 963-978.
- Creed, P. A., Muller, J., & Machin, M. A. (2001). The role of satisfaction with occupational status, neuroticism, financial strain and categories of experience in predicting mental health in the unemployed. *Personality and Individual Differences*, 30, 435-447.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125, 276-302.
- Eden, D., & Aviram, A. (1993). Self-efficacy training to speed re-employment: Helping people to help themselves. *Journal of Applied Psychology*, 78, 352-360.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117-140.
- Fraser, B. J. (1981). Predictive validity of an individualised classroom environment questionnaire. *Alberta Journal of Educational Research*, 29, 240-251.
- Fraser, B. J. (1990). *Individualised Classroom Environment Questionnaire: Handbook*. Melbourne: Australian Council for Educational Research.

- Goldberg, D. P. (1978). *Manual of the General Health Questionnaire*. Windsor: NFER-Nelson.
- Haccoun, R. R., & Saks, A. M. (1998). Training in the 21st century: Some lessons from the last one. *Canadian Psychology*, 39(1-2), 33-51.
- Hesketh, B. (1997a). Dilemmas in training for transfer and retention. *Applied Psychology: An International Review*, 46, 317-339.
- Hesketh, B. (1997b). W(h)ither dilemmas in training for transfer. *Applied Psychology: An International Review*, 46, 380-386.
- Jahoda, M. (1981). Work, employment and unemployment: Values theories and approaches in social research. *American Psychologist*, 36, 184-191.
- Judge, T. A., & Larsen, R. J. (2001). Dispositional affect and job satisfaction: A review and theoretical extension. *Organizational Behavior and Human Decision Processes*, 86, 67-98.
- Larsen, R. J., & Ketelaar, T. (1991). Personality and susceptibility to positive and negative emotional states. *Journal of Personality and Social Psychology*, 61, 132-140.
- Latham, G. P. & Crandall, S. R. (1991). Organizational and social factors. In J. E. Morrison, (Ed.), *Training for performance: Principles of applied human learning* (pp. 259-285). Chichester, UK: John Wiley.
- Machin, M. A., & Fogarty, G. J. (2001). *The structure of transfer climate and its role in the transfer of training to the workplace*. (submitted for publication).
- Muller, J., Creed, P. A., Waters, L., & Machin, M. A. (July, 2000). *A new scale to measure the latent functions of unemployment*. Paper presented at the XXVII International Congress of Psychology, Stockholm.

- Murphy, G. C., & Athanasou, J. A. (1999). The effect of unemployment on mental health. *Journal of Occupational and Organizational Psychology*, 72, 83-99.
- Neck, C. P., & Manz, C. C. (1996). Thought self-leadership: the impact of mental strategies training on employee cognition, behavior, and affect. *Journal of Organizational Behavior*, 17, 445-467.
- Rowley, K., & Feather, N. (1987). The impact of unemployment in relation to age and length of unemployment. *Journal of Occupational Psychology*, 60, 323-332.
- Saks, A. M. (1997). Transfer of training and self-efficacy: What is the dilemma? *Applied Psychology: An International Review*, 46, 365-370.
- Schwarzer, R. (1993). *Measurement of perceived self-efficacy. Psychometric scales for cross-cultural research*. Berlin, Germany: Freie Universität Berlin.
- Schwarzer, R., Bäßler, J., Kwiatek, P., Schörder, K., & Zhang, J. X. (1997). The assessment of optimistic self-beliefs: Comparison of the German, Spanish, and Chinese versions of the General Self-efficacy Scale. *Applied Psychology: An International Review*, 46, 69-88.
- Seligman, M. E. P. (1990). *Learned optimism*. Australia: Random House.
- Snyder, M. (1981). Impression management: The self in social interaction. In L. Wrightsman & K. Deaux (Eds.). *Social psychology in the 80's*. Monterey, CA.: Brooks/Cole.
- Vesalainen, J., & Vuori, J. (1999). Job seeking, adaptation and re-employment experiences of the unemployed: A 3-year follow-up. *Journal of Community and Applied Social Psychology*, 9, 383-394.
- Vinokur, A. D., Schul, T., Vuori, J., & Price, R. H. (2000). Two years after job loss: Long term impact of the JOBS program on reemployment and mental health. *Journal of Occupational Health Psychology*, 5, 32-47.

- Vuori, J., Silvonen, J., Vinokur, A. D., & Price, R. H. (in press). The Työhön Job Search Program in Finland: Benefits for the unemployed with risk of depression or discouragement. *Journal of Occupational Health Psychology*, (scheduled for January, 2002).
- Vuori, J., & Vesalainen, J. (1999). Labour market interventions as predictors of re-employment, job seeking activity and psychological distress among the unemployed. *Journal of Occupational and Organizational Psychology*, 72, 523-538.
- Watson, D., Clark, L. A., & Tellegan, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.