SELF-EFFICACY TRAINING TO SPEED REEMPLOYMENT:
HELPING PEOPLE TO HELP THEMSELVES

by

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Abstract

The impact of training designed to boost general self-efficacy (GSE) on job-search activity and on reemployment was assessed among 66 persons unemployed for up to 18 weeks. Randomly assigned experimental participants attended 8 behavioral-modeling workshop sessions over 2.5 wk. The manipulation check showed that training boosted GSE as intended. The workshop also increased job-search activity, confirming the hypothesis that raising GSE motivates intensification of effort. The treatment increased reemployment among participants low in initial GSE, but not among highs. The greater plasticity of individuals low in GSE suggests that the practical utility of training is moderated by initial GSE. We conclude that individuals of low GSE should be given priority access to scarce behavioral-modeling training resources.

Keywords: Self-efficacy; Self-fulfilling prophecy; Unemployment; Training; Behavioral modeling.
Self-Efficacy Training to Speed Reemployment:
Helping People to Help Themselves

A key to the willingness to commit oneself to a highly demanding undertaking is one's belief in one's capacity to mobilize the physical, intellectual, and emotional resources needed to succeed, that is, self-efficacy (Bandura, 1986). Feeling efficacious and expecting to do well motivate intensification of effort and persistence in the face of long odds and setbacks. Laboratory experimentation by sport psychologists has enhanced and inhibited competitive performance involving physical strength and stamina by manipulating self-efficacy (for review see Weinberg, Gould, Yukelson, & Jackson, 1981). Self-efficacy and related self-concepts are emerging as prominent variables in theories of work motivation and performance (Eden, 1988, 1990a; Garland, 1985; Gist, 1987; Locke & Latham, 1990). However, organizational psychologists have begun only recently to treat self-efficacy proactively as a causal variable amenable to manipulation. In a laboratory experiment inspired by self-efficacy theory and by Garland's (1985) cognitive mediation theory, Garland and Adkinson (1985) used goal setting and verbal persuasion to raise expectations and performance.

Field Experimentation on Self-efficacy in Organizations

The earliest work-related field research taking this approach involved the Galatea effect, in which the experimenter raises subordinates' self-efficacy directly and thereby gets them to perform better in a self-fulfilling prophecy (SFP) process (Eden & Ravid, 1982). (This is distinct from the Pygmalion effect, a variety of SFP in which the experimenter raises manager expectations to boost subordinate performance.) Other recent field efforts by psychologists to raise self-efficacy also have obtained productive results. Frayne and Latham (1987) targeted workers' self-efficacy for reducing
absenteeism and achieved improved attendance. Gist, Schwoerer, and Rosen (1989) showed the performance advantage of a behavioral-modeling software course to increase administrators' "software self-efficacy." Caplan, Vinokur, Price, and van Ryn (1989) showed that self-efficacy training for unemployed workers increased reemployment. In the SFP tradition, Eden and Kinnar (1991) provided candidates for service in elite fighting units with information designed to increase their self-efficacy for succeeding and improved the volunteer rate. The present study was similar to those of Eden and Ravid and Eden and Kinnar in adopting the Galatea concept, to that of Caplan et al. in studying the unemployed, to that of Gist et al. in using behavioral modeling, and to that of Garland and Adkinson (1985) in using verbal persuasion.

Employment, Unemployment, Reemployment, and Self-efficacy

Self-efficacy is intimately involved with unemployment. We derive a major portion of our self-efficacy from work. A rich literature documents the devastating blow to self-concept caused by joblessness. Job loss caps a wellspring of self-efficacy. Unemployment researchers agree that self-esteem declines with job loss and is regained with reemployment (Jahoda, 1982; Kelvin & Jarrett, 1985; Shamir, 1986; Swimburne, 1981; Warr & Jackson, 1985; Winegardner, Simonetti, & Nykodym, 1984). With self-esteem, self-efficacy declines as well, and the sense of impotence becomes a self-fulfilling prophecy, as the chronically unemployed cease believing in their ability to regain employment. Finding a job serves a restorative function, as an end to joblessness enables self-efficacy to rebound. Thus, unemployment scholars tend to focus on the impact of employment status on self-efficacy and largely to ignore the contribution of self-efficacy to reemployment. However, the relationship between employment status and self-efficacy is reciprocal. Self-
efficacy plays a crucial role in motivating the unemployed to seek jobs. A major hazard of being unemployed is becoming entrapped in a vicious cycle of job loss $\Rightarrow$ loss of self-esteem and self-efficacy $\Rightarrow$ lack of effort to find a job. The more prolonged the unemployment, the greater the erosion of self-efficacy, the less effort is invested in job search, and the fewer the chances of finding a job. Brockner (1988), Ellis and Taylor (1983), Kanfer and Hulin (1985), and Shamir (1986) have all spotlighted the impact of self-esteem on job search and reemployment. However, none of them has explicitly proposed helping the unemployed find jobs by boosting their self-esteem. An intervention that boosts self-efficacy should trigger a positive SFP process in which the unemployed intensify job-search, and find work quickly.

Boosting Self-efficacy

We designed a workshop to raise self-efficacy among unemployed persons by influencing all four sources of self-efficacy information that Bandura (1986) defined. In descending order of impact on self-efficacy, the sources are enactive attainment, vicarious experience, verbal persuasion, and emotional state. Helping the unemployed prior to their reemployment requires breaking into the vicious circle through the generation of enactive attainment of requisite job-search behaviors (e.g., planning a job search, making a convincing self-presentation, solving employment-related problems) as well as other sources of information that bolster self-efficacy.

Vicarious experience, the second most powerful source of self-efficacy information, is also the basis for behavioral modeling (Goldstein, 1986). We reasoned that behavioral modeling is the prime training technique when there is a need to augment self-efficacy prior to actual enactive attainment, which, for the unemployed, is finding a job. Thus, we used behavioral modeling as a means of augmenting self-efficacy. We also included elements of the other
sources of self-efficacy where practicable.

**General and Specific Self-efficacy**

There has been controversy over whether the expectancy-related constructs incorporated into work motivation theory should be conceptualized as temporary states of the individual that are focused on specific tasks, or as stable, trait-like self-perceptions of the ability to effect requisite performances as it generalizes across a wide variety of situations (Eden, 1988). Bandura (1986) argued that particularized measures of self-efficacy are preferable because self-efficacy is focused on specific performances and varies from task to task. Goal-setting scholars also eschew GSE scales as being "not nearly as accurate or as precise" as specific measures (Locke & Latham, 1990, p. 348). Others have also contrived ad hoc measures of specific self-efficacy. Caplan et al. built a scale of job-seeking self-efficacy and Gist et al. (1989, Appendix) measured computer self-efficacy and software self-efficacy. Thus, specific self-efficacy has dominated in organizational psychology.

Personality psychologists view self-efficacy as a generalized trait. Sherer, Maddux, Mercadante, Prentice-Dunn, Jacobs, and Rogers (1982) cited evidence that "the experiences of personal mastery that contribute to efficacy expectancies generalize to actions other than the target behavior." They reasoned that "individual differences in general self-efficacy expectancies exist" and that "these generalized expectancies should influence the individual's expectations of mastery in the new situations" (p. 664). They developed the General Self-efficacy (GSE) Scale and found that it correlated with employment status, number of jobs quit, times fired, educational level, and military rank. They proposed that GSE be used "in determining the success of psychotherapy and behavioral change procedures" (p. 671). In a related
development, Scheier and Carver (1985) have conceptualized generalized outcome expectancies in terms of dispositional optimism and devised and validated the Life Orientation Test (LOT) to measure it. Eden (1988) proposed adopting the concept of GSE as well as specific self-efficacy (SSE) in work motivation research. Eden and Kinnar (1991) treated SSE as an independent variable, raised it experimentally, and effected a behavioral outcome. Moreover, GSE moderated the effect of the treatment on behavior; individuals of low GSE were influenced by the treatment more than the highs.

As Eden and Kinnar's experimental treatment consisted of several sentences embedded in oral presentations made before the subjects in one hour's time, they predicted that only SSE would be influenced. We reasoned that a treatment that a) was longer, b) targeted a wider range of participant competencies, c) included role-playing rehearsal, and d) was administered in the context of a central life concern—unemployment—ought to influence GSE.

**Behavioral Plasticity**

Brookner (1988) has mustered findings that persons who are low in self-esteem are more susceptible to external influence, such as by experimenters, managers, and other mentors, than are individuals whose self-esteem is high. Such a moderated relationship is masked in analyses of all participants together. Plasticity has an important practical upshot that has been largely overlooked: programs that work when applied to lows might not work for highs. This means that such interventions are wasted upon the highs. If it can be shown that behavioral-modeling helps trainees of low GSE but not highs, training costs could be saved by not assigning highs to such training, and training effectiveness could be improved by finding what does work for highs.

**Self-efficacy and Self-esteem.** Brookner's work has been focused on self-esteem. However, support for the plasticity hypothesis has also been found
using self-efficacy as the moderator. Besides Eden and Kinnar, Jones (1986) also showed that the relationship between organizational socialization tactics and newcomers' role orientations is moderated by self-efficacy in a manner that confirms the plasticity hypothesis. Despite conceptual differences between self-efficacy and self-esteem (Bandura, 1986; Brookner, 1988; Eden, 1990a; Gist, 1987), the measures in use lack discriminant validity. In pilot work, we measured self-esteem using the Rosenberg (1965) scale. Correlations between GSE and self-esteem, computed separately among experimental and control participants on three occasions, ranged between .75 and .91. Thus, each of these variables can serve as a proxy for the other, and either can be used to test the plasticity hypothesis. Because self-efficacy was the self-percept of prime theoretical interest to us, we chose it as the moderator. We adopted the plasticity hypothesis, and predicted stronger treatment effects among participants low in GSE than among highs.

We thus tested the applicability of self-efficacy theory by using behavioral modeling to boost self-efficacy among unemployed workers in order to increase their job-search behavior and to speed their reemployment. We hypothesized that raising self-efficacy causes intensification of effort. Specifically, we predicted that exposing unemployed workers to GSE-building information would cause them to exert greater effort in seeking jobs. We also predicted that enhanced GSE and intensified job-search would culminate in speedy reemployment. In accordance with the plasticity hypothesis, these effects should be stronger among participants of low initial GSE.

Method

Design and Sample

The Ministry of Labor's Employment Service classifies unemployed workers
as academic, vocational, or unskilled. We studied 66 unemployed vocational workers. This category includes workers with postsecondary training and workers who have passed qualifying examinations under Ministry auspices. It includes such occupations as bookkeepers, clerks, teachers, skilled mechanics, and technicians. Workers officially certified as unemployed are eligible for unemployment benefits, but must present themselves in person at the employment office at least once a week. Each reports to the placement officer to whom he or she has been assigned, usually on the same day or days of the week.

Letters of invitation to a reemployment workshop were placed about the waiting room of an urban employment office for one work-week in the Spring of 1988. The letter described the workshop and invited interested persons to register with any placement officer. Of the roughly 400 persons who passed through the office that week, 88 registered. We randomly assigned 43 to the experimental group and 45 to the control group. On the following Sunday, we told the placement officers whom to invite to the workshop and whom to ask to fill out questionnaires only. The latter were told that the workshop was now full but that we would try to include them in future workshops. Of those invited to participate, 39 began the workshop, 33 completed it, and 32 were located 2 mo later for the follow-up measurement. Of those asked to complete questionnaires only, 42 completed pretest questionnaires, 38 completed the posttest, and 34 were located 2 mo later. The first two measures were taken by the workshop trainer for the experimental group and by placement officers for the control group. As those reemployed severed ties with the employment office, the last measure had to be taken at participants' homes. This made finding some difficult, and others impossible. As repeated-measures analysis requires data from every subject on every occasion, only the 32 experimental participants and the 34 controls who completed all three measures could be
included in the analyses. The length of unemployment among these 66 at the
beginning of the study ranged between 2 and 18 wk; the median was 8 wk.
There were 38 women and 28 men. There were no significant differences between
those assigned to the two conditions in sex, age, or length of unemployment.

Though we could not ascertain the reasons for dropping out in every case,
attrition throughout the study was equivalent in both groups. Of those who
completed the pretest, 7 experimental and 8 control subjects did not complete
the follow-up measure. Of the 7 experimental drop-outs, 2 claimed disinterest
after the first wk of the workshop, 3 found work before the posttest, and 2
were impossible to locate at their last known addresses. Of the 8 control
drop-outs, 2 found work between the pretest and posttest, 2 apparently left
the country, one refused to complete the posttest measure, and 3 could not be
located. Thus, it seems unlikely that experimental mortality biased the
results in a way that increased the likelihood of confirming hypothesis.

Measures

GSE was assessed by a revised version of the 17-item General Self-
efficacy Scale (Sherer et al., 1982). Psychometric properties and evidence
for the original scale's construct validity are available (Sherer et al.,
1982; Sherer & Adams, 1983; Tipton & Worthington, 1984). We translated the
items into Hebrew and pretested them among a pilot sample of 125 unemployed
workers. Cronbach's coefficient alpha was .78. To increase reliability, we
added another 17 items. The original English version at first had used 14-
point agree-disagree response scales, which were replaced later by 5-point
scales. We reduced this from 5 to 4 points to prevent the tendency to
overchoose the midpoint. We pretested this 34-item version on a sample of 45
management students. Item analysis indicated that 17 items constituted the
most reliable index. Of the 17, 13 were in the original measure (see items in Sherer et al., 1982). The revised translated scale's alpha was .89, compared to .86 reported by Sherer et al. (1982) for the original English version. Illustrative items are "When I make plans, I am certain I can make them work," "When I decide to do something, I go right to work on it," "When unexpected problems occur, I don't handle them well," and "I give up easily."

Job-search activity was quantified using self-report forms on which the participants wrote down each job-search activity in which they engaged in the previous two days. The form called for detailed entries. "Had a job interview" was insufficient. They were required to state where, when, and with whom the interview took place. "I telephoned about a job" had to be supplemented with details of whom was called and when. The form was completed on the pretest and posttest occasions. The activity score was the number of bone fide job-search activities on the form, with no judgment of their quality. Two naive judges independently tallied the number of acceptable activities on each form. The correlation between their scorings was .96.

Self-efficacy workshop

Workshop content was based on Kelvin and Jarrett's (1985) analysis of the psychological damage that unemployment inflicts in ten areas, including such self-efficacy-relevant variables as lack of success experiences, performance anxiety, disruption of social contacts, discoupling of activities from reality, and discontinuation of familiar routine. Some of the exercises were borrowed from the CETA training manual titled "Skills for Living and Working: Tools for Personal and Career Development" (Lapides, 1980). Video clips 4 or 5 min long, showing models successfully performing job-search behaviors, were screened. This was followed by brief discussion of the behavior modeled, and then by role-playing in small groups in which each participant rehearsed the
modeled behavior and got feedback from the others. The vital importance of successfully enacting each behavior in the workshop as a prerequisite to its successful enactment in actual job search was accentuated. The encouragement of the trainer and of peers provided verbal persuasion. Each session was concluded with a summary of what had been learned that day.

Procedure

The workshop began on a Tuesday, the third workday of the week in Israel. We chose Tuesday because the week-end newspapers are a major source of information about job openings, and our measure of job-search activity was based on the previous two days. During this week the placement officers had the control subjects fill out questionnaires when they presented themselves. Sessions continued every other workday and ended with the eighth session 2 1/2 weeks later. At this session the workshop participants completed posttest questionnaires; the placement officers administered posttest questionnaires to the control subjects during this week.

Results

The correlation between length of unemployment prior to the experiment and initial GSE among all 66 participants was -.74 (p < .01). Considering the restricted range of unemployment, it is noteworthy that the relationship was so strong. This correlation may reflect the effect of GSE on length of unemployment, the impact of length of unemployment on GSE, or both.

Insert Table 1 and Figure 1 about here

Manipulation check

To determine whether the treatment affected GSE as intended, GSE was subjected to a 2 (Treatment) X 3 (Occasion) repeated-measures analysis of
variance (ANOVA), presented in Table 1. The main effects of treatment and occasion, as well as the Occasion X Treatment interaction, were significant. These effects are displayed graphically in Figure 2. Simple-effects tests (Winer, 1971) were used to determine the significance of particular mean differences of interest. Comparing experimental and control means on each occasion, the pretest difference was not significant ($F[1, 64] = 1.89$, n.s.). The similarity of pretest means reflects the success of randomization in creating preexperimental equivalence between conditions. On both the posttest and follow-up occasions, the experimental participants scored significantly higher than the controls ($F[1, 64] = 24.44$, $p < .01$, and $F[1, 64] = 7.27$, $p < 0.01$, respectively). Focusing on changes within conditions over time, the top curve shows the intended pretest-posttest rise in GSE among the experimental participants. Two months later, mean GSE in the experimental group stabilized at precisely the posttest level (simple-effects test across three occasions: $F[2, 128] = 13.77$, $p < .01$). Thus, the workshop was not a fleeting quick fix, but an intervention that created a relatively lasting boost in relatively stable, trait-like GSE. In contrast, the bottom curve evidences a smaller but significant pretest-posttest dip in GSE among the controls, returning two months later to precisely the pretest level (across three occasions: $F[2, 128] = 3.47$, $p < .05$). These differences between conditions in the pattern of change in mean GSE over time—rising and stabilizing in the experimental group while dipping a bit and then returning to the initial level among controls—rendered the Occasion X Treatment interaction significant. The eta-squared coefficients in Table 1 indicate that the significant effects, all indicative of the manipulation check, accounted for over a third of the variance. We conclude that the workshop augmented GSE as intended.
**Impact of the Workshop and of Initial GSE on Job-search Activity**

To test the effect of the treatment and the moderating effect of GSE on job-search activity, initial GSE was dichotomized on the basis of a median-split and the variance in activity was analyzed by a 2 (Treatment) X 2 (Initial GSE) X 2 (Occasion) repeated-measures ANOVA, presented in Table 2. The main effect of both treatment and initial GSE were significant, as was the Occasion X Treatment interaction.

The workshop. Inspection of Figure 2 reveals that, at pretest, within each initial GSE level, randomization had created equivalent pretest levels of job-search activity among experimental and control participants ($F < 1.00$ at both GSE levels). At posttest, for both levels of initial GSE, experimental participants reported higher mean activity levels than controls, though the difference was significant among the lows only ($F[1, 64] = 15.38, p < 0.01$; among the highs, $F[1, 64] = 2.51$, n.s.). Comparing the four curves reveals different patterns of change in activity levels across time among experimental and control participants. Both experimental curves have a positive slope (among the highs, the increase is of borderline significance: $F[1, 64] = 3.03, p < .09$; among the lows, $F[1, 64] = 6.92, p = .01$), whereas one control curve is utterly flat and the other has a nonsignificant negative slope (among the lows, $F[1, 64] = 2.23$, n.s.). This difference between conditions in the amount and direction of change, positive for experimental participants and nil or negligible for controls, evidences the boost predicted in job-search among workshop participants but not among controls. This differential change in activity level in different conditions rendered the Occasion X Treatment
interaction significant, and it experimentally confirms the hypothesis that boosting GSE causes intensification of effort. Significant effects involving treatment in Table 2 account for a quarter of the variance in job search.

As the job-search measure was a ratio scale, we can interpret this difference accordingly. Among low-GSE participants, the posttest activity level of 0.47 for the controls is about half an activity per two-day period. This translates into an average of just over one activity per work-week. This means that most of these people were doing little or nothing to find a job; they clearly had stopped trying. In contrast, 1.43 extrapolates to between three and four weekly activities. Thus, after starting out equivalently, at posttest the experimental participants were engaging in three times more job-search activity than the controls. Among high-GSE participants the parallel posttest numbers are between three and four and between four and five activities per week for control and experimental participants, respectively.

**Initial GSE.** The positive main effect of initial GSE on job search is evident in Figure 2 by the fact that the high-GSE curves are consistently higher than the low-GSE curves. GSE had a main effect only; it did not interact with occasion. This is apparent by comparing same-condition pairs of curves; within each randomly assigned condition, those with high GSE were more active than the lows on both occasions. Three of these differences were significant, and the fourth approached significance (at pretest, in the experimental group, $F[1, 64] = 10.34, P < 0.01$, and in the control group, $F[1, 64] = 13.46, P < .01$; at posttest, experimental $F[1, 64] = 2.82, P < 0.10$, and control $F[1, 64] = 18.56, P < .01$). Thus, preexisting GSE was having a positive effect on job search at pretest, prior to the workshop, as well as at posttest, after the workshop. The positive main effect of initial GSE on job search nonexperimentally confirms the hypothesis that self-efficacy causes
intensification of effort. Initial GSE accounted for over a third of the variance in job search. However, without manipulating GSE, this finding could have been interpreted as a reflection of a preexisting, noncausal relationship between GSE and job search resulting from other causes.

**Plasticity.** Comparing the slopes of the two experimental curves, the change in activity appears somewhat greater among participants of low initial GSE than among the highs, among whom the change was barely significant. Also, the posttest difference between experimental and control participants is larger among those of low GSE than among the highs, among whom the difference was barely significant. Moreover, separate simple-effects analyses among high- and low-GSE participants revealed that, among the lows, the simple main effect of treatment was significant ($F[1, 64] = 9.57, p < 0.01$), as was the simple Treatment X Occasion interaction effect ($F[1, 64] = 8.71, p < 0.01$); among the highs, neither effect was significant ($F[1, 64] = 1.52$ and $F = 1.47, df = 1, 64$, both n.s.). Detecting the treatment effect among lows but not among highs is consistent with the plasticity prediction. However, as the 3-way interaction in Table 2 was not significant, these simple-effects should be regarded as suggestive, but not confirmative, of the plasticity hypothesis.

Insert Tables 3 and 4 about here

**Impact of the Self-efficacy Workshop on Reemployment**

To test the treatment effect and plasticity hypothesis on reemployment, the reemployment dichotomy was analyzed by a 2 (Treatment) X 2 (Initial GSE) ANOVA, presented in Table 3. The main effect of initial GSE and the Initial GSE X Treatment interaction were significant. The frequencies in the top half of Table 4 show that those high in initial GSE were likely to find jobs
whether or not they had participated in the workshop; 14 reemployed out of 17
highs in the control condition may be a ceiling that experimental participants
could not exceed. The bottom half of the table shows that the lows had high
likelihood of finding work only if they had been in the workshop. According
to Fisher's Exact Test, shown in Table 4, the relationship between the
treatment and reemployment was significant among the lows but not among the
highs, confirming the plasticity hypothesis. Thus, the workshop produced the
predicted effect on reemployment, but only among those of low initial GSE.
This confirms the plasticity hypothesis and pinpoints whom training helped.

To ascertain whether the moderated effect of treatment on reemployment
was mediated by job-search activity as hypothesized, we regressed reemployment
on posttest activity, initial GSE, treatment (experimental/control), and an
interaction term formed by multiplying initial GSE by treatment, in that
order. Activity and GSE were continuous variables; treatment was entered as
a dummy variable. Activity explained 37% of the variance in reemployment ($F = 37.10, p < .01$). Neither main effect of treatment nor of GSE was significant.
However, the GSE X Treatment interaction, entered last, added a significant ($F = 4.71, p < .05$) 4% to the variance explained. Comparing these results to
those in Table 3 reveals that partialing out activity reduced the main effect
of GSE to nonsignificance, and reduced the proportion of variance explained by
the GSE X Treatment interaction from .11 to .04. Thus, job-search activity
mediates all the effect of initial GSE on reemployment. Furthermore, the
impact of the workshop on reemployment among low-GSE participants is due
mostly to its effect on job-search activity, though it significantly affected
reemployment also through other mediators, not measured in this study.
Discussion

The Impact of Self-efficacy on Employment Status

GSE affected employment status in two ways. First, naturalistically, as those with higher initial GSE were more likely to become reemployed; second, experimentally, as those whose GSE was raised by the workshop were more likely to find jobs. This is the crucial point at which the workshop broke into the vicious circle and helped the participants to help themselves. Together with the differential changes in job-search activity, this finding confirms the hypothesis that raising GSE causes intensification of effort. It also shows self-efficacy training can produce a practically important pay-off.

Job Search

The results show that preexisting GSE is positively associated with job-search behavior, and that augmenting GSE causes intensification of job-search. Their belief in their capacity to conduct a successful job search having been strengthened by the workshop, participants proceeded to fulfill their prophecy of success. Not surprisingly, those who sought jobs more were more likely to find them. The regression analysis confirmed that job-search behavior is the major mediator that converts high GSE into reemployment. However, not all workshop participants benefited equally, as not all were equally "plastic."

Behavioral Plasticity

The results that confirm the behavioral plasticity hypothesis have a straightforward interpretation: The workshop gave the low-GSE participants just what they lacked—the self-confidence to go out and do what needed to be done to get a job. Our plasticity finding has great practical importance, for, unlike most previous training studies that made no distinctions among participants, we can now specify whom self-efficacy training is most likely to help. It should be invested only in individuals prescreened for low GSE; it
is wasted on the highs. Further research is needed to answer three questions. First, is there a practical limit or ceiling to the level of GSE attainable as measured? We cannot rule out the possibility that the workshop did not help the highs because it could not give them what they already had—high self-efficacy. In our study, because GSE was both the independent variable and the moderator, it was impossible to disentangle plasticity and ceiling effects, if the latter existed. Second, are different techniques required to raise high GSE still higher, and would motivated effort be further intensified among highs so treated? Third, are other programs also ineffective among highs?

It is hard to exaggerate the importance of the plasticity finding. The main effect of the treatment in Table 3 was not significant. Had we not sought the plasticity effect or some other moderated effect, we would have inferred that the workshop had no impact on reemployment. Using trait self-esteem as the moderator, Brockner (1985) also found a significant interaction effect in the absence of a main effect of the treatment variable, in his case positive inequity in payment. These findings bear out Weiss and Adler's (1984) argument that the importance of personality in organizational behavior has been dismissed prematurely. We suspect that in many other studies with negative main-effects, testing for plasticity would unmask significant effects. Moreover, finding plasticity using self-efficacy instead of self-esteem as the moderator increases the robustness of the plasticity construct and extends its generalizability. Plasticity can probably be found using self-esteem, self-efficacy, or any self-referent correlate of these.

Caplan et al. called for further research to determine who should receive the workshop intervention. The present findings, together with those of Eden and Kinnar and Gist et al., point to persons with low self-efficacy as prime
beneficiaries of modeling-based self-efficacy interventions. It may be a practical way to motivate performance also in other areas of endeavor among persons of low GSE. These include chronic low performers, who are known to overattribute their failures to low ability (i.e., they have low self-efficacy; see Weiner, 1980); women in traditionally male work roles, who have low self-efficacy for performing such roles (e.g., Bem & Lenney, 1976; Hackett & Betz, 1981; Stein & Bailey, 1973); and workers introduced to new, threatening technologies, computers being only one of these (Gist et al., 1989). Thus, there is an abundance of potential beneficiaries for GSE training in the world of work. Pending further replication and confirmation of the plasticity hypothesis, we recommend giving priority to candidates with low GSE when demand for costly behavioral-modeling training outstrips supply.

One problem that selectivity in application of training methods poses for the practitioner is what to say to individuals singled out for inclusion in, or exclusion from, a program on the basis of their GSE. It is not likely to be helpful to inform people of the true reason for the selection. What then are they to be told? Furthermore, plasticity leaves us with a gap in our knowledge, inasmuch as we know more about how to help the lows than the highs. Excluding highs from programs we know do not work for them may make them feel unjustly deprived of valuable opportunities. Thus, selectivity in response to plasticity will create a fairness problem until we know what works for highs. **Comparison with Caplan et al.**

Undertaken prior to the publication of Caplan et al., and with no knowledge of it, our experiment resembled theirs in several ways. They are constructive replications of each other (Lykken, 1968). Unwittingly, we answered their "question of whether this particular intervention will apply in other times, settings, cultures, and subcultures" (p. 768). We obtained
convergent results using similar approaches in different cultures. The main differences were: their sample was much larger and more varied; they had multiple sites and several trainers, whereas we had one; they had a much higher experimental no-show rate (59%), but compensated for this by using the data of all individuals initially assigned; we boosted GSE, whereas they increased SSE; our workshop produced an increase in job-search activity, whereas theirs did not; they showed that reemployed participants benefited in terms of the quality of their new jobs and their earnings, but scored similar to controls on mental health, whereas we did not measure these variables.

There were big differences between the studies in effect sizes. Though they did not report effect sizes, they can be computed from the statistics they provided. The differences between experimental and control subjects in self-efficacy on both occasions (Caplan et al., Table 2) were significant at the .02 level. However, $\eta^2$ for these differences do not exceed .02, indicating that hundreds of cases rendered very weak effects statistically significant. Our experiment produced effect sizes in GSE that were tenfold larger with a sample one tenth the size. Similarly, our nonsignificant 9% difference in overall reemployment rate actually exceeded theirs; the difference between experimental and control reemployment rates on two posttest occasions in their study were only 7% and 8%, but both were significant when tested with over 600 df. Moreover, among our participants of low GSE, the experimental - control difference in reemployment rates was both significant and much larger: 39%. Despite the differences between the two experiments, the similarities in their concept and design is backed by the convergence of their findings. Both interventions improved reemployment rates.

In a follow-up of the Caplan et al. sample, Vinokur, van Ryn, Gramlich,
and Price (1991) did a benefit-cost analysis and estimated that, considering
the cost of the program, the long-term benefit to the participants, and dollar
return to the State for its investment in it, were enormous. Given that our
effect sizes were several times larger, and our costs immeasurably lower, we
conclude that the per capita return from our workshop renders it highly cost
effective. This should encourage practitioners to do self-efficacy training.

General and Specific Self-efficacy

Posttest and follow-up remeasurement detected significant, stable change
in GSE due to training. The self-percept assessed by this measure was labile
enough to be affected by our workshop. The present effect size exceeds that
found in previous organizational experiments on SSE. Though we did not
measure SSE in the present study, we can infer that it was influenced even
more than GSE, as by definition SSE is more malleable. Although this may not
resolve the state-trait controversy, it does show that GSE can be useful in
applied psychological research, and that planned interventions can alter it.

Limitations of the Present Research

A potential threat to the validity of the present experiment stems from
having the workshop trainer collect the pretest and posttest questionnaire
data from the experimental participants, while placement officers in the
employment office did so for the control subjects. If the participants
understood the aims of the study and wanted to "repay" the trainer for her
efforts by presenting themselves as highly self-efficacious in the posttest,
this would bias the results in the direction that confirms the hypothesis.
However, this bias could compromise neither the follow-up measure, which was
taken at participants' homes by someone else, nor the reemployment dichotomy.
Thus, this threat to validity is negligible. Another validity issue concerns
our claim that the pretest-posttest gain in GSE among experimental subjects
was due to the workshop. Because the employment process takes time, and these individuals were seeking jobs during this period, it is possible that they were experiencing some success in their job-search activities and that this was what actually boosted their GSE. Though this possibility cannot be ruled out, it would still render the measured increase in GSE among experimental participants an indirect effect of the workshop, and would not alter the general thrust of this report.

Our procedure restricted our sample to volunteers. We have no data on differences and similarities to nonvolunteers. However, the usual precautions called for in generalizing from research on volunteers are not relevant in the present context. An inherent feature of any program designed to help people is that the helpees be willing to invest some effort on their part. Therefore, in a study of this type, volunteering does not bias the sample. On the contrary, it focuses the research on the relevant population. However, our experiment sheds no light on ways to help nonvolunteers. How to get the unemployed to want to be helped is beyond the scope of the present research.

Conclusions

Kelvin and Jarrett (1985) introduced their treatise on unemployment with the pessimistic view that "professionally there is very little that psychologists as such can actually and directly do for the unemployed. . . . Research on the social psychological effects of unemployment is therefore of very little direct use to the unemployed" (pp. 3-4, emphases in original). This admission of low professional self-efficacy comes from overemphasizing one side of the reciprocal relationship between employment status and self-efficacy and from failure to consider intervening to augment self-efficacy. Our experiment and that of Caplan et al. (1989) show that there is much that
applied psychologists can do for the unemployed. The experimenters did not find a job for anyone; rather, they set an SFP process in motion. Their GSE augmented by the workshop, believing now that they could do it, the participants themselves executed the requisite activities and found jobs. Helping people to regain their GSE is help of the noblest kind, and ultimately the most effective, for it truly helps them to help themselves.

Few workers have psychologists, but every employee has a manager. Therefore, managers are the professionals best positioned to boost workers' GSE efficiently. Challenging workers by saying "I know you can do it!" with a supportive tone and an encouraging nod has long been part of management lore. Boosting subordinates' GSE is part of management practice, particularly among "natural Pygmalsions" (Eden, 1990a). It is particularly emphasized in sports coaching, in scout mastering, and in the military. Productive SFP effects can be created in whole groups by raising leader expectations (Eden, 1990b).

Training managers to adopt a Pygmalion Leadership Style (Eden, in press) or training personnel in savvy application of impression management (Eden, 1991) may be fruitful ways of raising GSE. Mounting experimental evidence shows that devising interventions to arm practitioners for building GSE in various areas of motivated endeavor is within our professional competency.
References


University Press.


Author Notes

The second author conducted the experiment in the field under the first author’s supervision as part of the requirements for his doctoral degree in organizational behavior at Tel Aviv University. We are grateful to Jerry Lapides of LAPID Consultants for making his training manual available and permitting us to use the material in it.

Reprints are available from Dov Eden, Faculty of Management, Tel Aviv University, Tel Aviv 69 978, ISRAEL.
### Table 1

**Analysis of Variance of Self-efficacy Across Three Occasions**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
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<th>F</th>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>4.551</td>
<td>4.552</td>
<td>9.77**</td>
<td>.13</td>
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<tr>
<td>Subjects within groups</td>
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<td>29.828</td>
<td>0.466</td>
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<tr>
<td><strong>Within subjects</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Occasion</td>
<td>2</td>
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<td>0.184</td>
<td>5.32*</td>
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<tr>
<td>O x T</td>
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<td>4.432</td>
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*p < .01*
Table 2

Analysis of Variance of Job-seeking Activity Across Two Occasions

<table>
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<th>eta^2</th>
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<td><strong>Between subjects</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td><strong>Within subjects</strong></td>
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</table>

*p < .01.
Table 3

Analysis of Variance of Reemployment Dichotomy

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<th>MS</th>
<th>F</th>
<th>eta&lt;sup&gt;2&lt;/sup&gt;</th>
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<td>0.156</td>
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<tr>
<td>G x T</td>
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<td>1.571</td>
<td>1.571</td>
<td>7.48**</td>
<td>.11</td>
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<td>0.210</td>
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<tr>
<td>groups</td>
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</tbody>
</table>

*p < .02

**p < .01
Table 4

Reemployment Among Experimental and Control Participants
of High and Low Initial GSE

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<th>Control</th>
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<td>High GSE\textsuperscript{a}</td>
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<tr>
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<td>14</td>
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<tr>
<td>Unemployed</td>
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<td>3</td>
</tr>
<tr>
<td></td>
<td>Low GSE\textsuperscript{b}</td>
<td></td>
</tr>
<tr>
<td>Reemployed</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Unemployed</td>
<td>6</td>
<td>13</td>
</tr>
</tbody>
</table>

\textsuperscript{a} \ p = .14, Fisher's exact test.

\textsuperscript{b} \ p = .02, Fisher's exact test.
Figure Captions

**Figure 1.** Change in general self-efficacy (GSE) as a function of treatment.

**Figure 2.** Change in job-search activity as a function of initial general self-efficacy (GSE) and treatment.