

The Evaluation of an Individual Burnout Intervention Program: The Role of Inequity and Social Support

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This study evaluated a 5-week, group-based burnout intervention program among direct-care professionals working with mentally disabled individuals. Equity theory was used as the theoretical framework. The main objective of the program was to reduce perceptions of inequity in the relationship with the organization and with the recipients of care by increasing the fit between the professional's goals and expectations and the actual work situation. One experimental group and 2 control groups participated. All 3 groups filled out 3 questionnaires: before the program started, 6 months later, and 1 year later. Individual absenteeism rates were assessed for 1 year before and after the program. Results showed that in the experimental group burnout, absence, and deprived feelings diminished compared with the control groups. The most profound effects were among participants who could draw on social resources to benefit from the intervention.

Since its "discovery" in the early 1970s, burnout has been recognized as a serious threat, particularly for human service professionals (Schaufeli, Maslach, & Marek, 1993). Professional burnout is in general viewed as a syndrome consisting of three dimensions: *emotional exhaustion* (i.e., the depletion or draining of emotional resources), *depersonalization* (i.e., a negative, callous, and cynical attitude toward the recipients of one's care), and *reduced personal accomplishment* (i.e., the tendency to evaluate oneself negatively with regard to one's accomplishments at work; Maslach, 1993; Maslach & Jackson, 1986). Research over the past two decades has shown that burnout is not only related to negative outcomes for the individual, including depression, a sense of failure, fatigue, and loss of motivation, but also to negative outcomes for the organization, including absenteeism, turnover rates, and lowered productivity (for recent reviews,

see Cordes & Dougherty, 1993; Schaufeli & Buunk, 1996). Given these negative outcomes, it is not surprising that a number of intervention programs have been developed to reduce burnout. Most intervention programs are aimed at the individual professional, usually combining various methods such as relaxation techniques, cognitive stress management, time management, social skills training, didactical stress management, and attitude change (Pines & Aronson, 1988).

Research examining the effectiveness of such programs suggests that the core symptom of burnout—emotional exhaustion—can indeed be reduced, particularly by training professionals to use coping skills such as relaxation techniques, cognitive restructuring, and social skills. For example, West, Horan, and Games (1984) found at a 4-month follow up that stress inoculation training decreased burnout (i.e., emotional exhaustion and reduced personal accomplishment), anxiety, and systolic blood pressure. In a study among women from various helping professions, Higgins (1986) found that a cognitive behavioral program that included assertiveness training and rational emotive therapy resulted in a lower level of emotional exhaustion compared with a nontreatment control group. Using a pretest–posttest matched control-group design in a sample of social services workers, Corcoran and Bryce (1983) showed positive effects of a 4-week interpersonal skills training on levels of emotional exhaustion. Schaufeli (1995) observed a decrease in levels of emotional exhaustion but not in the other burnout components (i.e., deper-

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This study was granted by the Bedrijfsvereniging voor de Gezondheidszorg (BVG), Zeist, The Netherlands.

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sonalization and reduced personal accomplishment), for community nurses 1 month after they had followed a 3-day burnout workshop that included most of the elements mentioned above by Pines and Aronson (1988). However, some studies have shown minor or no effects of similar programs (Freedy & Hobfoll, 1994; Pines & Aronson, 1983). Moreover, programs aimed mainly at enhancing the provision of social support, such as staff support groups, do not seem to reduce burnout, although they may increase the level of satisfaction with colleagues and superiors (Brown, 1984; Larson, 1986). Finally, some studies suffer from methodological inadequacies such as the lack of one or more control groups (e.g., Brown, 1984; Larson, 1986; Schaufeli, 1995).

The present research examined the effectiveness of a burnout intervention program for professionals working in direct care of mentally disabled individuals. The program included cognitive restructuring exercises that were, in part, based on equity theory (Walster, Berscheid, & Walster, 1973), assuming that burnout results in an important extent from perceptions of inequity and that consequently, intervention programs that aim at reducing burnout could do so through changing these perceptions. Equity theory is a theory of social justice originally developed by Adams (1965) that outlines the conditions that make individuals perceive a situation as inequitable and specifies the various ways in which individuals will respond to such a situation. According to this theory, individuals perceive a situation as fair when their own ratio between outcomes and inputs is the same as that of a comparison other. *Inputs* are the contributions perceived by an individual as relevant to an exchange and can consist of factors such as time, attention, skills, and effort. *Outcomes* are described as the perceived receipts from the exchange, including status, appreciation, gratitude, and pay. When one's own outcomes relative to one's inputs are lower than those of a comparison other, one feels *deprived*, and when one's own outcomes relative to one's inputs are higher than those of a comparison other, one feels *advantaged*. Equity theorists have argued that feeling deprived as well as feeling advantaged is accompanied by negative feelings, and numerous studies have shown support for this hypothesis (Buunk, 1995). In general, research has shown that in organizational contexts inequity can have important motivational effects and may lead to resentment, absenteeism, and turnover (Cropanzano & Greenberg, 1997; Geurts, Buunk, & Schaufeli, 1994a). Recently, perceived organizational inequity has also been linked to professional burnout. It has been argued that because human service professionals often make high emotional investments in their work, they will be relatively sensitive to the rewards the organization provides in return, for instance, in the form of salary, positive feedback, and career advancement. When such rewards fall short of what one feels one deserves in terms

of one's inputs, burnout may develop. Recent studies among student nurses (Schaufeli, van Dierendonck, & van Gorp, 1996) and therapists (van Dierendonck, Schaufeli, & Buunk, 1996) have shown that employees who perceive inequity at the organizational level experience more burnout.

Although equity theory started as a theory focusing on employee-employer relationships, over the years the theory has been expanded to various other types of relationships, including harmdoer-victim relationships, intimate relationships, and helping relationships (Buunk, 1995; La Gaipa, 1977). Although it is generally recognized that the relationship between the helping professional and the recipient of care lies at the core of burnout (Cherniss, 1980; Maslach, 1993), the specific nature of this relationship has hardly been examined in detail. Buunk and Schaufeli (1993) argued that the relationship between professional and recipient should be considered as an ongoing social exchange process that is governed by the principles of equity. The assumption is that there exists a characteristic human tendency to expect some rewards such as gratitude in return from others to whom we provide caring, empathy, and attention. However, within the helping professions, such expectations are often not fulfilled (cf. Maslach, 1982). Indeed, the relationship between professional and recipient in the human services is complementary by its very nature: The professional is supposed to *provide* care, support, comfort, and so on, whereas the recipient is supposed to *receive*. Accordingly, from an equity perspective the professional-recipient relationship is potentially distressing. Moreover, the recipients of one's care—such as the mentally disabled—may be worried, anxious, or aggressive, and interacting with such individuals may often not be very rewarding. Although being bothered by the lack of equity in such relationships seems to contradict the "dedicatory ethic" (Kadushin, 1974) characteristic for caregivers, an inequitable relationship may put considerable pressure on a human service professional and may be a precursor to burnout. A growing number of recent studies among nurses (Schaufeli & Janczur, 1994; Van Yperen, Buunk, & Schaufeli, 1992), physicians (van Dierendonck, Schaufeli, & Sixma, 1994) and therapists (van Dierendonck et al., 1996) has shown that inequity in the professional-recipient relationship is associated with burnout.

The current intervention program was aimed at the cognitive restoration of equity perceptions on the interpersonal as well as on the organizational level and was expected to affect a number of other variables in addition to burnout. Because there is evidence from studies among bus drivers (Geurts, Schaufeli & Buunk, 1993) and blue-collar workers (Geurts, Buunk, & Schaufeli, 1994a, 1994b) that inequity is a predictor of absenteeism, it is

likely that the focus on the reduction of perceived inequity will diminish the need to restore equity by temporarily withdrawing from the situation through being absent from work. Therefore, we expected the intervention to reduce the level of absenteeism. Moreover, because equity at organizational level may be restored by actually leaving the situation, that is, by looking for work outside the present organization, we also included turnover intention as an outcome variable in the current research. Meta-analyses have shown that actual turnover is strongly predicted by turnover intention (Steel & Ovalle, 1984; Tett & Meyer, 1993). Because the intervention program was aimed at stimulating participants to achieve more equity and less burnout either within their organization or by finding employment elsewhere, we formulated no explicit hypothesis about the effect of the program on turnover intentions for the group of participants as a whole. However, we assumed this effect to be dependent on experienced social support. Because social support is positively related to organizational commitment (Mathieu & Zajac, 1990), it is probably more likely that participants who experience a lot of support from others in the organization (i.e., colleagues and supervisor) choose strategies to reduce inequity that are aimed at behaviorally or cognitively adjusting contributions or outcomes within their organization. Therefore, we hypothesized that turnover intention would decrease in this high support group. In contrast, we expected participants who experience less support from their supervisor or their colleagues to be more inclined to restore equity by expanding their horizon outside the organization. Thus, we hypothesized that turnover intention would increase among participants who experienced relatively little social support.

In general, the reduction of burnout by changing perceptions of inequity may be strengthened by simultaneously enhancing social resources, such as support from one's supervisor and one's colleagues. There is considerable evidence that such support is important for coping with stress at work and for counteracting burnout (Buunk, 1990). For instance, conservation of resources theory (Hobfoll, 1989) predicts that the availability of resources influences the ability and the motivation for change. That is, participants who can draw on social resources at their workplace might benefit more from a burnout intervention program than those who have fewer resources at their disposal. However, Hobfoll, Freedy, Lane, and Geller (1990) suggested that although social resources may help counterbalance environmental demands, people may be reluctant to call on support out of fear of being a burden. This was confirmed by Buunk, Schaufeli, and Ybema (1994), who found that nurses who lacked personal accomplishment actually avoided others at work who performed better. Despite their strong need for social comparison, these burned-out nurses did not affiliate with their

better performing colleagues, most probably because of embarrassment or out of fear of seeming incompetent. Accordingly, the authors concluded, "burned-out nurses may not use their social environment in a way that helps them to reduce burnout and to cope effectively with the stress imposed by their profession" (Buunk et al., 1994, p. 1713).

Following this line of thought, teaching supervisors communication and social skills to deal with individuals who are sensitive to burnout may contribute to the effectiveness of a burnout intervention program. These skills are supposed to enhance the capacity of supervisors to provide adequate social support, which in turn is expected to counteract burnout and to reduce absenteeism rates. Social support from supervisors may be crucial for the transfer of what the participants have learned and planned in their own workshops to the actual work situation. In a similar vein, we expected that participating professionals who experienced social support from their colleagues would benefit more from the workshop than those who experienced less support.

Hypotheses

In summary, we tested seven hypotheses pertaining to the effects of a burnout intervention program among professionals working in the direct care of mentally disabled individuals. First, we hypothesized that compared with colleagues in the control group, the participants in the program would experience lower levels of burnout at both follow ups (Hypothesis 1). Second, we expected that compared with the control group, the participants' level of perceived equity in the relation with the recipients of their care, as well as in relation with the organization would increase (Hypothesis 2). Third, we expected absenteeism to decrease in the year following the intervention as compared with the year before among the participants in the program (Hypothesis 3). In addition, we expected participants who received more support from their colleagues and particularly from their supervisor, compared with participants who experienced less support, to show a larger decrease in burnout (Hypothesis 4), a larger increase in perception of equity in both relationships (Hypothesis 5), and a greater decrease in absenteeism (Hypothesis 6). Finally, we expected that turnover intention would decrease among participants who experienced more social support, whereas turnover intention would increase among participants who experienced less social support (Hypothesis 7).

Method

Participants and Design

The quasi-experimental design (Cook & Campbell, 1979) of this study consisted of pre-, post- and follow-up measures

among one experimental group and two control groups. Staff working in direct care with mentally disabled persons were offered the opportunity to participate in the program. Their organization was located in The Netherlands. Supervisors recruited professionals whom they thought would benefit most from the program. The program was introduced to potential participants as an opportunity for them to look at their present career situation with no sanction for not participating. Eighty-four individuals representing 15% of the workforce in the target organization agreed to participate. Two control groups were included. The internal control group composed of 80 professionals from the same target organization allowed for comparisons *within* the target organization. However, because the burnout intervention program also encompassed a workshop for the middle management to deal with professionals more sensitive to burnout, changes in levels of burnout and absenteeism might not be restricted to the experimental group but may affect all professionals in the organization. In addition, carry-over effects can be expected because professionals who followed the program continue to work closely with their colleagues who did not follow the program. Therefore, we also included an *external* control group consisting of 190 individuals in the same profession, who were employed at a similar organization but in another part of the country, which was 68% of the total professional workforce in that organization.

Participants were asked to fill out a questionnaire three times: before the program started (Time 1 [T1]), 6 months after the program ended (Time 2 [T2]), and 1 year after the program ended (Time 3 [T3]).

Of the 352 professionals in the experimental group and control groups who filled out the questionnaire at T1, 149 participated at T2 and T3 as well (42%). Only the 149 participants with complete data records were included in the analysis. The final experimental group consisted of 36 professionals, and the internal and external control groups included 39 and 74 professionals, respectively. Overall, 41 (28%) male and 108 (72%) female professionals were included. Their mean age was 33.4 years ($SD = 6.7$), and on the average they had 7.2 years ($SD = 5.7$) of work experience.

The Intervention Program

The program was designed to reduce feelings of inequity resulting from a discrepancy between goals and expectations concerning recipients and organization on the one hand and the everyday reality of the job on the other hand. The participants were stimulated to discover ways to improve the congruence between their motives, needs, and capacities and the organization's demands and provisions. The program focused directly on three ways in which people generally restore equity (Adams, 1965; Walster, Berscheid, & Walster, 1973). First, professionals can reestablish actual equity by adjusting their actual contributions or outcomes. This was aimed at stimulating participants to describe ways to start changing their work situation in the plan they wrote at the end of the program. Second, participants could change their perceptions of investments and outcomes. Therefore, the program included elements aimed at making the expectations about the recipients of care and about the organization more realistic. For example, if only small and more realistic

outcomes are expected in the relationship with recipients, it will be easier to reach equity. The third way to reestablish equity is to leave the situation. Therefore, the program stimulated participants to actively pursue another career if equity could not be attained in their present job.

The intervention program was deliberately announced in a positive way as "Working at your career." The program consisted of five weekly group sessions of one morning or afternoon run by a psychologist with 6 to 8 participants. Individuals participated voluntarily and belonged to various work units. The approach was strongly cognitive-behaviorally oriented (Matteson & Ivancevich, 1987). That is, the psychologist actively stimulated perspective taking and cognitive restructuring. The participants were encouraged to look at their situation in a different way and see opportunities for personal growth, not just hindrances. In the first two meetings attention was paid to the motivation for choosing the present job. In addition, a general introduction was given about burnout theory (e.g., development of burnout, risk factors to burnout) and how it applied to their work. At the third meeting the focus shifted toward the present situation and how this related to their actual goals and expectations. Moreover, the professionals were taught to handle the strain of working more adequately by learning a relaxation exercise. The participants' self image was explored in the fourth meeting. The program was concluded in the fifth meeting by developing a plan of action for the next year. This plan was directed toward either changing one's present job or looking for another job that would be more in line with one's present goals and expectations. After 6 months, a follow-up meeting was organized in order to evaluate the plan.

As a part of the broader program to reduce burnout and absenteeism in the target organization, supervisors participated in a separate parallel workshop in which the same psychologist trained their communication skills and social skills. This workshop consisted of three group meetings.

Measures

Burnout. We measured burnout with a refined version of the Maslach Burnout Inventory (MBI), which consists of three subscales: emotional exhaustion, depersonalization, and personal accomplishment (Maslach & Jackson, 1986). Wilmar B. Schaufeli translated the questionnaire into Dutch, and two Dutch scholars with degrees in English language study independently judged the semantic and syntactic equivalence of the Dutch and English versions. Additionally, a bilingual psychologist checked the adequacy of the Dutch translation. We omitted the original Items 12 ("I feel energetic") and 16 ("Working with people directly puts too much stress on me") beforehand because previous studies had shown their factorial validity as insufficient (Byrne, 1993; Schaufeli & van Dierendonck, 1993). Because the depersonalization subscale generally shows rather low internal consistency (Schaufeli, Enzmann, & Girault, 1993), we added two items: "Recipients bother me with personal matters, but I ignore them," and "I avoid personal contact with recipients as much as possible." Moreover, we dropped Item 22 of the original scale ("I feel recipients blame me for some of their problems") because its item-total correlation was insufficient

(< .30). Compared with the other two burnout dimensions, the resulting six-item depersonalization subscale still showed a somewhat lower internal consistency ($\alpha = .65$). The internal consistencies for emotional exhaustion (eight items) and personal accomplishment (seven items) are satisfactory ($\alpha = .88$ and $\alpha = .75$, respectively).

We measured equity separately for the relationship with the recipients and the relationship with the organization with a Dutch measure based on the Adams formula (van Dierendonck et al., 1996). In advance, examples of investments in and outcomes from the relationship were described (e.g., time, patience, effort, appreciation, gratitude). Then, four questions were asked about the investments of both parties in the relationship and about their outcomes. For the relationship with recipients the questions were "Overall, how much effort do you feel you put into the relationship with recipients?"; "Overall, how much do you feel recipients put into the relationships with you?"; "How much benefit do you feel you receive from the relationships that you have with recipients?"; and "How much benefit do you feel they receive from their relationships with you?" For the relationship with the organization the questions were "How much effort do you feel you put into your work?"; "How much do you feel the organization invests in you?"; "How much do you feel you get out of your work?"; and "How much do you think the organization receives from you?". We used a 7-point scale, ranging from 1 (*very little*) to 7 (*very much*). We calculated the degree of equity by using the Adams formula: (outcomes self \div inputs self) - (outcomes other \div inputs other), where other is (a) recipients or (b) organization (Adams, 1965). A resulting value of zero is indicative of an equitable relationship. Values less than zero are indicative of deprived perceptions in the particular relationship; values greater than zero are indicative of advantaged perceptions.

Perceived social support. At T2, we measured social support separately from supervisor and from colleagues using a Dutch scale based on the work of House (1981; Peeters, Buunk, & Schaufeli, 1995). Respondents were asked to indicate the amount of support they perceived at work (i.e., emotional, appraisal, informative, and instrumental support) from each source. The scale consisted of eight items with a response scale ranging from 1 (*never*) to 5 (*always*). Internal consistencies were good ($\alpha = .89$ and $\alpha = .85$ for supervisors and colleagues, respectively).

Turnover intention. We measured turnover intention with a single item, "What is the probability that you will seek employment outside your organization within the next year?" We used 6-point response scale, ranging from 1 (0%) to 6 (100%).

Absenteeism. We measured absenteeism objectively using organizational records made in the 12 months prior to the program and made in the 12 months following the program. We used two absence measures: frequency and duration (Smulders & Veerman, 1990). Absence frequency was the number of times participants were absent during the previous 12 months. Absence duration was the mean length of these absences in calendar days. According to Chadwick-Jones, Nicholson, and Brown (1982), absence duration is an indicator of the health complaints that underlie absenteeism, whereas absence frequency is more an indicator of the commitment to the job. As usual the distribution of absence duration was positively skewed:

Many were absent just a few days and few were absent for a relatively long time. Therefore, we used a logarithmic transformation as proposed by Kleinbaum and Kupper (1978) so that the standard analysis of variance (ANOVA) assumption of normality of distribution was satisfied.

Results

The results are presented in three sections. Section 1 investigates whether or not respondents dropped out systematically, that is, whether a selection effect was observed with regard to the outcome measures of T1. Section 2 examines the effect of the intervention program (Hypotheses 1-3). The concluding section investigates whether social support at T2 moderated the impact of the program (Hypotheses 4-7).

Selection Effect

Fifty-eight percent of the original respondents at T1 dropped out during the course of the research. Do these dropouts differ significantly from those who continued to participate in our study? In order to answer this question we conducted two multivariate analyses of variance (MANOVAs), including (a) subjective outcome measures (i.e., three burnout dimensions, perceived inequity at the interpersonal and the organizational level, and turnover intention) and (b) objective outcome measures (i.e., absenteeism: frequency and duration).

The subjective measures showed a difference at the multivariate level. However, that difference was not significant, $F(6, 329) = 1.95, p = .07$. Dropouts perceived themselves as less deprived than those who continued in the study in the relationship with the recipients of their care, $F(1, 329) = 8.72, p = .003$. Absenteeism rates also differed between dropouts and those who remained in the study, $F(2, 228) = 3.27, p = .039$, because of a longer absence duration of the dropouts, $F(1, 289) = 3.91, p = .049$. There were also no significant differences between dropouts and nondropouts on demographic factors (i.e., age, work experience, or gender), $F(1, 350) = 2.92, p = .088$, and $F(1, 332) = .195, p = .659$; $\chi^2(1) = 1.544, p = .214$, respectively. However, in the previous analyses the experimental and control groups were not distinguished. Therefore, in the next step we examined differential dropout effects by performing similar MANOVAs as before but adding another level (i.e., type of group: experimental, internal control, external control). No significant Dropout \times Group interaction effects were found, $F(6, 319) = .696, p = .653$, and $F(2, 285) = 1.819, p = .164$, for subjective and objective outcomes, respectively.

In conclusion, a selection effect did occur. Given the longer absence duration of the dropouts it seems plausible that actual absenteeism was partly responsible for this effect: Those who were absent did not receive a question-

naire at T2 or T3 because questionnaires were distributed at the workplace. Nevertheless, the lack of significant effects with respect to burnout indicates that initially drop-outs did not experience more stress in their work. That those who remained in the study experienced a less equitable relationship with residents might indicate that professionals who felt deprived were more motivated to participate in the study because they hoped that this program would stimulate improvements in their work. This attitude is in line with equity theory, which states that people strive toward balance in their relationships.

Intervention Effects

Means and standard deviations of the outcome measures in the three groups are presented in Table 1. Follow-

ing the guidelines of Huberty and Morris (1989), we considered multiple ANOVAs to be the most appropriate for testing the hypotheses because most variables were conceptually independent as is exemplified by the low intercorrelations between the variables (with the exception of emotional exhaustion and depersonalization; see Table 2). In addition, the specific interest of this research was to examine the effect of the program on separate variables. Therefore, we investigated the effects of the intervention on burnout, inequity, turnover intention, and absenteeism using a multiple univariate repeated-measures design.

We hypothesized that the intervention would have a beneficial effect on burnout (Hypothesis 1), on feelings of inequity in both relationships (Hypothesis 2), and on absenteeism (Hypothesis 3). We included a polynomial

Table 1
Mean and Standard Deviation Scores on Dependent Variables

Variable	Experimental group (n = 36)			Internal control group (n = 39)			External control group (n = 74)		
	T1	T2	T3	T1	T2	T3	T1	T2	T3
Emotional exhaustion									
M	11.5	9.8	10.0	10.8	11.5	11.9	10.9	12.3	12.4
SD	6.1	6.5	5.6	6.1	7.0	9.1	5.6	7.2	7.5
Depersonalization									
M	4.9	4.6	3.7	4.3	4.5	3.8	4.2	4.6	4.1
SD	4.1	3.1	2.4	3.4	3.7	3.6	3.3	3.7	3.5
Personal accomplishment									
M	31.6	30.5	31.4	31.1	31.3	31.8	32.0	32.7	32.5
SD	4.5	6.5	6.0	5.5	4.8	5.2	5.1	4.9	4.9
Inequity residents ^a									
M	-0.76	-0.76	-0.78	-0.94	-0.70	-0.76	-0.58	-0.58	-0.49
SD	1.48	0.66	1.16	1.37	0.87	0.85	1.06	0.87	0.97
Inequity organization ^a									
M	-0.80	-0.49	-0.39	-0.72	-0.63	-0.75	-0.66	-0.74	-0.72
SD	1.29	0.70	0.47	1.59	1.22	1.18	0.73	0.95	0.87
Turnover intention									
M	31.7	35.0	27.2	12.3	24.1	43.4	19.7	21.1	19.5
SD	31.1	42.9	25.4	16.9	24.8	34.9	26.6	24.9	26.4
Absence frequency									
M	2.0		2.0	1.7		1.4	1.6		1.4
SD	1.8		2.5	1.8		1.2	1.8		1.2
Absence duration ^b									
M	5.7		4.4	3.3		9.2	7.4		5.7
SD	8.6		7.4	5.1		24.5	15.3		11.9
Support supervisor									
M		3.8			3.8			4.1	
SD		0.9			0.8			0.6	
Support colleagues									
M		3.9			3.9			4.1	
SD		0.6			0.6			0.6	
Age									
M	30.9			32.2			35.1		
SD	6.7			6.8			6.2		
Gender ^c									
Male	11			10			20		
Female	25			29			54		

Note. T = time.

^a Zero signifies equity, <0 signifies deprived, >0 signifies advantaged. ^b Absence duration was loglinear transformed before analysis. ^c Numbers signify the number of male or female participants.

Table 2
Intercorrelations of the Dependent Variables

Intercorrelations of the Dependent Variables																							
Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Emotional exhaustion, T1	—																						
2 Depersonalization, T1	.51	—																					
3 Personal accomplishment, T1	-.25	-.22	—																				
4 Inequity recipients, T1 ^a	-.06	-.09	.17	—																			
5 Inequity organization, T1 ^a	-.21	-.09	-.02	.25	—																		
6 Intention to quit, T1	.35	.29	-.07	.02	-.21	—																	
7 Absence frequency, T1	.15	.02	.03	.03	-.08	.10	—																
8 Absence duration, T1 ^b	.12	.13	.01	-.02	-.20	.06	.35	—															
9 Emotional exhaustion, T2	.68	.30	-.14	.05	-.20	.09	.08	.08	—														
10 Depersonalization, T2	.41	.54	-.24	-.04	-.04	.08	-.09	.06	.44	—													
11 Personal accomplishment, T2	-.25	-.25	.59	.11	-.03	-.20	-.04	.03	-.10	-.24	—												
12 Inequity recipients, T2 ^a	-.02	.05	.10	.68	.36	.02	.13	.04	.02	-.02	.07	—											
13 Inequity organization, T2 ^a	-.20	-.05	.04	.30	.58	-.05	-.13	-.16	-.28	-.08	.03	.44	—										
14 Intention to quit, T2	.59	.17	-.01	.03	-.11	.51	.12	.03	.30	.21	-.19	.01	-.18	—									
15 Support supervisor, T2	-.35	-.15	.30	.11	.19	-.09	-.05	-.10	-.36	-.26	.31	.00	.18	-.28	—								
16 Support colleagues, T2	-.20	-.04	.17	-.03	.14	.02	.08	.18	-.33	-.22	.14	-.11	.04	-.17	.62	—							
17 Emotional exhaustion, T3	.59	.33	-.08	-.07	-.09	.10	-.07	.03	.62	.34	-.16	-.04	-.05	.13	-.31	-.25	—						
18 Depersonalization, T3	.39	.57	-.15	-.01	.04	.14	-.17	.00	.37	.63	-.21	.10	.03	.24	-.19	-.19	.52	—					
19 Personal accomplishment, T3	-.21	-.23	.54	.01	-.14	-.18	.07	.10	-.14	-.34	.64	-.01	-.10	-.16	.29	.24	-.33	-.32	—				
20 Inequity recipients, T3 ^a	-.05	.00	.14	.62	.21	.02	.05	.01	.04	-.11	.03	.62	.25	.00	.10	.02	-.15	-.03	.04	—			
21 Inequity organization, T3 ^a	-.15	.01	.04	.24	.58	.00	-.06	-.11	-.17	-.06	.10	.36	.62	-.07	.13	.07	-.11	.05	-.04	.36	—		
22 Intention to quit, T3	.27	.28	-.01	-.01	-.01	.51	.11	.10	.14	.24	-.15	.04	.00	.56	-.17	-.10	.32	.35	-.27	-.06	-.07	—	
23 Absence frequency, T3	.32	.06	.14	.07	.01	.16	.46	.29	.04	-.10	.09	.08	.02	.10	.02	.13	.11	.06	.14	.06	.06	.24	—
24 Absence duration, T3 ^b	.21	.11	.10	-.04	-.07	.11	.28	.32	.28	.12	.01	.05	-.07	.21	-.17	-.01	.23	.16	-.02	.00	-.02	.23	.33

Note. $N = 149$. $T = 1$ time. For correlations $> .15$, $p < .05$.

^a A higher score means less deprived and more advantaged. ^b Loglinear transformed.

contrast to test short-term effects as well as long-term effects. A significant *linear* effect indicates a long-term effect in which the groups differed from T1 to T2 and continued to differ in the next 6 months until T3. A significant *curvilinear* effect indicates a short-term effect in which there was an effect from T1 to T2 that decreased during the next 6 months until T3. For the between-group differences, we added a contrast that compared the mean scores of the experimental group with each of the mean scores of the two control groups separately.

Univariate contrast analysis showed that emotional exhaustion changed linearly between T1 and T3 for the experimental group compared with the internal control group and the external control group (see Table 3). The experimental group reported a sharp decline in the level of emotional exhaustion after 6 months (T2), whereas

both control groups reported an increase in emotional exhaustion. This positive effect on emotional exhaustion remained stable after another 6 months (T3). We observed a significant curvilinear effect for personal accomplishment in the experimental group compared with the external control group across the period of 1 year. In the experimental group, feelings of personal accomplishment diminished at T2, but returned to the initial level at T3. In the external control group, personal accomplishment remained relatively stable. Changes across time in levels of personal accomplishment between the experimental group and the internal control group were not significant.

For turnover intention a significant linear Time \times Group interaction effect occurred for the experimental group versus the internal control group. Turnover intention remained relatively stable in the experimental group,

Table 3
ANOVA Subjective Measures and Averaged Test of Significance Involving Time as a Time \times Group Within-Subject Effect

Variable	SS	df	MS	F	p	Partial η^2	Linear		Curvilinear	
							t	p	t	p
Emotional exhaustion										
Within cells	5.185.35	292	17.76							
Time	8.48	2	4.24	0.24	.79	.002				
Group \times Time	152.59	4	38.15	2.15	.08	.029				
Internal Control \times Time	82.12	2	41.07	2.31	.10		1.89	.06	0.88	.38
External Control \times Time	145.00	2	72.50	4.08	.02		2.35	.02	1.53	.13
Depersonalization										
Within cells	1.482.50	292	5.08							
Time	39.77	2	19.88	3.92	.02	.026				
Group \times Time	17.41	4	4.35	0.86	.49	.012				
Internal Control \times Time	6.11	2	3.06	0.60	.55		1.06	.29	0.33	.74
External Control \times Time	17.24	2	8.62	1.70	.19		1.84	.07	0.32	.75
Personal accomplishment										
Within cells	3.091.19	284	10.88							
Time	10.26	2	5.13	0.47	.63	.003				
Group \times Time	48.11	4	12.03	1.10	.35	.015				
Internal Control \times Time	10.28	2	5.14	0.47	.62		0.10	.92	1.00	.32
External Control \times Time	46.34	2	23.17	2.13	.12		0.61	.55	2.05	.04
Turnover intention										
Within cells	106.891.45	288	371.15							
Time	2.841.53	2	1,420.76	3.83	.02	.026				
Group \times Time	8.611.49	4	2,152.87	5.80	.00	.075				
Internal Control \times Time	6.856.84	2	3,428.42	9.24	.00		4.43	.00	0.84	.40
External Control \times Time	467.90	2	233.95	0.63	.53		0.79	.43	0.80	.43
Equity recipients										
Within cells	79.87	278	0.29							
Time	0.14	2	0.07	0.23	.79	.002				
Group \times Time	0.62	4	0.15	0.54	.71	.008				
Internal Control \times Time	0.27	2	0.14	0.48	.62		0.39	.70	0.97	.33
External Control \times Time	0.13	2	0.06	0.22	.80		0.56	.58	0.29	.77
Equity organization										
Within cells	80.48	276	0.29							
Time	0.46	2	0.23	0.79	.45	.006				
Group \times Time	2.81	4	0.70	2.41	.05	.034				
Internal Control \times Time	2.05	2	1.03	3.52	.03		2.47	.02	0.20	.85
External Control \times Time	2.20	2	1.10	3.78	.02		2.42	.02	0.99	.32

Note. ANOVA = analysis of variance.

whereas in the internal control group, turnover intention increased linearly across the three measurement points. Turnover intention also remained stable in the external control group.

Perceptions of organizational equity increased continuously in the experimental group after 6 and 12 months. In both control groups, however, these perceptions remained relatively stable. This is indicated by a linear effect of the experimental group versus both control groups. Changes in absence duration were significantly different between the experimental group and the internal control group (see Table 4). This effect was caused by a decrease in absenteeism in the experimental group, whereas in the internal control group absence duration increased. No significant effects were found for absence frequency.

In sum, the expected beneficial effect of the intervention on the subjective and the objective measures was partly confirmed. Compared with the control groups, in the experimental group levels of emotional exhaustion and absence duration dropped, whereas levels of organizational equity increased. These positive changes were stable and still existed after a period of 1 year. Contrary to the expectations, no significant changes were observed in levels of depersonalization, interpersonal equity, and absence frequency, whereas feelings of reduced personal accomplishment initially increased rather than decreased in the experimental group. However, after 1 year, feelings of accomplishment in the experimental group returned to the initial preworkshop level. Thus, Hypothesis 1 (stating a reduction in burnout levels) was supported with respect to emotional exhaustion, Hypothesis 2 (stating a more equitable relationship with recipients and the organization) was supported for organizational equity, and Hypothesis 3 was partly confirmed with regard to the reduction of absence duration. No effect on turnover intention

was hypothesized, and none occurred. Nevertheless, the fact that in the experimental group turnover intention remained constant compared with an unexpected increase among the individuals in the internal control group does suggest a stabilizing effect of the intervention.

Moderating Effects of Social Support

Next, we examined the moderating role of social support on changes in the outcome measures. We expected participants who received more support from their colleagues and particularly from their supervisor, compared with participants who experienced less support, to show a larger decrease in burnout (Hypothesis 4), a larger increase in the perception of equity in both relationships (Hypothesis 5), a larger decrease in absenteeism (Hypothesis 6), and a decrease in turnover intention (Hypothesis 7). High and low support groups were created by using a median split for the two social support measures at T2. It is important to note that between T1 and T2 *all* supervisors received training. Supervisors and colleagues could have been more or less supportive in helping the professionals who participated in the workshop to implement their plan of action resulting from the workshop. We hypothesized that this would influence the impact of the program. In order to test Hypotheses 4–7 about the moderating role of social support, we performed multiple univariate repeated-measures analyses with the outcome measures as dependent variables. Two between-subjects levels were included: group (i.e., experimental, internal control, and external control) and social support (i.e., high and low). A significant three-way Group \times Support \times Time interaction would be indicative of a moderating effect.

As Tables 5 and 6 show, there were only three signifi-

Table 4
ANOVA Absenteeism and Averaged Test of Significance Involving Time as a Time \times Group Within-Subject Effect

Variable	SS	df	MS	F	Partial	
					p	η^2
Absence frequency						
Within cells	211.44	131	1.61			
Time	1.18	1	1.18	0.73	.39	.006
Group \times Time	0.71	2	0.36	0.22	.80	.003
Internal Control \times Time	0.70	1	0.70	0.43	.51	
External Control \times Time	0.18	1	0.18	0.11	.73	
Absence duration						
Within cells	117.05	146	0.80			
Time	0.03	1	0.03	0.04	.85	.000
Group \times Time	3.20	2	1.60	2.00	.14	.027
Internal Control \times Time	3.17	1	3.17	3.96	.05	
External Control \times Time	0.85	1	0.85	1.06	.31	

Note. ANOVA = analysis of variance.

Table 5
Interaction Effects of Perceived Support From Colleagues on Effect Intervention

Variable	Three-way effect (partial η^2)	Linear contrast		Curvilinear contrast	
		<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
Emotional exhaustion	.005				
Internal Control \times Time		0.66	.51	0.27	.78
External Control \times Time		0.46	.64	0.91	.36
Depersonalization	.006				
Internal Control \times Time		0.60	.55	0.86	.39
External Control \times Time		0.23	.82	0.65	.51
Personal accomplishment	.009				
Internal Control \times Time		1.31	.19	0.31	.76
External Control \times Time		0.88	.38	0.38	.71
Turnover intention	.019				
Internal Control \times Time		0.21	.83	1.35	.18
External Control \times Time		0.41	.68	2.24	.03
Equity recipients	.018				
Internal Control \times Time		1.42	.16	1.18	.24
External Control \times Time		1.78	.08	0.76	.45
Equity organization	.014				
Internal Control \times Time		0.58	.56	0.35	.73
External Control \times Time		0.29	.77	1.62	.11
Absence frequency	.015				
Internal Control \times Time		0.22	.83		
External Control \times Time		1.50	.14		
Absence duration	.012				
Internal Control \times Time		0.41	.68		
External Control \times Time		1.08	.48		

Table 6
Interaction Effects of Perceived Support From Supervisor on Effect Intervention

Variable	Three-way effect (partial η^2)	Linear contrast		Curvilinear contrast	
		<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
Emotional exhaustion	.009				
Internal Control \times Time		0.86	.39	0.24	.81
External Control \times Time		1.37	.17	0.65	.51
Depersonalization	.007				
Internal Control \times Time		1.10	.27	0.71	.48
External Control \times Time		0.51	.61	0.73	.47
Personal accomplishment	.011				
Internal Control \times Time		1.34	.18	1.03	.30
External Control \times Time		1.01	.32	0.95	.35
Turnover intention	.027				
Internal Control \times Time		1.01	.31	1.35	.18
External Control \times Time		1.04	.30	2.50	.02
Equity recipients	.006				
Internal Control \times Time		0.53	.59	0.06	.95
External Control \times Time		0.21	.83	0.88	.38
Equity organization	.033				
Internal Control \times Time		1.22	.22	1.61	.11
External Control \times Time		0.71	.48	3.00	.00
Absence frequency	.007				
Internal Control \times Time		0.88	.38		
External Control \times Time		0.02	.98		
Absence duration	.007				
Internal Control \times Time		1.20	.23		
External Control \times Time		0.30	.76		

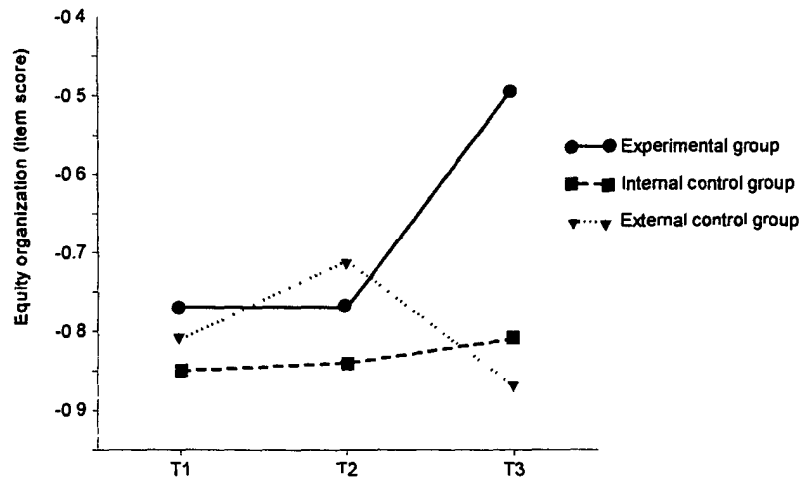


Figure 1. Three-way interaction of Support From Supervisor \times Group \times Time (T) in relation to equity in the relationship with the organization: low support from supervisor.

cant three-way interactions. Because none of the interactions with respect to burnout and absenteeism were significant, no support was found for Hypotheses 4 and 6. However, Hypothesis 5 was partly confirmed as there was a significant linear three-way interaction effect with respect to support from the supervisor on equity in the relationship with the organization. Thus, equity in the organizational relationship developed differently in the experimental group (dependent on supervisor social support) than it did in the external control group. With respect to support from colleagues, the same effect was not significant. The trends in Figures 1 and 2 show that professionals who experienced a low perception of support from their supervisor were relatively slow in experiencing an improvement in the level of equity. Among professionals with a low level of support from the supervisor, feelings of

equity remained stable between T1 and T2, but improved between T2 and T3. In contrast, among professionals in the experimental group who experienced high levels of support, the perception of equity in the relationship with the organization improved immediately between T1 and T2.

The other two significant three-way interaction effects occurred with respect to turnover intention and provided support for Hypothesis 7. Including support from colleagues as well as including support from the supervisor resulted in linear three-way interaction effects, suggesting that supervisor support affected the development of the turnover intention differently in the intervention group than it did in the external control group. Figures 3, 4, 5, and 6 show that, in line with Hypothesis 7, among professionals with a low level of support either from col-

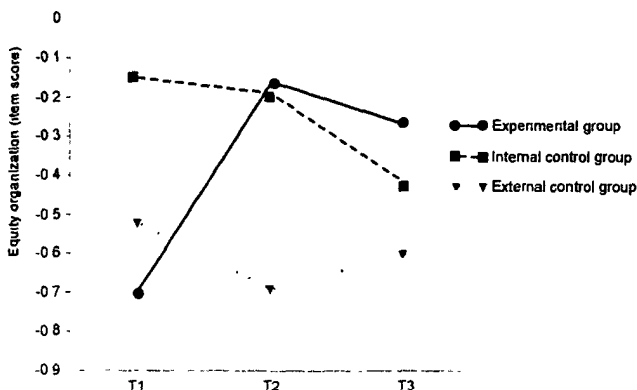


Figure 2. Three-way interaction of Support From Supervisor \times Group \times Time (T) in relation to equity in the relationship with the organization: high support from supervisor

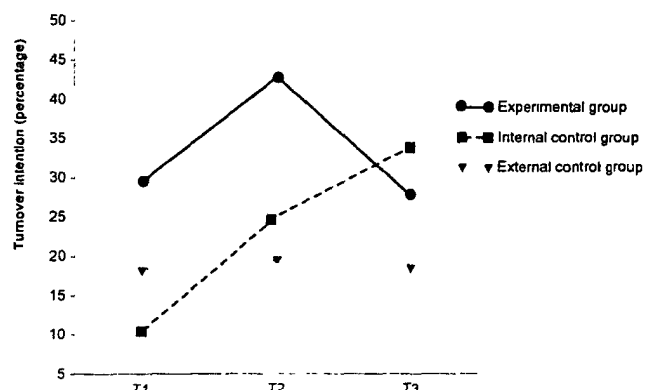


Figure 3. Three-way interaction of Support From Colleagues at Time 2 \times Group \times Time (T) in relation to turnover intention: low support from colleagues.

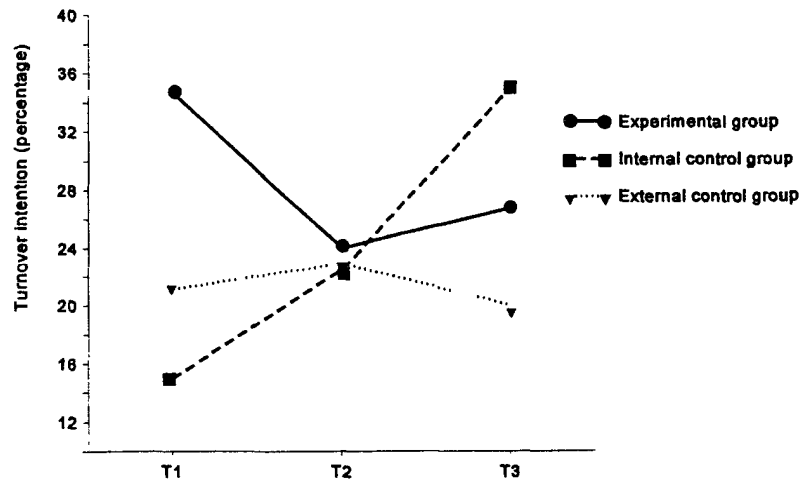


Figure 4 Three-way interaction of Support From Colleagues at Time 2 \times Group \times Time (T) in relation to turnover intention: high support from colleagues.

leagues or from their supervisor, turnover intention increased initially (from T1 to T2) and decreased again at T3 to a level similar to that at T1. In contrast, among those professionals who experienced a high level of support in either relationship, turnover intention decreased, as expected, from T1 to T2.

No significant three-way interaction effects were found with respect to burnout or absenteeism. Therefore, Hypotheses 4 and 6 concerning a stimulating effect of support on changes in these variables were not confirmed.

Discussion

The present study was largely based on equity theory and examined the effects of an intervention program on

burnout, equity, absenteeism, and turnover intention. The design of the present study differed from those commonly used in three ways. First, we used a longer time frame than in previous research, where the time frame spanned 6 months at most. We conducted follow ups, at 6 and 12 months after the program ended. The three measurement points made a thorough examination of the effects of the program possible by allowing for tests of short-term as well as long-term effects of the intervention. Second, the present study was unique in including additional behavioral criteria to assess the effectiveness of a burnout intervention program (i.e., turnover intention and registered absenteeism). Absenteeism is especially important in this respect because it was assessed objectively. Third, our study included two control

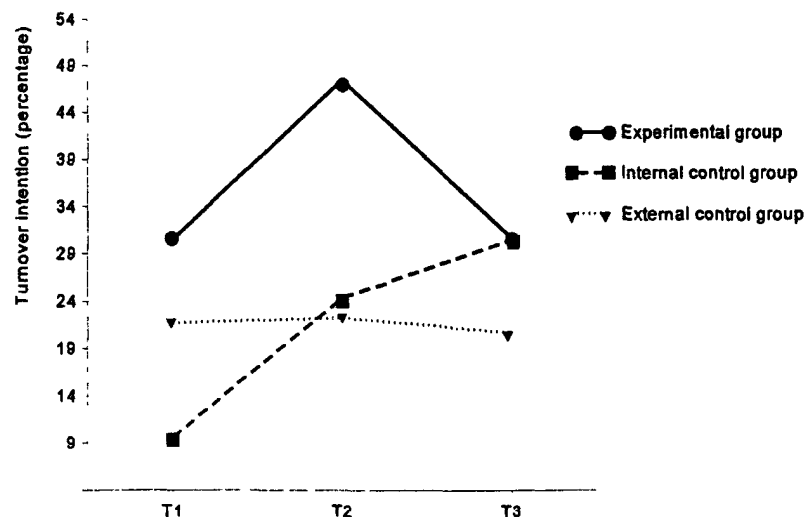


Figure 5 Three-way interaction of Support From Supervisor at Time 2 \times Group \times Time (T) in relation to turnover intention: low support from supervisor

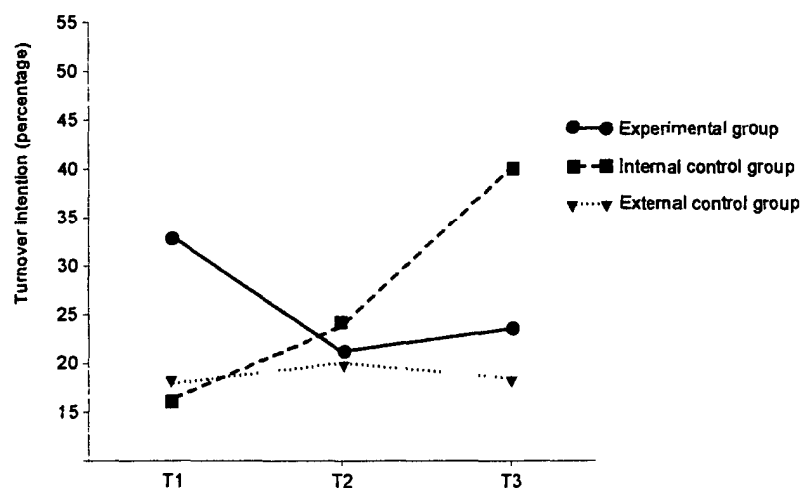


Figure 6 Three-way interaction of Support From Supervisor at Time 2 \times Group \times Time (T) in relation to turnover intention, high support from supervisor.

groups, whereas some studies have failed to include even a single control group.

The results of the current study clearly suggest that a primarily cognitively oriented intervention program can be effective in reducing burnout, perceptions of deprivation in the relationship with the organization, and absenteeism among professionals working in direct care with mentally disabled persons. Professionals in the experimental group experienced less emotional exhaustion after 6 and 12 months compared with both control groups. Although the effect size was small (.26) according to Cohen (1977), this is not uncommon in social science research, where small or moderate effects are very common, especially in new areas of research. Contrary to our expectations, personal accomplishment diminished in the experimental group after 6 months compared with the external control group, but this effect disappeared after 1 year. The program had *no* main effect on depersonalization. In line with the predictions, absence duration slightly decreased in the experimental group, whereas among their colleagues in the internal control group, absence duration strongly increased. This suggests that the program taught professionals to deal with their problems more effectively. They seem to have continued to be absent if they felt unable to work, but they were apparently able to recuperate more quickly than their colleagues from the same organization, and, as a result, they returned to work after spending fewer days at home than they had before participating in the program. This outcome suggests that the program was financially beneficial to the organization.

As we predicted, equity in the relationship with the organization decreased as a result of the intervention. However, no significant differences due to the program were found for equity in the relationship with recipients.

Nevertheless, in line with the predictions, the effect of the program on feelings of equity in the relationship with the organization differed depending on the availability of social resources. Professionals who perceived more social support from either their colleagues or their supervisor showed more increase in equity with respect to the organization compared with those with lower levels of support. However, we found no such effects of support for burnout, absenteeism, or equity in the relationship with recipients. Moderating effects of social support were found with respect to the effect of the program on intentions to leave. Professionals with low levels of support tended to look for work outside the organization, whereas among those with high levels of support, turnover intention decreased.

The differential effects of the intervention on the three burnout dimensions confirm the importance of viewing burnout as a multidimensional construct (Lee & Ashforth, 1996; Maslach & Schaufeli, 1993). The effects on emotional exhaustion in this study confirm the previous findings that this dimension is the easiest to influence by cognitive techniques and relaxation exercises (e.g., Schaufeli, 1995; West et al., 1984). Our intervention program did not affect depersonalization (which explicitly focuses on the relationship with the recipient) or feelings of inequity in the relationship with recipients. These findings suggest that the expectations about the relationship with these recipients are difficult to influence, which may be due to the fact that mentally disabled individuals are perceived as what they are by birth and perceived as not likely to change.

Although the temporary decrease in personal accomplishment seems at first glance to contradict the intention of the program, it may indicate that the intervention sensi-

tized participants toward the way they related to residents. Becoming more aware of one's work situation can lead to a more critical and less self-confident attitude. This may even be interpreted as a positive outcome of the intervention because a characteristic of burned-out individuals is that they fail to acknowledge their problems and their own situation (Freudenberger, 1974). The return of personal accomplishment to its original level after another 6 months may indicate that the professionals have found a new balance.

The results with respect to inequity in the relationship with the organization suggest that it is especially important to focus on this relationship when designing a burnout prevention program. This relationship became more equitable as a result of the program, particularly when the participants felt supported from within their organization. It confirms the importance of embedding a workshop for the supervisors in the present intervention. More explicit interventions at the organizational level may be even more productive in counteracting burnout (Schaufeli & Buunk, 1996). Indeed, this level seems to offer more possibilities for interventions of burnout because inequities in the relationship with the organization may be more open for change than inequities in the relationship with residents. That is, the way work is organized is easier to change than the contents of the human services job. Furthermore, the influence of available social resources on changes in inequity in the relationship with the organization suggests that it may be useful to incorporate the ideas of Rusbult, Farrel, Rogers, and Mainous (1988) in this social exchange model. They formulated explicit hypotheses on the differential way employees react to inequities in their organization depending on job satisfaction, including feelings regarding supervisor and colleague relations, investment in the job, and available alternatives.

The moderating effect of support from colleagues and the supervisor in relation to equity in the professional-organization relationship and turnover intention is in line with the assumptions of conservation of resources theory (Hobfoll, 1989). People who have access to personal or social resources can deal with environmental demands more easily. Coping with stressful circumstances draws on resources. However, if there are enough resources, as is the case in the high-support condition, professionals may be more motivated to deal with a situation in which they feel deprived and may be less likely to seek employment in other organizations. The decrease in turnover intention after 6 months in the low-support group was to be expected because it is likely that if no other satisfying job outside the organization can be found, professionals will become involved with their own organization once again, even if the social environment of their organization is not very satisfying. The importance of social resources

for a successful intervention program suggests that incorporating in the workshop explicit attention to enhancing the resources of the participants might further increase the effect of a burnout intervention program as described here. Suggestions for achieving such an enhancement can be obtained from the intervention described by Freedy and Hobfoll (1994). Recently, Cooley and Yovanoff (1996) showed that a combination of a stress-management workshop and a peer collaboration program was indeed effective in reducing burnout (i.e., emotional exhaustion and diminished personal accomplishment) in special educators.

There are a number of potential limitations to the present research. In the first place, generalization of the results is complicated by the selection effect that occurred. Professionals who felt deprived and had low levels of absenteeism were slightly overrepresented in the experimental group. One possible explanation for this phenomenon is that the questionnaires were distributed at the workplace. As a result, professionals who were on sick leave or absent during one of the measurements or who had left the organization automatically dropped out of the research. This would suggest that the reported effects are more likely an underestimation than an overestimation of the actual effects within the experimental group as a whole. On the other hand, there were no differences in dropout among the three groups. An alternative explanation is that professionals with the highest motivation stayed committed to the evaluation of this program. This would suggest that the reported effects might be an overestimation of the real effect.

A second limitation of the present design is that assignment to the experimental and control groups was not random. Therefore, initial group differences on the demographic and dependent variables might have influenced the results.

A third limitation is that the experimental group differed more from the external control group than from the internal control group. However, in general the differences between the experimental and the internal control group were in the same direction as the differences between the experimental and external control group. Although the results might have been more robust if the changes within the experimental group and within the internal control group had differed on more accounts, the carry-over effects from participating colleagues and the overall organizational effect of the workshop for the supervisors probably reduced the differences between both groups. Additional potential limitations of the present study are suggested by Beehr and O'Hara (1987), who point to several threats to the validity of an evaluation study, including history and maturity effects, statistical regression, and resentful demoralization of those who do not participate in the program. Although it cannot be completely

ruled out that these threats account for some of the findings, the research design and analysis suggest that the findings can be generalized toward other professionals in similar working conditions. The two control groups, the extended time frame of 1 year, and the inclusion of subjective as well as objective measures are strong elements in this research. By also incorporating a specific workshop for the supervisors in the total program, the professionals were able to integrate the lessons of their workshop. This effect was shown by the moderating role of social resources on the effects of the intervention. Finally, it must be noted that the program may have influenced other factors not accounted for in our evaluation. For example, it is possible that the intervention influenced general job attitudes and perceived support. Also, the intervention might have enhanced feelings of control, especially escapability from a stressful situation. A replication of this research taking into account these factors could further enhance our understanding of the precise effects of this program.

In conclusion, this study is one of the few that has evaluated an intervention program that influenced not only the stress component of burnout (i.e., emotional exhaustion) but also the attitudinal component (i.e., personal accomplishment). In addition, the program affected variables, at the perceptual level, that is, equity as well as objective factors such as absenteeism. Although there is a great deal of skepticism surrounding the possible effects of burnout and stress management programs (Reynolds & Briner, 1994), this study suggests that it is possible to produce stronger effects than those that merely exist in the minds and memories of participants, and it suggests that those positive effects also continue to last long after finishing the program.

References

- Adams, J. S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, 2, 267-299.
- Beehr, T. A., & O'Hara, K. (1987). Methodological designs for evaluation of occupational stress interventions. In S. V. Kasl & C. L. Cooper (Eds.), *Stress and health: Issues in research methodology* (pp. 79-112). Chichester, England: Wiley.
- Brown, L. (1984). Mutual help staff groups to manage work stress. *Social Work With Groups*, 7, 55-66.
- Buunk, B. P. (1990). Affiliation and helping interactions within organizations: A critical analysis of the role of social support with regard to occupational stress. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 1, pp. 293-322). Chichester, England: Wiley.
- Buunk, B. P. (1995). Equity. In A. S. R. Manstead & M. Hewstone (Eds.), *The Blackwell encyclopedia of social psychology* (pp. 215-217). Oxford, England: Blackwell.
- Buunk, B. P., & Schaufeli, W. B. (1993). Professional burnout: A perspective from social comparison theory. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 53-69). Washington, DC: Taylor & Francis.
- Buunk, B. P., Schaufeli, W. B., & Ybema, J. F. (1994). Burnout, uncertainty, and the desire for social comparison among nurses. *Journal of Applied Social Psychology*, 24, 1701-1718.
- Byrne, B. M. (1993). The Maslach Burnout Inventory: Testing for factorial validity and invariance across elementary, intermediate, and secondary teachers. *Journal of Occupational and Organizational Psychology*, 66, 197-212.
- Chadwick-Jones, J. K., Nicholson, N., & Brown, C. (1982). *Social psychology of absenteeism*. New York: Praeger.
- Cherniss, C. (1980). *Professional burnout in human service organizations*. New York: Praeger.
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.
- Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Chicago: Rand McNally.
- Cooley, E., & Yovanoff, P. (1996). Supporting professionals-at-risk: Evaluating interventions to reduce burnout and improve retention of special educators. *Exceptional Children*, 62, 336-355.
- Corcoran, K. J., & Bryce, A. K. (1983). Intervention in the experience of burnout: Effects of skill development. *Journal of Social Service Research*, 7, 71-79.
- Cordes, C. L., & Dougherty, T. W. (1993). A review and an integration of research on job burnout. *Academy of Management Review*, 18, 621-656.
- Cropanzano, R., & Greenberg, J. (1997). Progress in organizational justice: Tunneling through the maze. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (Vol. 12, pp. 317-372). Chichester, England: Wiley.
- Freedy, J. R., & Hobfoll, S. E. (1994). Stress inoculation for reduction of burnout: A conservation of resources approach. *Anxiety, Stress and Coping*, 6, 311-325.
- Freudenberger, H. J. (1974). Staff burnout. *Journal of Social Issues*, 30, 159-165.
- Geurts, S. A., Buunk, B. P., & Schaufeli, W. B. (1994a). Health complaints, social comparisons and absenteeism. *Work & Stress*, 8, 220-234.
- Geurts, S. A., Buunk, B. P., & Schaufeli, W. B. (1994b). Social comparisons and absenteeism. A structural modeling approach. *Journal of Applied Social Psychology*, 24, 1871-1890.
- Geurts, S. A., Schaufeli, W. B., & Buunk, B. P. (1993). Social comparison, inequity, and absenteeism among bus drivers. *European Work and Organizational Psychologist*, 3, 191-203.
- Higgins, N. C. (1986). Occupational stress and working women: The effectiveness of two stress reduction programs. *Journal of Vocational Behavior*, 29, 66-78.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44, 513-524.
- Hobfoll, S. E., Freedy, J., Lane, C., & Geller, P. (1990). Conser-

- vation of social resources: Social support resource theory. *Journal of Social and Personal Relationships*, 7, 465–478.
- House, J. S. (1981). *Work stress and social support*. Reading, MA: Addison-Wesley.
- Huberty, C. J., & Morris, J. D. (1989). Multivariate analysis versus multiple univariate analysis. *Psychological Bulletin*, 105, 302–308.
- Kadushin, A. (1974). *Child welfare services*. New York: Macmillan.
- Kleinbaum, D. G., & Kupper, L. L. (1978). *Applied regression analysis and other multivariate methods*. North Scituate, MA: Duxbury Press.
- La Gaipa, J. J. (1977). Interpersonal attraction and social exchange. In S. Duck (Ed.), *Theory and practice in interpersonal attraction* (pp. 29–164). London: Academic Press.
- Larson, D. G. (1986). Developing effective hospice staff support groups: Pilot test of an innovative training program. *The Hospice Journal*, 2, 41–55.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81, 123–133.
- Maslach, C. (1982). *Burnout: The cost of caring*. Englewood Cliffs, NJ: Prentice Hall.
- Maslach, C. (1993). Burnout: A multidimensional perspective. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 19–32). Washington, DC: Taylor & Francis.
- Maslach, C., & Jackson, S. E. (1986). *MBI: Maslach Burnout Inventory. Manual research edition*. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., & Schaufeli, W. B. (1993). Historical and conceptual development of burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 1–18). Washington, DC: Taylor & Francis.
- Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin*, 108, 171–194.
- Matteson, M. T., & Ivancevich, J. M. (1987). *Controlling work stress: Effective resource and management strategies*. San Francisco: Jossey-Bass.
- Peeters, M., Buunk, B. P., & Schaufeli, W. B. (1995). Social interactions and feelings of inferiority among correctional officers: A daily-event recording approach. *Journal of Applied Social Psychology*, 25, 1073–1089.
- Pines, A., & Aronson, E. (1983). Combatting burnout. *Children and Youth Services Review*, 5, 263–275.
- Pines, A., & Aronson, E. (1988). *Career burnout: Causes and cures*. New York: Free Press.
- Reynolds, S., & Briner, R. B. (1994). Stress management at work. With whom, for whom and to what ends? *British Journal of Guidance and Counseling*, 22, 75–89.
- Rusbult, C. E., Farrel, D., Rogers, G., & Mainous A. G., III. (1988). Impact of exchange variables on exit, voice, loyalty, and neglect: An integrative model of responses to declining job satisfaction. *Academy of Management Journal*, 31, 599–627.
- Schaufeli, W. B. (1995). The evaluation of a burnout workshop for community nurses. *Journal of Health and Human Resources Administration*, 18, 11–40.
- Schaufeli, W. B., & Buunk, B. P. (1996). Professional burnout. In M. J. Schabracq, J. A. Winnubst, & C. L. Cooper (Eds.), *Handbook of work and health psychology* (pp. 3121–3146). Chichester, England: Wiley.
- Schaufeli, W. B., Enzmann, D., & Girault, N. (1993). Measurement of burnout: A review. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 199–215). Washington, DC: Taylor & Francis.
- Schaufeli, W. B., & Janczur, B. (1994). Burnout among nurses: A Polish–Dutch comparison. *Journal of Cross-Cultural Psychology*, 25, 95–113.
- Schaufeli, W. B., Maslach, C., & Marek, T. (Eds.). (1993). *Professional burnout: Recent developments in theory and research*. Washington, DC: Taylor & Francis.
- Schaufeli, W. B., & van Dierendonck, D. (1993). The construct validity of two burnout measures. *Journal of Organizational Behavior*, 14, 631–647.
- Schaufeli, W. B., van Dierendonck, D., & van Gorp, K. (1996). Burnout and reciprocity: Towards a dual-level social exchange model. *Work and Stress*, 10, 225–237.
- Smulders, P. G. W., & Veerman, T. J. (1990). *Handboek ziekteverzuim* [Handbook of absenteeism]. 's Gravenhage, The Netherlands: DELWEL.
- Steel, R. P., & Ovalle, N. K. (1984). A review and meta-analysis of research on the relationship between behavioral intentions and employee turnover. *Journal of Applied Psychology*, 69, 673–686.
- Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology*, 46, 259–293.
- van Dierendonck, D., Schaufeli, W. B., & Buunk, B. P. (1996). Inequity among human service professionals: Measurement and relation to burnout. *Basic and Applied Social Psychology*, 18, 429–451.
- van Dierendonck, D., Schaufeli, W. B., & Sixma, H. (1994). Burnout among general practitioners: A perspective from equity theory. *Journal of Social and Clinical Psychology*, 13, 86–100.
- Van Yperen, N. W., Buunk, B. P., & Schaufeli, W. B. (1992). Imbalance, communal orientation, and the burnout syndrome among nurses. *Journal of Applied Social Psychology*, 22, 173–189.
- Walster, E., Berscheid, E., & Walster, G. W. (1973). New directions in equity research. *Journal of Personality and Social Psychology*, 25, 151–176.
- West D. J., Jr., Horan, J. J., & Games, P. A. (1984). Component analysis of occupational stress inoculation applied to registered nurses in an acute care hospital setting. *Journal of Counseling Psychology*, 31, 209–218.

Received April 29, 1996

Revision received December 11, 1997

Accepted December 11, 1997 ■