

# Stress and Burnout in Health Care Professionals Working with AIDS-patients

Dieter Kleiber\*, Dirk Enzmann\*\*, Burkhard Gusy\*

## Introduction

The appearance of the first AIDS cases in Germany in 1982 evoked a deep sense of horror at the prospect of a possibly unstoppable catastrophe and consequently triggered a comparatively strong political willingness to act and provide funding<sup>1</sup>. After much discussion, the organization of a strategy of "social learning" – as opposed to a more segregational strategy of repressive control – became possible in Germany. From 1988 onwards, funds amounting to about 120-160 million German marks have been made available for measures in the field of public health awareness, practice-oriented model projects, and clinical and social science research projects. Government funds alone have financed more than 1,000 posts for staff in practice-oriented model programs, as well as new AIDS-related tasks of many existing facilities for prevention, counselling, and care. Thus, in a comparatively short time, a fairly broad system of services has sprung up, leading to very important innovations in medical and psycho-social care.

This study of burnout in the field of AIDS, was prompted by the fear that colleagues active in this comparatively new area were under special and greater strain compared with colleagues in other areas. First, qualitative studies<sup>2</sup> showed that often very young and inexperienced workers, who strongly identified with their clients, had entered this new area of work. Lacking practice-oriented models, these workers had to "learn by doing" in a situation where they were under considerable

## Summary

The purpose of the present study was to compare the job situation of AIDS care workers with that of workers in cancer care and geriatrics; How do job characteristics such as time pressure, lack of decision latitude, lack of feedback, stress due to clients' behaviour, or stress due to death and dying relate to levels of burnout in both groups? 1502 subjects participated in a three-wave longitudinal survey, 516 and 266 of which were followed up once or twice, respectively. In contrast to our expectations, AIDS care workers were less burnt out than workers in cancer care and geriatrics. Depending on occupational group and field of work, different patterns of stress and stress reactions as well as different influences on the development of burnout could be demonstrated. Results are discussed in relation to the question how burnout can most effectively be prevented in the investigated fields of work.

Key Words: Acquired immunodeficiency syndrome; Burnout; professional; Stress.

pressure to act and achieve results. This pressure was intensified by the public discussion about AIDS and the still prevalent myths about the illness. Being in danger of falling victim to the same stigmatization as their clients, and confronted with the deaths and dying processes of many people with whom they strongly identified, they appeared to be under extreme stress and at risk of quickly burning out. The objective of this study was to

\* Institut für Prävention und psychosoziale Gesundheitsforschung (i.d. WE 09; FB 12), Freie Universität Berlin, Berlin, Germany  
\*\* Faculteit Sociale Wetenschappen/SOP, Universiteit Utrecht, Utrecht, The Netherlands

Address for correspondence and reprint requests: B. Gusy, Institut für Prävention und psychosoziale Gesundheitsforschung (i.d. WE 09; FB 12), Freie Universität Berlin, Habelschwerdter Allee 45, 14195 Berlin, Germany

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conduct an empirical investigation of this potential risk.

For this purpose, we aimed to survey the population of AIDS workers as completely and representatively as possible. For comparison, workers from the fields of cancer care and geriatrics were also included in the study. These groups were chosen because death and dying is also an important issue in these fields. The research question is: What are the differences between these AIDS and non-AIDS fields with respect to levels of stress, degree of burnout, and possible moderators/mediators? Presumably, workers in the non-AIDS field are confronted with comparatively less stigmatized clients, and a less hysterical public discussion about the diseases concerned. Additionally, it is assumed that – compared with AIDS care – cancer care and geriatrics have a relatively clear professional structure, where well-developed routines and forms of cooperation can easily be acquired and taught. All in all, it was assumed that workers in the fields of cancer care and geriatrics would show less severe stress reactions as compared with workers in AIDS care.

The study was funded by the Federal Ministry of Research and Technology (BMFT; grant #V-010-90) between 1990 and 1993, under the program focusing on "social science AIDS research". It is a longitudinal study of stress and burnout, investigating the stresses and stress reactions of workers as well as the determinants of stress experiences. At present, the project has reached the final stage of data analysis and reporting.

## Methods

To investigate these questions, a survey design was developed and questionnaires were mailed to workers or facilities in AIDS care, cancer care, and geriatrics three times at eleven-month intervals (March 1991, February 1992, January 1993; response rate 38.2 – 48.7 %). The study design and number of respondents are shown in Figure 1.

Among other questions, workers from the three areas were asked to give information about the level of burnout (using the Maslach Burnout Inventory<sup>3</sup>, working conditions (stressors), and the availability of supposed moderators/mediators such as social support, coping, etc. (all the scales were developed specifically for the study). In order to reveal possible secular/external influences, new subjects were included in the survey at each subsequent survey wave (t2 and t3). A total of 1,502 subjects took part, all of whom were questioned at least once. 516 respondents participated twice, and 266 were questioned three times; 46.9 % of the respondents are working in the field of AIDS. 14.0% in cancer care, 23.8% in geriatrics, and 15.2% in other areas of medical or psycho-social work.

First we investigated the demographic differences between the staff structures in the AIDS and non-AIDS fields of work (see Table 1).

Whereas 72% of the workers in the non-AIDS fields were female, the proportion of women in the AIDS field was significantly lower (58%). Marked differences were observed between the occupations in the different fields: The AIDS field was charac-

Table 1. Sample Characteristics in the AIDS and non-AIDS fields.

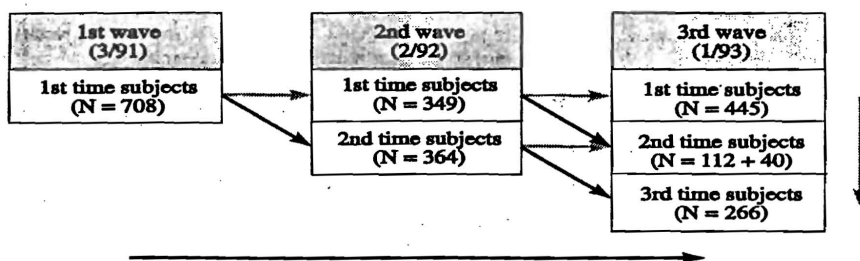
		AIDS	non-AIDS
sex:	female	58.0%	71.2%
age		mean 35.4, sd 7.0	mean 36.5, sd 8.5
occupation:	social worker	40.8%	27.6%
	physician	15.7%	8.9%
	nurse	11.9%	43.4%
	psychologist	11.5%	5.9%
	educationalist	6.1%	3.7%
	other	14.1%	10.5%
field of work:	counseling	47.3%	16.4%
	care	9.4%	8.0%
	therapy	6.1%	11.7%
	administration/coordination	6.7%	6.2%
	nursing	5.4%	28.9%
	other	25.1%	28.9%
facility	information center	33.7%	18.0%
	public agency	27.0%	7.1%
	self-help groups	17.3%	0.9%
	hospital	8.0%	32.5%
	social (out-door) services	6.5%	16.0%
	day clinics	1.6%	2.8%
	home for the aged	0.0%	10.8%
	others	6.0%	11.9%
contract:	full time	73.2%	71.9%
	part time	21.5%	24.2%
	others	5.3%	3.9%
supervision	continuously	56.3%	32.1%

terized by a much higher proportion of academically qualified workers (physicians and diploma holders such as educationalists and psychologists) while, in contrast, the non-AIDS fields contained a large proportion of nursing staff. This implies (in this sample) that the emphasis in work with cancer patients and the elderly is mainly on cure and rehabilitation, whereas in the AIDS field preventative and advisory functions predominate, although medical therapy and nursing functions are also found.

Thus, the AIDS field can be regarded as more heterogeneous than the samples from the other two fields. The spectrum of tasks within the AIDS field runs from prevention to hospice care, and is characterized by a comparatively less medically-based and a more psycho-socially based approach. This is underlined by the composition of the two samples according to type of occupational activity (care, supervision, counselling, therapy, coordination and administration, research and training, laboratory

work, and general assistance), as well as the differences between the fields as regards institutional structures. In the field of AIDS, prevention and counselling play the chief roles. This should be qualified, however, by mentioning that the samples from cancer care and geriatrics, which were mainly drawn from hospitals, cannot be considered as fully representative, in contrast to the sample from the AIDS field. Regarding such aspects as type of contract, number of federally financed temporary job schemes, average age, or average length of further education, no significant differences were found. AIDS workers, however, have easier access to additional resources such as supervision. This may be due to the professional composition of this field, i.e. the higher proportion of academically qualified workers.

These differences, together with the results of previous investigations which showed a significant influence of occupational type on the average burnout experience<sup>4</sup>, suggest that the occupational composition of the AIDS and non-AIDS fields



should be taken into account when making comparisons concerning stress and burnout. In order to compare the AIDS and non-AIDS fields in relation to stress, burnout, and moderating/mediating variables, the variable "occupational groups" was introduced, which differentiates between workers in medical and nursing occupations, and those in psycho-social occupations. The cross-tabulation in Table 2 shows clear differences between the AIDS and non-AIDS fields in "occupational groups". Therefore, the possibility should be considered that mean score differences for stress and burnout are not only attributable to specific client characteristics (i.e. to the "AIDS/non-AIDS fields" alone), but that there are also effects of "occupational groups", as well as interaction effects between the two. These possible effects were investigated using analyses of variance of "occupations" and "fields" including their interaction. In the analyses of variance the effects of both are cross-checked statistically (mutually controlled). The comparisons of the mean scores include all subjects who were questioned for the first time, regardless of which survey wave they were taking part in. Thus, effects of repeated measurement were excluded and secular/external influences reduced, while obtaining the maximum available sample size ( $N = 1410$ ).

The effects of "occupations" and "fields" were studied for three different types of variables:

- \* dependent variables (burnout: emotional exhaustion, 9 items,  $\alpha = .86$ ; depersonalization, 5 items,  $\alpha = .75$ ; reduced personal accomplishment, 8 items,  $\alpha = .80$ ).
- \* moderators/mediators (lack of knowledge of results, 7 items,  $\alpha = .66$ ; social support at work, 12

items,  $\alpha = .90$ ; social support in private life, 12 items,  $\alpha = .84$ ; withdrawal, 13 items,  $\alpha = .75$ ).

- \* independent variables (stressors: time pressure, 7 items,  $\alpha = .86$ ; lack of decision latitude / autonomy, 9 items,  $\alpha = .84$ ; problems in interacting with clients, 8 items,  $\alpha = .81$ ; confrontation with death and dying, 4 items,  $\alpha = .81$ ).

## Results

First the results concerning the dependent variables (burnout) will be shown (Table 3). With regard to "emotional exhaustion" and also "depersonalization", strong interaction effects and a small but significant main effect of the "fields" were found. The "occupational groups" showed no significant effect. Regarding the third dimension of burnout, i.e. the degree of "reduced personal accomplishment", neither occupational group effects, field effects, nor interaction effects were found. No effect of occupational groups was found for any of the dependent variables investigated as dimensions of burnout. There was, however, a small but significant effect of the fields AIDS versus non-AIDS for emotional exhaustion and depersonalization, and highly significant interaction effects for these variables (emotional exhaustion:  $N(\text{AIDS}) = 634$ ; mean = 2.12,  $sd = 0.98$ ;  $N(\text{non-AIDS}) = 743$ , mean = 2.25,  $sd = 1.07$ ; depersonalization:  $N(\text{AIDS}) = 632$ , mean = 1.25,  $sd = 0.95$ ;  $N(\text{non-AIDS}) = 744$ , mean = 1.37,  $sd = 1.06$ ; reduced personal accomplishment:  $N(\text{AIDS}) = 629$ , mean = 1.50,  $sd = 0.81$ ;  $N(\text{non-AIDS}) = 741$ , mean = 1.47,  $sd = 0.86$ ). It was found that workers in the AIDS field had a significantly lower mean score for emotional exhaustion than workers in the non-AIDS fields. Workers in psycho-social occupations within the AIDS field showed greater emotional exhaustion

Table 2. Occupational Groups in the AIDS and non-AIDS Fields.

		field		row total
		AIDS	non-AIDS	
Occupational Group	psycho-social occupations	456 (32.3%)	319 (22.6%)	775 (55.0%)
	medical and nursing occupations	198 (14.0%)	437 (31.0%)	635 (45.0%)
column total		654 (46.4%)	756 (53.6%)	1410 (100.0%)

Note:  $\chi^2_{(1)} = 107.36$ ,  $p \leq 0.001$

Table 3. Analyses of Variance for the dimensions of burnout by Fields and Occupational Groups.

Dimensions	Occup. Groups	Field		F-values occupation groups	interaction effect
		AIDS $\bar{x}$	NAIDS $\bar{x}$		
emotional exhaustion	psycho-social	2.149	2.196	8.2*	13.3***
	medical and nurs.	2.319	1.938		
depersonalization	psycho-social	1.302	1.302	7.5*	7.5**
	medical and nurs.	1.426	1.111		
reduced personal accomplishment	psycho-social	1.454	1.515	0.1	0.8
	medical and nurs.	1.478	1.454		

Note:  $N(\text{total}) = 1370$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p \leq .001$

and depersonalization compared to workers in medical and nursing occupations, whereas the exact opposite effect was found for cancer care and geriatrics: in these fields among the psycho-social occupations comparatively less emotional exhaustion and depersonalization was found than among the medical and nursing occupations.

When investigating possible mediators/moderators (i.e. variables that are assumed to buffer, intensify, or suppress the effects of stressors on burnout), the effects of both factors on the internal and external resources available to the person were analyzed. Examples of external resources are the availability of social support from superiors, colleagues, friends, or partners. Internal resources include, for example, various ways of dealing with stress, i.e. coping strategies. Unlike the dependent variables, it was found that all these moderators/mediators showed a strong effect of the factor "occupational groups".

"Lack of knowledge of results", shown here as an example of moderating/mediating variables, was

obviously experienced much more strongly by those in psycho-social occupations than by those in medical and nursing occupations (Table 4). For this variable, however, there was also a small but significant effect of the "fields". In the AIDS field there was a somewhat higher degree of "lack of knowledge of results", whereas both fields showed significantly higher values for psycho-social occupations than for medical and nursing occupations. The same "occupational group" effect was found for the other moderating/mediating variables such as social support at work, and withdrawal. On average, workers in medical and nursing occupations reported a higher level of social support at work ( $F_{(1)} = 18.05$ ,  $p < 0.001$ ) and less withdrawal ( $F_{(1)} = 54.11$ ,  $p < 0.001$ ) than those in psycho-social occupations. Interestingly, there was less difference between the occupational groups when considering private forms of social support ( $F_{(1)} = 6.33$ ,  $p = 0.012$ ). "Field" effects were not found for social support and withdrawal; interaction effects were also not significant.

A third and different pattern of effects was shown for some of the stressors. Almost univer-

Table 4. Analysis of Variance: Lack of knowledge of results by Fields and Occupational Groups.

Dimensions	Occup. Groups	Field		F-values occupation groups	interaction effect
		AIDS $\bar{x}$	NAIDS $\bar{x}$		
lack of knowledge of result	psycho-social	2.577	2.630	31.3***	0.4
	medical and nurs.	2.325	2.430		

Note:  $N(\text{total}) = 1370$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p \leq .001$

Table 5. Analyses of Variance: Stressors by Fields and Occupational Groups.

Stressors	Occup. Groups	Field		F-values occupation groups	interaction effect
		AIDS $\bar{x}$	NAIDS $\bar{x}$		
time pressure	psycho-social	3.086	2.765	63.1***	23.4***
	medical and nurs.	3.734	2.850		
confrontation with death and dying	psycho-social	0.819	0.571	189.8***	30.7***
	medical and nurs.	1.744	0.965		
problems in interacting with clients	psycho-social	2.155	1.955	28.0***	0.3
	medical and nurs.	2.276	1.900		

Note: N(total) = 1370; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p \leq .001$

sally, very strong effects of occupational groups and fields were found. With some stressors, strong interaction effects could also be seen. This was true for the level of "time pressure" reported by the subjects, which was in general markedly lower in the AIDS field (Table 5). At the same time, "time pressure" appeared to be stronger among workers in medical and nursing occupations than among those in psycho-social occupations. In the same way, workers in the AIDS field experienced a comparatively greater decision latitude / autonomy ( $F_{(1)} = 13.81$ ,  $p < 0.001$ ). Those in psycho-social occupations in both fields saw themselves as having greater decision latitude than those in medical and nursing occupations ( $F_{(1)} = 7.56$ ,  $p = 0.006$ ).

Previous qualitative studies<sup>2</sup> have shown that workers in AIDS health care experience particular problems in dealing with death and dying. It was therefore decided to include in our measurements the frequency of "confrontation with death and dying" and the frequency of events involving "problems in interacting with clients" as additional stressors. Regarding the confrontation with death and dying (see Table 5) the picture already mentioned can be seen: The level of confrontation with death and dying was (as expected) significantly higher for members of the medical and nursing professions. However, contrary to our expectations, the confrontation with death and dying proved to occur significantly more often in geriatrics and cancer care than in AIDS care – although this does not imply that AIDS health care workers experience less subjective strain when confronted with death and dying.

A somewhat different pattern emerged for the stressor "problems in interacting with clients": in this case no effect for the "occupational groups" could be found (see Table 5). In contrast, the "fields" had a highly significant effect ( $F_{(1)} = 27.96$ ,  $p < 0.001$ ), with the AIDS field showing a much lower mean score for this stressor. Problems in interacting with clients seemed to be evenly distributed among the occupational groups.

To summarize the effect patterns found, we can state that:

first, as regards levels of burnout, there are significant differences between the fields but not between the occupational groups, with interaction effects being the strongest.

Second, the availability of coping resources and social support varies almost exclusively between the occupational groups, and not between the fields.

Third, the level of stress factors varies between both the fields and the occupational groups.

The analysis aimed to reveal specific characteristics of the AIDS field, not only regarding the mean differences in stress and burnout between the AIDS and non-AIDS fields, but also regarding the particular effects of the stressors and mediators/moderators on the burnout variables. Therefore, it was necessary to investigate the simultaneous influences of the independent and intervening factors on the dependent variables (dimensions of burnout) over time. This was done by applying structural equation modelling techniques, which test the compatibility (fit) of a theoretically assumed model with the empirical data<sup>3</sup>. As a first step, we developed a regression model for the field of AIDS health care by including all

the subjects who had taken part in the survey at least twice, regardless of the time when this took place (1991-1992 or 1992-1993, see Figure 1). This was also intended to reduce possible secular/external effects. The effect of the "occupational groups" that was found in the analyses of variance shown above, was compensated for by including this factor (as a dichotomous variable) in the regression model. For purposes of clarity, this variable and its effects are not shown in the following.

A model developed for the AIDS field was found to fit well to the data  $\chi^2_{(12)} = 14.43$ ,  $p = 0.274$ , Adjusted-Goodness-of-Fit-Index (AGFI) = 0.936, Bentler-Normed-Fit-Index (BNFI) = 0.960, Comparative-Fit-Index (CFI) = 0.993. In a further stage of the evaluation, the data from subjects in the AIDS field ( $N = 180$ ) and non-AIDS fields ( $N = 148$ ) were simultaneously entered (multiple sample analysis) in order to test the supposition that the effects in both fields were identical. A run-through of this simultaneous model provided information which made it possible to establish which parameters (effects) are common to both AIDS and non-AIDS fields, and which parameters differ significantly. As a result, two significantly differing parameters were identified: the path between "problems in interacting with clients" ( $t_1$ ) and "reduced personal accomplishment" ( $t_2$ ); and the path between "confrontation with death and dying" ( $t_1$ ) and "emotional exhaustion" ( $t_2$ ). These paths are represented by the dotted lines in Figure 2. A model where these two parameters were allowed to differ shows a significantly improved fit  $\chi^2_{(30)} = 96.84$ ,  $p < 0.001$ , BNFI = 0.873, CFI = 0.903; increment of  $\chi^2_{(2)} = 19.00$ ,  $p < 0.001$ .

In the AIDS field (Figure 2), it was found that "emotional exhaustion" at  $t_2$  is determined by the  $t_1$ -variables "time pressure", "lack of decision latitude / autonomy", "problems in interacting with clients", and "confrontation with death and dying" ( $R = .31$ ). Thus, emotional exhaustion was found to have multiple causes and is probably the burnout variable most sensitive to changes. However, the effects of "time pressure" and "problems in interacting with clients" are comparatively stronger than the effects of the other two determinants. Depersonalization, in both the fields investigated, is mainly caused by "problems in interacting with clients" ( $R = .20$ ). In both fields, the variability of

the comparatively stable burnout dimension "reduced personal accomplishment" can best be explained by "knowledge of results" ( $R = .17$ ).

While in the AIDS field a significant influence of "confrontation with death and dying" ( $t_1$ ) on "emotional exhaustion" ( $t_2$ ) was found (which is compatible with the statements made by workers in qualitative studies), in the non-AIDS fields, a reverse significant effect emerged (Figure 2). This was the case even though the actual frequency of confrontation with death and dying is clearly greater in the non-AIDS fields. It appears that although workers in AIDS health care are confronted with death and dying significantly less often, confrontation with death and dying in this group has a stronger impact on emotional exhaustion than in cancer care and geriatrics. It is debatable whether this could be caused by habituation to death and dying in the non-AIDS fields.

A second interesting difference between the AIDS and non-AIDS fields is found in the path between "problems in interacting with clients" ( $t_1$ ) and "reduced personal accomplishment" ( $t_2$ ): in the AIDS field problems in interacting with clients led to a significant increase in positive feelings of personal accomplishment. Workers caring for cancer patients and the elderly, however, showed the opposite reaction: while it should be noted that problems in interacting with clients occur significantly more often in the non-AIDS fields, these problems reduced the feelings of personal accomplishment.

## Discussion

In this study, in contrast to our expectations, workers in AIDS health care turned out to be less burnt out than workers in cancer care or geriatrics. Furthermore, the results show that the AIDS field is less homogeneous than is suggested by the "myth of AIDS". Depending on occupational group and field of work there are characteristic patterns of stress and stress reactions, as well as different influences on the development of burnout. How can this be explained? It appears that the problems reported in AIDS health care (which is considered to be a particularly difficult field of work) can actually promote a sense of identity as an AIDS health care worker and thus a stabilization of professional self-esteem. By contrast, in the

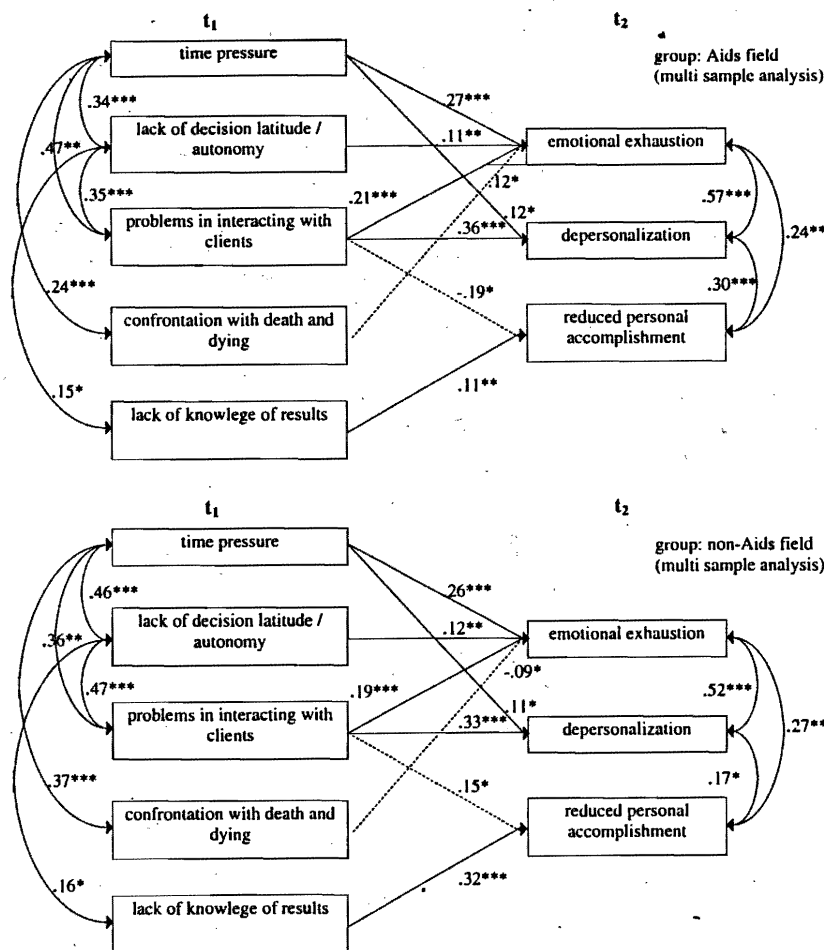


Figure 2. Regression Models of Stress (t1) on Burnout (t2) in AIDS and NON-AIDS Fields.

Notes: Multi-sample analysis; standardized parameters; all  $t_2$ - $t_1$ -paths except double lines are constrained to be equal across groups; group AIDS: N = 180, group non-AIDS: N = 148; correlations of dichotomous variable "occupational groups" with independent variables are not shown; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p \leq .001$ ;  $\chi^2_{(30)} = 96.84$ ,  $p < 0.001$ , BNF1 = 0.873, cfi = 0.903.

fields of cancer care and geriatrics, where the frequency of problems experienced in interacting with clients reaches a high level, the workers as a result develop reduced feelings of personal effectiveness and dissatisfaction with their job accomplishments.

The results show that problems in interacting with clients may have positive effects on feelings of personal accomplishment. In research on burnout it is generally assumed that those workers are at risk of burning out who continuously encounter

interactions with clients that are centred around problems and "charged with feelings of anger, embarrassment, fear or despair"<sup>6</sup>. The findings in this study suggest that this probably applies only to excessive amounts of problems, whereas below a certain level, problems in interacting with clients may have a positive effect – at least on feelings of professional self-efficacy and the burnout dimension "personal accomplishment". This issue deserves further exploration. Future research on stress and burnout in the field of AIDS should take into account the specific circumstances of AIDS health care. For example, the study by Pearlin et al.<sup>7</sup> on the issues of AIDS caregiving in San Francisco revealed specific problems: for many volunteers providing care in the homes of their patients, their personal role as a caregiver was incompatible with the demands of their occupational role. This may result in a dilemma for the volunteer, "leaving him with a sense of inadequacy wherever he places his efforts". It can be assumed that this situation produces different effects on feelings of personal accomplishment than the situation that is characteristic of AIDS health care in Germany.

With regard to counselling and care, this implies that social and political influences on the working conditions in the field of AIDS as well as corresponding changes in the demands on caregivers should be anticipated. It is to be expected that the proportion of nursing as opposed to prevention and counselling will increase both in Germany and internationally. Consequently, stress and burnout due to caseload, time pressure, or confrontations with death and dying (among others) will probably increase. Therefore, developing and implementing preventative and intervening measures concerning burnout in AIDS health care will become all the more important.

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