

EMOTIONAL JOB DEMANDS AND BURNOUT AMONG ONCOLOGY CARE PROVIDERS

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Recent studies by Soderfeldt *et al.* (1996) and de Jonge *et al.* (1999) have demonstrated that Karasek's operationalization of job demands in his well-known Job Demands-Control (JD-C) Model (Karasek, 1979), i.e. quantitative demands, cannot capture the complexities of working with patients or clients in health care work. In the current study on burnout among 816 Dutch oncology care providers, the "traditional" JD-C Model was extended by including two types of emotional job demands. Moreover, "susceptibility to emotional contagion" was included as a potential moderator of the relationship between emotional job demands and burnout. Emotional job demands significantly contributed to the prediction of burnout, after controlling for quantitative job demands and job control. In addition, care providers' susceptibility to emotional contagion moderated the relationship between "confrontation with death and dying" and burnout. Care providers high in susceptibility to emotional contagion were more "vulnerable" to the stress associated with high emotional demands than their counterparts.

Keywords: Emotional job demands; Burnout, Susceptibility to emotional contagion

As a result of economic and social developments, the nature of work has changed dramatically during the past decades. In their recent book on burnout, Schaufeli and Enzmann (1998) give an overview of the most marked changes. First of all, in all industrialized countries the service sector has rapidly grown, whereas more traditional sectors such as agriculture and manufacturing have declined. Nowadays, 59% of the workforce in the

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European Union is employed in the service sector, against 7% in agriculture and 34% in industry (Paoli, 1997). No less than 69% of the Dutch workforce is employed in the service sector. The human services (health care, teaching, social work etc.) constitute an important and growing part of this sector. Second, new technologies have been introduced in both manufacturing and the services sector (Zijlstra, Schalk & Roe, 1996), which requires the use of complex cognitive skills such as accuracy and rapid decision making. Third, because of fierce competitiveness, employees are forced to continuously display "consumer friendly" attitudes in ways that may conflict with the expression of their genuine feelings. Finally, professionals working in public service agencies face increasing service demands and at the same time declining budgets (Cherniss, 1995). In fact they have to do more with less!

These developments, of course, have had important implications for the nature of work. Having to do more with less implies an increase in workers' quantitative workload. Indeed, 18% of the workers in the European Union indicate that they are continuously under time pressure, whereas 35% indicates that this happens regularly (at least 50% of the time) (Paoli, 1997). Between 1977 and 1989, the percentage of Dutch workers who complained about excessive workpace has increased from 38% to 51%. People working with other people, such as health care workers, catering personnel and teachers, experience the highest workpace (Houtman & Kompier, 1995). Moreover, in many occupations, a shift from physical to mental and/or emotional demands is observed. Working daily with other people in a "consumer friendly" way, as is the case in the human services, is associated with increasing emotional demands (see for an example: Hochschild, 1983, p. 127), whereas working with complex technologies leads to an increase in workers' mental demands (e.g. Schaufeli, Keijsers & Reis-Miranda, 1995). As a result of these changes, the level of occupational stress, including burnout, has risen alarmingly in the past decades. This is illustrated by increasing stress-related absenteeism, work incapacity rates and associated costs.

BURNOUT AMONG ONCOLOGY CARE PROVIDERS

Stress reactions (or strains) can be expressed in different ways, e.g. physically, behaviorally, and psychologically. Moreover, stress-reactions can differ in their intensity. Sometimes, the negative effects of stressors can easily

be overcome, e.g. by recreation and relaxation. However, in the case of prolonged exposure to stressful stimuli, the individual may not be able to reduce the (physiological) state of stress. This can in turn give rise to chronic physical (e.g. coronary heart disease; Siegrist, 1996) or psychological (e.g. burnout; Maslach & Jackson, 1986; Schaufeli & Enzmann, 1998) complaints (Le Blanc, de Jonge & Schaufeli, 2000). In the present study, we want to focus on burnout, as results of a previous study have shown that Dutch oncology care providers run a relatively high risk to "burn out" (Le Blanc, van Heesch & Schaufeli, under review). As stated above, burnout can be considered a chronic occupational stress reaction. Though burnout can be found in all kinds of professions, results of recent studies have shown that it is especially prevalent among human services providers (Schaufeli & Enzmann, 1998). Three dimensions of burnout can be distinguished (cf. Maslach, 1982). As a result of high emotional demands in the interpersonal relationships with patients or clients, workers may feel emotionally exhausted, that is, emotionally overextended and drained by one's interactions with other people. To cope with these feelings of exhaustion, workers will try to protect themselves by detachment from their recipients, that is, by treating them in an indifferent and cynical way. This detached attitude towards clients or patients is called depersonalization. As a result of this attitude, workers are unable to perform adequately and the quality of their care will impair. In turn, this will lead to a decline in one's feelings of personal accomplishment, or professional efficacy.

In the present study, we restrict ourselves to the emotional exhaustion and depersonalization dimensions of burnout. These two dimensions are generally considered as the "core of burnout", whereas personal accomplishment reflects a personality characteristic like self-efficacy rather than a genuine burnout-component (e.g. Cordes & Dougherty, 1993; Demerouti, Bakker, Nachreiner & Schaufeli, 1999; Shirom, 1989).

What is typical about burnout in the human services, is that it is to an important extent the consequence of job-related interpersonal stress (Maslach, 1982; Schaufeli & Enzmann, 1998). In contrast to production workers and financial managers, for example, physicians, nurses and therapists are primarily involved in "people work". Quite often, the (helping) relationship with patients or clients involves high interpersonal, or emotional demands. Of course, different occupations will vary with respect to their levels of emotional demands. Particularly caring for critically or terminally ill patients (e.g. in intensive care or in oncology) is associated with high levels of emotional demands.

Care providers in oncology have to respond to the demands of clinical care as well as to a variety of psychological issues presented by patients and their families. They are increasingly called on to provide "life-saving" treatment as well as information, reassurance and emotional support. Cancer patients' need for psychological security can be extreme. Patients and their families often develop highly dependent relationships with care providers and place great trust and faith in them. Although the intimacy and closeness of these interpersonal relationships can evoke feelings of accomplishment and unique importance, their intensity may also put a heavy emotional burden on care providers. As the emotional needs of cancer patients and their families must be satisfied continuously, responding may become emotionally exhausting in the long run. In addition, it has been argued that cancer medicine is inherently stressful because of the frequent exposure to suffering, death and dying and the conflict between the curative goals on which most training is based, and the palliative goals of much cancer care (Delvaux, Razavi & Farvacques, 1988). Hence, it can be concluded that the main feature that makes working with cancer patients rather special, i.e. the intensity of interpersonal relationships, can either make care providers feel valuable and worthwhile or place them at risk of depleting their emotional resources and to "burn out".

SUSCEPTIBILITY TO EMOTIONAL CONTAGION

It is often thought that care providers will only be able to provide good service or care if they understand their clients' problems and interpret things from their point of view. However, several researchers have argued that precisely this perspective taking and empathic concern may increase care providers' susceptibility to burnout (Maslach, 1982; Pines, 1982). From this perspective, an empathic attitude may be a sort of "weakness" rather than strength. It requires imaginatively experiencing the situation of the client, and may therefore be emotionally draining (Berger, 1987). This will particularly be the case when care providers have to empathize with those in severe physical and psychological distress, as is the case in oncology.

Empathy is now widely viewed as a multidimensional concept (Davis, 1983; Dillard & Hunter, 1986; Stiff, Dillard, Somera, Kim & Sleight, 1988), including perspective taking, communicative responsiveness, empathic concern and emotional contagion. In the present study, we will focus on the

last dimension of empathy: emotional contagion. Emotional contagion can be defined as an affective process in which an individual observing another person experiences emotional responses parallel to that person's actual or anticipated emotions (Coke, Batson & McDavis, 1978; Davis, 1980; 1983; Deutsch & Madle, 1975; Feshbach, 1975; Stotland, 1969). The results of a study by Miller, Stiff & Ellis (1988) among hospital employees showed that emotional contagion was related to burnout through communicative responsiveness. The higher care providers' level of emotional contagion, the lower their communicative responsiveness, i.e. their ability to be communicatively adept, to say the right thing, to listen attentively, to know when to give advice and when to help clients to come to their own conclusions. Communicative responsiveness, in turn, was negatively associated with burnout. It can be hypothesized that care providers will differ with respect to their susceptibility to emotional contagion, and that this susceptibility will be an important determinant of their "vulnerability" to the stress associated with high emotional job demands. More specifically, one could hypothesize that susceptibility to the emotions of others will make care providers more vulnerable to "emotional stress".

Aim of the Study: Extending the Job Demand-Control Model

The present study was designed to explore the relationship between different types of job demands and burnout in a sample of oncology care providers. Up till now, most studies on the relationship between job demands and job stress have focused on quantitative demands (e.g. workplace). One of the leading models in this area is Karasek's (1979) Job Demand-Control model. A central hypothesis of the Job Demand-Control model is that the relationship between quantitative job demands and strain is moderated by job control. More specifically, according to the model, particularly the combination of high quantitative job demands and low job control will result in psychological and physical strain ("high strain" jobs).

HYPOTHESIS 1 Oncology care providers with low levels of job control experience more burnout when confronted with high quantitative job demands than oncology care providers with high levels of job control.

However, empirical support for Karasek's strain hypothesis is inconclusive (Jones & Fletcher, 1996; De Jonge & Kompier, 1997). Several scholars have commented on the content and methodology of the JD-C Model

(De Jonge & Kompier, 1997). An important point of attention is the possible multi-faceted nature of job demands (Jones & Fletcher, 1996; De Jonge & Kompier, 1997; De Jonge, Mulder & Nijhuis, 1999). Different kinds of demands have not been incorporated in the JD-C model and, in turn, are not profoundly investigated. Therefore, we want to extend the "traditional" Job Demand-Control Model by including an additional type of job demand that is particularly relevant for workers in the human services, and especially for oncology care providers, i.e. emotional demands.

HYPOTHESIS 2 *The incorporation of emotional job demands, in addition to quantitative job demands, significantly improves the prediction of burnout among oncology care providers.*

Moreover, as several authors have pointed out (Parkes, 1991; Payne, 1988; De Rijk, Le Blanc, De Jonge & Schaufeli, 1998; Siegrist, Peter, Junge, Cremer & Seidel, 1990), research on the JD-C Model has largely neglected individual styles of adaptation to particular features of the work environment. In other words, the relationship between job characteristics and outcome measures may depend upon workers' individual characteristics. Following this line of reasoning, we will include a potential moderator of the relationship between emotional job demands and strain in our design, i.e. susceptibility to emotional contagion.

HYPOTHESIS 3 *Oncology care providers who are high in susceptibility to emotional contagion experience more burnout when confronted with high emotional job demands than oncology care providers who are low in susceptibility to emotional contagion.*

METHOD

Procedure and Participants

In January 1997, a random sample of members of five Dutch associations of oncology care providers was asked to fill out a questionnaire on their work and well being. Questionnaires were sent to the home addresses of 1585 care providers. In order to guarantee anonymity, the completed questionnaire could be returned in a pre-stamped envelope. A total of 816 oncology care providers returned the questionnaire (response rate 52%): 410 nurses, 179 physicians and 227 radiotherapy assistants. Age ranged from 21 to 63

years; the mean age was 38.5 years ($SD = 8.9$). Eighty-six per cent of the participants were female. On average, they had 10.1 years ($SD = 6.4$) of working experience in oncology.

Measures

The scales that were used to assess different types of job demands and job control have been constructed by the first author, and are based on a literature review and extensive interviews with 20 randomly selected oncology care providers.

Quantitative job demands are assessed by a ten-item scale assessing, e.g. to what extent respondents are confronted with demands such as a high work pace, large amounts of work, and long working hours. Items are scored on a five-point Likert scale, ranging from (1) "not at all" to (5) "extremely often".

Two types of *emotional job demands* are included in our questionnaire. The first one is called "*problems in interacting with patients*". This twelve-item scale assesses the extent to which respondents are confronted with demands such as distrustful patients, aggressive patients, uncooperative patients, and patients with unrealistic expectations. The second type of emotional job demands is called "*confrontation with death and dying*". This six-item scale includes items that measure the extent to which respondents are confronted with demands such as the death of several patients simultaneously, and having to inform relatives about the death of a patient. Items of both scales are again scored on a five-point Likert scale, ranging from (1) "not at all" to (5) "extremely often".

Job control is measured by a six-item scale, including items referring to respondents' freedom to decide how to work. Example items are: "To what extent do you have a lot to say about what happens in your job?", and "To what extent are you able to make job related decisions on your own?" Again, items are scored on a five-point Likert scale, ranging from (1) "not at all" to (5) "extremely".

Care providers' *susceptibility to emotional contagion* is assessed by means of the Dutch version of the emotional contagion scale (Bakker & Schaufeli, in press). This six-item scale contains items such as "I cannot continue to feel ok, if people around me are depressed". Items are scored on a five-point Likert scale, ranging from (1) "totally disagree" to (5) "totally agree".

Finally, *burnout* was assessed by two subscales of the Dutch version (UBOS; Schaufeli & Van Dierendonck, 2000) of the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986): *emotional exhaustion* (8 items) and *depersonalization* (5 items). Scores range from (0) "never" to (6) "every day". In the UBOS, item number 16 of the emotional exhaustion scale has been eliminated because several studies have shown that this item does not load on the intended factor, and thus creates problems with factorial validity (cf. Byrne, 1993; Schaufeli & Van Dierendonck, 1993). Recently, Schaufeli & Van Dierendonck (1993; 2000) have demonstrated that the reliability and construct validity of the Dutch version are comparable to the original American version.

Data Analysis

As our two dependent variables (emotional exhaustion and depersonalization) are conceptually and empirically interrelated, data were analysed using multivariate moderated regression analysis (MMR; Tabachnick & Fidell, 1989; Payne, Wall, Borril & Carter, 1999). Interaction effects in MMR are tested by including in the analysis both main effects and the appropriate cross-product term carrying the interaction. The test for the interaction effect is based on the variance explained by the cross-product term over and above that accounted for by the main effects. Moreover, we included four background variables (age, gender, length of service and occupational group) in our analysis to control for possible confounding effects. By controlling for "occupational group", we tried to meet the criticisms of Ganster (1989) who stated that in research on the JD-C Model effects of socio-economic status should be controlled for. In line with recommendations for dealing with problems of multicollinearity that arise from the use of cross-product terms (Aiken & West, 1991; Jaccard, Turrusi & Wan, 1990), variables were standardized before calculating their cross-product terms and conducting the analysis.

RESULTS

Table I shows the means, standard deviations, internal consistencies (coefficients alpha) and zero-order Pearson correlations of the variables in this study.

TABLE I Descriptive statistics for the key study variables (N = 816)

Variable	M	SD	α	2	3	4	5	6	7	8	9	10	11	12
1. Age	38.5	8.93		-.27***	.69***	-.30***	.39***	.11**	.19***	-.09*	.16***	-.10**	0.03	0.05
2. Gender					-.22***	0.01	-.52***	0.02	-.11**	0.05	.09*	.21***	-0.03	-.19***
3. Length of service (years)	10.1	6.36				-.08*	.29***	.07*	.11**	-.14***	0.02	-0.05	0.01	0
4. Dummy 1 (profession)							-.34***	-.30***	-.17***	-.10**	-.55***	.18***	-0.07	-0.06
5. Dummy 2 (profession)								.13***	.16***	0.05	.15***	-.15***	-0.03	.15***
6. Quantitative job demands	2.71	0.82	0.84						-.34***	.42***	.48***	0.07	.39***	.25***
7. Job control	2.02	0.93	0.86							-.27***	-.11**	-.21***	-.29***	-.19***
8. Problems in interacting	2.54	0.84	0.92								.45***	.18***	.20***	.22***
9. Death and dying	2.27	1.08	0.81									0.04	.14***	.11***
10. Susceptibility to emotional contagion	2.62	0.51	0.67										.14***	0.02
11. Emotional exhaustion	2.58	0.88	0.85											.38***
12. Depersonalisation	1.90	0.67	0.60											

*p = .05; **p = .01; ***p = .001

The aim of the MMR-analysis was to test whether the hypothesized interaction effects between quantitative job demands and job control, and emotional job demands and susceptibility to emotional contagion, respectively, existed. Though we didn't expect any interaction effects of quantitative job demands and susceptibility to emotional contagion, and between the two types of emotional job demands and job control, respectively, we also tested for these effects. As expected, there are strong multivariate main effects for both "quantitative job demands" $F(2, 747) = 37.18, p < .001$, and "job control", $F(2, 747) = 10.12, p < .001$. However, their interaction term fails to reach significance, $F(2, 747) = 1.20, p = .30$. In addition, significant multivariate main effects are found for "problems in interacting with patients", $F(2, 747) = 5.20, p < .01$, and for "susceptibility to emotional contagion", $F(2, 747) = 4.84, p < .01$. Finally, the multivariate test of the MMR showed a significant interaction effect of "confrontation with death and dying" and "susceptibility to emotional contagion" $F(2, 747) = 3.40, p < .05$.

In order to determine whether this latter interaction effect was uniquely associated with each of the outcome variables, additional hierarchical multiple regression analyses were performed for each of the two burnout dimensions separately. The independent variables were entered into the equation in three successive steps (cf. Aiken & West, 1991; Jaccard, Turrisi & Wan, 1990). In the first step, age, gender, length of service and occupational group were entered to control for possible confounding effects. Step two incorporated quantitative job demands, the two types of emotional job demands ("problems in interacting with patients" and "confrontation with death and dying"), job control, and susceptibility to emotional contagion. In the third and final step, the two-way interaction terms of the different types of job demands and job control as well as the two-way interaction terms of the different types of job demands and susceptibility to emotional contagion were entered. The results of both analyses are presented in Table II. In order to enable interpretation of the a priori standardized variables, unstandardized regression coefficients are included in Table II.

In Table II the results for emotional exhaustion are presented. After controlling for the background variables in the first step, significant main effects of each of the two dimensions of the JD-C Model are found (step 2), but not the predicted interaction effect (step 3). Therefore, Hypothesis 1 cannot be confirmed for emotional exhaustion. In step 2, a significant positive main effect of "confrontation with death and dying" is found, which

TABLE II Hierarchical multiple regression analysis of quantitative and emotional job demands, job control and susceptibility to emotional contagion on (a) emotional exhaustion, and (b) depersonalization ($N = 816$)

Dependent Variable	Emotional Exhaustion		Depersonalization	
	<i>B</i>	R^2_{change}	<i>B</i>	R^2_{change}
1. Age	.06	.01*	.05	.05***
Gender	-.10**		-.18***	
Length of service	-.01		-.07	
Dummy 1 (profession)	-.08		-.01	
Dummy 2 (profession)	-.12**		.06	
2. Quant job demands (QD)	.36***	.19***	.18***	.09***
Problems in interacting with patients (PI)	.01		.14***	
Death and Dying (DD)	.11*		.07	
Job control (JC)	-.17***		-.12**	
Susc to em contagion (SEC)	.10**		.01	
3 QD \times JC	.06	.01*	.05	.01*
PI \times JC	.00		.00	
DD \times JC	.00		.00	
QD \times SEC	-.07		-.02	
PI \times SEC	.04		-.03	
DD \times SEC	.09*		.10*	
Multiple <i>R</i>	.47		.38	
R^2 Total	.21		.15	
<i>F</i>	12.260***		7.624***	

* $p = .05$, ** $p = .01$, *** $p = .001$

confirms Hypothesis 2, as well as a significant positive main effect of “susceptibility to emotional contagion”. Moreover, “confrontation with death and dying” and “susceptibility to emotional contagion” do not only combine additively, but also interactively in predicting emotional exhaustion (step 3). So, Hypothesis 3 is confirmed for emotional exhaustion.

The interaction effect of “confrontation with death and dying” and “susceptibility to emotional contagion” is graphically represented in Fig. 1, following the method recommended by Aiken & West (1991) and Jaccard *et al.* (1990). Values of the moderator were chosen 1 standard deviation below and above the mean. Simple regression lines were generated by entering these values in the regression equation. Fig. 1 shows that both for nurses who are low in susceptibility to emotional contagion and for nurses who are high in susceptibility to emotional contagion, an increase in “confrontation with death and dying” is associated with a increase in feelings of emotional exhaustion. However, a high level of susceptibility to emotional contagion appears to enhance the increase in emotional exhaustion due to the confrontation with death and dying.

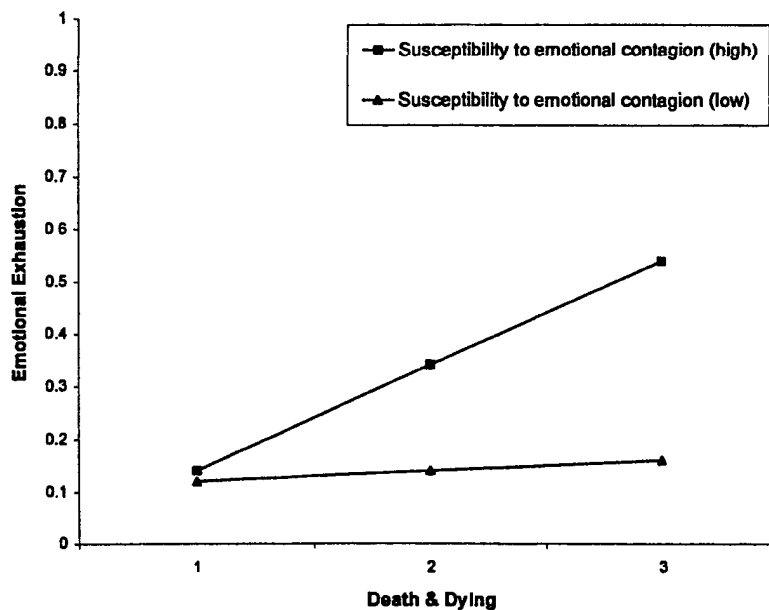


FIGURE 1 Two-way interaction effect of “confrontation with death and dying” and “susceptibility to emotional contagion” on emotional exhaustion.

Table II presents the results for depersonalization. In the second step of this analysis, we again see significant main effects of both “quantitative job demands” and “job control”, but no interaction effect (step 3). So, Hypothesis 1 cannot be confirmed for depersonalization too. Moreover, in the second step, a significant, positive main effect of “problems in interacting with patients” is found, which confirms Hypothesis 2. So, whereas “confrontation with death and dying” is significantly related to feeling exhausted, difficult relationships with patients are significantly related to depersonalization. No significant main effect of “susceptibility to emotional contagion” is found (step 2). Finally, in step 3, “confrontation with death and dying” and “susceptibility to emotional contagion” again show a significant interaction effect (though the main effects of these variables were not significant). Hypothesis 3 is therefore confirmed again. The significant interaction effect of “confrontation with death and dying” and “susceptibility to emotional contagion” is graphically represented in Fig. 2. As can be seen from this figure, at low levels of “confrontation with death and dying”, nurses who are low in susceptibility to emotional contagion feel

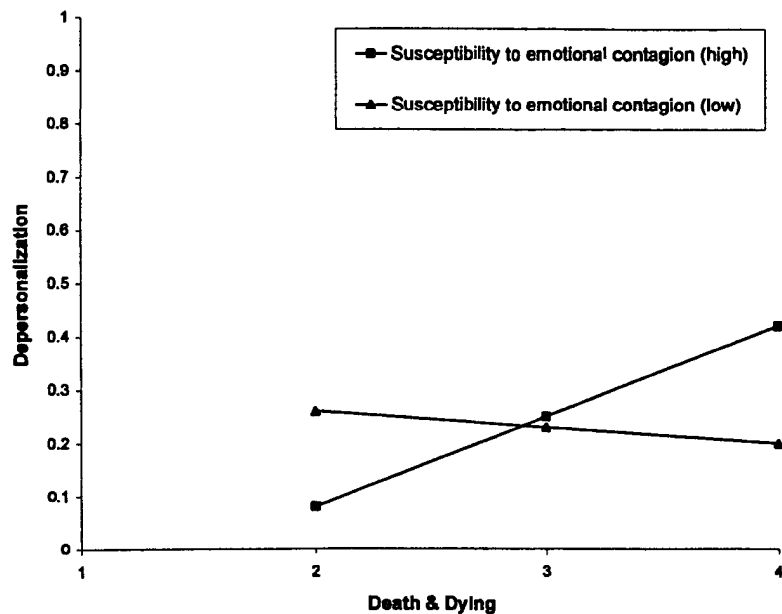


FIGURE 2 Two-way interaction effect of "confrontation with death and dying" and "susceptibility to emotional contagion" on depersonalization

more depersonalized than nurses who are high in susceptibility to emotional contagion. The reverse is found at high levels of "confrontation with death and dying". Only for nurses high in susceptibility to emotional contagion an increase in "confrontation with death and dying" is related to an increase in depersonalization.

DISCUSSION

The current study examined (a) whether empirical support can be found for the "strain"-hypothesis of Karasek's (1979) JD-C Model in a (heterogeneous) sample of oncology care providers; (b) whether the incorporation of emotional job demands, as a supplement to quantitative job demands (and job control), significantly improves our prediction of burnout (i.e. emotional exhaustion and depersonalization) among oncology care providers; (c) whether the relationship between (emotional) job demands and burnout is moderated by susceptibility to emotional contagion.

First, significant main effects of quantitative job demands and job control were found on both emotional exhaustion and depersonalization (cf. Schaufeli *et al.*, 1993; Van Dierendonck, 1997), but not the predicted interaction effect. In fact, these results are in line with earlier empirical studies on the JD-C model, which have shown similar results (Jones & Fletcher, 1996; De Jonge & Kompier, 1997). As several authors pointed out, it is very difficult to detect interactions as predicted by the model (Theorell & Karasek, 1996; Wall, Jackson, Mullarkey & Parker, 1996). One of the reasons for this may be the "impure" operationalization of the two central concepts of the JD-C Model: (quantitative) job demands and job control. However, this does not apply to the present study, as we used conceptually "pure" and focused measures of both concepts (cf. Wall *et al.*, 1996; De Rijk *et al.*, 1998). Quantitative job demands were operationalized in terms of (high) workplace, whereas job control was conceived as decision authority.

Second, results of the present study underline the relevance of including different types of demands in studies on job stress in the human services, as significant main effects of emotional job demands on burnout were found while quantitative job demands (and job control) were controlled for. This finding is in line with those of De Jonge, Mulder & Nijhuis (1999), who also studied the effects of incorporating different demands concepts (i.e. psychological, physical and emotional demands) in the job demand-control model. Though they did not find significant main effects of emotional demands on well-being (operationalized as job satisfaction, job involvement, emotional exhaustion, and psychosomatic health complaints, respectively), they did find significant main effects of psychological and physical demands, as well as a number of significant interaction effects of the different types of job demands and job control on the different outcome variables. On the basis of their findings, they concluded that "researchers as well as practitioners have to broaden their perspective on 'job demands' in health care work and need to focus on different types of job demands to capture the complexity of this work setting". This conclusion is (again) confirmed by the results of the present study. Especially in work settings where care providers are dealing with very (or even terminally) ill patients or with clients with complicated emotional problems, emotional demands should be included in studies on their job stress and well-being.

Third, the results of our study partly confirmed our hypothesis that the relationship between emotional job demands and burnout is moderated by care providers' susceptibility to emotional contagion. A high susceptibility

to emotional contagion appeared to enhance the increase in emotional exhaustion due to "confrontation with death and dying". Moreover, it was found that for nurses low in susceptibility to emotional contagion the level of depersonalization remained about the same at low versus high levels of "confrontation with death and dying", whereas for nurses high in susceptibility to emotional contagion an increase in "confrontation with death and dying" was associated with an increase in depersonalization.

No significant interaction effects with susceptibility to emotional contagion were found for the other type of emotional job demand, namely "problems in interacting with patients". Perhaps, these different results are due to the fact that "problems in interacting with patients" are less "severe" or emotionally disturbing than "confrontation with death and dying". Moreover, in case of problems in interacting with patients, care providers are "part of the problem" themselves and may be able to change the situation. "Confrontation with death and dying" however, can be considered an external stressor that "happens to you" and cannot be influenced. For these two reasons, the risk of emotional contagion may be lower for the former type of emotional demand than for the latter. Another, perhaps more plausible, explanation is related to the nature of emotional reactions aroused by episodes that signify one or the other. The experience of death arouses sympathy, and one feels with the patients and their families. This is emotionally exhausting and depressing. Frustrating interactions, on the other side, may be more likely to arouse anger and frustration, and if this is attributed to the personality of the clients, this may foster an attitude of rejection and distancing from clients.¹ A final possible explanation for our findings is that the relationship between "problems in interacting with patients" and burnout is moderated by a different type of individual differences variable, e.g. social competence or social skills. This explanation remains speculative, as the present study did not include such an individual difference variable.

The results with respect to "confrontation with death and dying" are somewhat divergent from earlier studies on the impact of job-specific stressors on employee health and well being. For example, Peeters *et al.* (1995) found that stressors that are typical for a profession, e.g. dealing with victims of accidents for policemen, are appraised as least significant.

¹ The authors want to thank an anonymous reviewer for suggesting this explanation of the results.

Apparently, employees expect that some stressors are indissolubly connected with their profession, and as a result of this they do not perceive them to be very significant. One could expect a similar process for oncology care providers with respect to the stressor "confrontation with death and dying". However, at least in the present study, significant (main and interactive) effects of this stressor on burnout were found.

In this study, we only looked at contagion processes between care providers and patients, i.e. care providers who get contagated by their clients' emotions. However, contagion processes could quite as well take place between care providers themselves, i.e. care providers may transmit their (negative) emotions to their colleagues. Indeed, Bakker and Schaufeli (2000) found that teachers who frequently talked to their burned-out colleagues about problematic students had the highest probability of catching the negative attitudes expressed by their colleagues. In repeatedly trying to understand the problems their colleagues were facing, teachers presumably had to tune in to the negative attitudes expressed by their colleagues (about themselves and about students). Similar results were found in a study among general practitioners (Bakker, Schaufeli, Sixma & Bosveld, *in press*). This study showed that doctors who collaborated with burned-out colleagues reported higher levels of emotional exhaustion and subsequent negative attitudes (depersonalization and reduced personal accomplishment), than those who collaborated with more healthy colleagues. In addition, doctors' individual susceptibility to emotional contagion was positively related to burnout, particularly in combination with the perception of burnout symptoms in colleagues. That is, practitioners who perceived burnout complaints among their colleagues and who were susceptible to the emotions expressed by their colleagues reported the highest emotional exhaustion and depersonalization scores.

Limitations

The present study has some limitations that should be considered. First, results need to be interpreted with caution, as the design of the study is cross-sectional. Therefore, no causal inferences can be made. However, several longitudinal studies have shown that job characteristics like job demands and job control had causal predominant relationships with health outcomes in such a way that the outcomes tended to occur *after* job perceptions, rather than vice versa (see, Buunk, De Jonge, Ybema & De Wolff,

1998). Moreover, it makes more sense to see for example job stress as a result of confrontation with death and dying rather than the other way around.

Second, since the results were obtained solely by self-report questionnaires, they may be contaminated by common method variance. However, we did try to reduce this problem by classifying job demands in terms quite different from those of the outcome variables and by assessing the indicators with different response formats. Moreover, several authors have argued that this phenomenon is not a major threat if interactions are found (Dollard & Winefield, 1998; Wall *et al.*, 1996). Method variance would bias the results towards main effects rather than interactions. Nevertheless, research including more "objective" measures of job characteristics is still needed.

Third, the depersonalization-measure had a relatively poor alpha coefficient. However, similar somewhat lower internal consistencies for the depersonalization scale have also been observed in other studies (cf. Schaufeli, Enzmann & Girault, 1993).

Finally, this study focused on a specific type of stress-related outcome, i.e. burnout. Future studies should test if other symptom variables (e.g. psychosomatic complaints) show similar relationships to (emotional) job demands.

CONCLUSION

First, the results of this study show that the current concept of (quantitative) job demands in Karasek's (1979) JD-C Model should be supplemented with other types of demands when studying job stress in health care workers (see also, De Jonge *et al.*, 1999; Söderfeldt, 1997; Söderfeldt *et al.*, 1996; 1997). In general, studies on job stress should broaden their perspective on job demands. The different types of job demands that are (potentially) stressful within a specific setting have to be considered before starting any study. Using demands that are specific (a) to a given profession, and/or (b) to specific outcomes will probably provide more possibilities to detect meaningful associations than using more general ones. This conclusion corresponds to the so-called matching hypothesis in research on social support (Cutrona and Russel, 1990). According to this hypothesis, one will only be able to detect a buffer effect of social support if the type of social support matches the specific type of stressor at hand.

Moreover, the results of this study show that the inclusion of individual difference variables that “fit” (i.e. correspond) to different types of job characteristics, e.g. sensitivity to emotional contagion to emotional demands, seems fruitful. This proposition was also supported previously by the study of De Rijk *et al.* (1998) among ICU-nurses.

From a practical point of view, the results of this study indicate that it is advisable to train health care providers, especially those who work with critically or terminally ill patients, in coping with emotionally demanding job situations. It seems especially important to teach them skills that prevent them to be emotionally contaged, or carried away, by the emotions of their patients or clients (e.g. seeking emotional support from colleagues) and to develop an attitude of “detached concern” (Lief & Fox, 1963). This should preferably be done already during care providers’ formal training period, so that they enter the field with realistic job expectations. For those who are already working in health care, regular staff support groups may be a valuable tool to cope with different types of stressful job demands.

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