

Original article

# Disorders associated with burnout and causal attributions of stress among health care professionals in psychiatry

## Perturbations associées à l'épuisement professionnel et attributions causales du stress chez des soignants en services de psychiatrie

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### Abstract

This study, carried out among health care professionals in psychiatry, evaluates burnout (Maslach Burnout Inventory) in relation to other associated disorders: lower levels of self-esteem in different areas (Self-Esteem Inventory); the frequency of stress felt (Nursing Stress Scale); a lesser feeling of general control (Lumpkin); a more negative perception of the general state of health (Diagnostic Interview Schedule); job dissatisfaction and dissatisfaction with numerous aspects of life (Subjective Quality of Life Profile). Moreover, among these professionals, the fact of describing the causes of one's professional burnout as having a "global" impact on one's behavior (using the CDS II), reveals both one's emotional exhaustion and associated disorders (but not the feeling of internal control). This attributional variable appears as a significant mediator between burnout and health (DIS). These results are discussed with the aim of developing the early detection and treatment of burnout and the associated disorders among health care professionals.

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### Résumé

Cette étude, réalisée auprès de professionnels soignants en psychiatrie, rend compte de leur épuisement professionnel (MBI) en relation avec d'autres perturbations associées : plus faible estime de soi dans différents domaines de vie (SEI), stress ressenti plus intense (NSS), moindre sentiment de contrôle (Lumpkin), état général de santé moindre (CIDIS), insatisfaction liée au travail aussi que dans de nombreux domaines de vie (PQVS). De plus, au sein de cette profession, le fait de décrire ses sources de stress comme ayant un impact « général » sur son comportement (à l'aide du CDS II) est diagnostique à la fois du niveau d'épuisement émotionnel et de son association avec d'autres perturbations (par analyse de médiation totale ; le sentiment de contrôle interne s'avérant quant à lui non prédictif). Ces résultats sont discutés au regard des possibilités de prévention et de prise en charge de l'épuisement et des troubles associés chez les professionnels de santé.

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**Keywords:** Burnout; Prevention; Quality of life; Attributional dimensions; Globality

**Mots clés :** Épuisement professionnel ; Prévention ; Qualité de vie ; Dimensions attributives ; Généralité

### 1. Introduction

This paper has two objectives. On the one hand, it aims to show the links which can exist between the feeling of burnout and

other psychological variables such as the different dimensions of self-esteem, the stress felt, the feeling of general self-control, the perception of one's state of physical health, job satisfaction as well as the perceived quality of life and dissatisfaction in all areas of life. On the other hand, it aims to study the extent to which the reasons found for this professional burnout reveal both exhaustion and its repercussions in different areas of subjective life. We will discuss the significance of these results in view of possibilities for prevention and individual treatment.

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Numerous studies have been devoted to job satisfaction and its relation to the health of workers by means of diverse intermediary variables: burnout, stress and coping, workload, social support, institutional aspects, personality, related pathologies and particularly depressive episodes (Jurado et al., 2005). These investigations are most often cross-sectional (to observe the role of conflicts in the interface between the professional life and the familial life, De Zanet and Tjeka, 2003; Lourel et al., 2005; or the effect of reconciling roles, Le Floch et al., 2005) and less often longitudinal (e.g., to evaluate the relative impact of depressive episodes encountered in the past, Nyklicek and Pop, 2005). In a meta-analysis which included almost 500 research studies dealing with job satisfaction and perceived health, Faragher et al. (2005) recently emphasized the recurrence of the link between satisfaction and health. The large majority of the studies taken into account in this analysis show, among other things, that mental health is linked to job satisfaction. Satisfaction is clearly linked in particular to less professional burnout. However, only five studies (out of 62 measuring burnout) do not show the significant link between satisfaction and burnout. Moreover, the authors find an important relationship between dissatisfaction and low self-esteem as well as between dissatisfaction and factors of anxiety and depression.

These observations make it possible to see that professional burnout is not only linked to job satisfaction, but also to modifications in self-esteem and the perceived state of health (Golembiewski and Kim, 1989; Masclet and Mineure, 1999; Rosse et al., 1991), and can then be linked to dissatisfaction in other areas of life. In an earlier study, dealing specifically with paramedical health care professionals in a general hospital and in rehabilitation centers, it was observed that job satisfaction was lower among exhausted subjects although they did not attach less importance to their work (Daloz, 2004; Daloz and Bénony, submitted). Burnout could be understood as a growing dissatisfaction and a discrepancy between what the subject desires at work, although this area of life remains central to him. This dissatisfaction could then fuel a psychological and an emotional tension in a much larger framework than the simple relationship to work. Effectively, relationships have been observed between professional burnout and less satisfaction regarding life in general, as well as in relation to other extraprofessional areas (personal activities, sleep, leisure, finances, family). Conforming to earlier reported research, professional burnout appears to be linked to lower self-esteem on the professional level, as well as on a general and even a familial level. These observations leave one to suppose a more widespread psychological effect than is usually envisaged and which could take into account the transitions between job dissatisfaction, burnout and symptoms of depression (Grondin et al., 2003; Iacovides et al., 2003; Ahola et al., 2005).

The aim of the present study is to verify the range of the symptoms associated with burnout in a population of health care professionals (burnout measured by the MBI). This study aims to show firstly that the effect is not limited to work (in terms of professional satisfaction or confrontation with professional stressors), but that it also concerns self-esteem in its different dimensions, including extraprofessional (measured by the

Self-Esteem Inventory and its subscales), the general state of health (DIS) (measured by the items of the Diagnostic Interview Schedule) as well as satisfaction concerning the quality of life in different and varied areas (measured by the Subjective Quality of Life Profile [SQLP])<sup>1</sup>.

The second aim is to see the extent to which the reasons found for this professional burnout are relevant to exhaustion and its repercussion on all areas of subjective life. In order to do this, health care professionals are questioned about the perceived determinants of their stressors and professional exhaustion<sup>2</sup> and more precisely about the dimensions or causal characteristics of these determinants. Regarding this subject, it is known that what is important is not so much the effective determinants of a daily event, but the way in which the subject interprets these determinants and, for example, believes himself capable of controlling them (Gray et al., 2003, p. 300).

It is largely accepted today that autonomy and the LOC felt in the workplace allow individuals to better resist stress, to be less affected by burnout, to maintain satisfaction and an implication at work or even to avoid drifting towards counterproductive behaviors (Karasek, 1979; De Jonge et al., 1999; Bakker et al., 2005; Jex and Bliese, 1999; Jex et al., 2001; Lourel et al., 2004; Penney and Spector, 2005). Therefore, the LOC is frequently conceived as a very adaptive psychological characteristic and essential for confronting stress and burnout (Moore, 2000).

Nevertheless, this characteristic of the causal interpretation of events, referring to controllable causes or not, actually groups diverse dimensions well-known in theories of attribution:

- the locus of the cause (internal/external to the individual);
- the controllability of the cause (controllable or not);
- the stability of the cause (stable over time or random);
- or even the globality of the cause (the cause affects behavior in diverse situations of daily life or, on the contrary, in a single situation; Weiner, 1985; Islam and Hewstone, 1993; Gilibert and Salès-Wuillemin, 2005).

By way of explanation, what counts is not that the subject does or does not attribute his behavior to one of his personal characteristics, but rather that the other behaviors that can be inferred on the basis of the causes that he evokes (Silvester et al., 2002; Silvester et al., 2003; Gilibert, 2004). Therefore, concerning depression or post-traumatic stress in particular, the importance of a LOC is emphasized (Seligman et al., 1979). Nevertheless, ulterior research has shown that the most decisive

<sup>1</sup> On no account does this study make it possible to determine if professional exhaustion is at the origin of disorders in other areas of life or inversely (Peeters et al., 2005). Our concern here is to draw a portrait of the disorders associated with the presence of exhaustion and to see how it is possible to predict them statistically. It is probable that in our observations, the disorders, either professional or extraprofessional, are mutually supporting. Only a longitudinal study will subsequently make it possible to establish the exact nature of the links between these diverse disorders.

<sup>2</sup> To insure comprehension on the part of the subjects, we asked them to enumerate the “sources of stress and professional exhaustion” insofar as they assimilated these two concepts. We do not distinguish these two concepts in this paper for that reason although they are usually subject to different theoretical approaches.

dimensions are sometimes the perceived stability or the globality of the causes (Cochran and Hammen, 1985; Joseph and Kuyken, 1993; Ginzburg et al., 2003; Gray et al., 2003; Gray and Lombardo, 2004).

The present study then aims to verify if the different dimensions of burnout are linked firstly to a low LOC measured with Lumpkin's scale, 1985) as well as to other dimensions of causal attribution such as the random character of stressors and their global impact on diverse situations of life. In a general manner, we expect that not only is exhaustion associated with disorders in other areas of psychological life, but also that the perceived unstableness and the globality of the determinants which contribute to exhaustion are revealing of the level of exhaustion and the associated disorders.

## 2. Method

### 2.1. Population

Forty-nine health care professionals working in a psychiatric hospital participated in this study: 18 registered nurses, 14 nurses with a specialty in psychiatry, 15 nurse's aids and two health care workers who did not give their functions. The subjects included 26 men and 23 women; 19 worked the night shift and 30 the day shift. The average age is 37.6 years (standard deviation 9.7), length of service at the hospital since obtaining their first diploma is 12.9 years (standard deviation: 9.3), in their current post for 11.8 years (standard deviation: 8.8) and in the ward for 3.1 years (standard deviation: 3.0). The rate of participation is satisfactory: a total of 49 out of 55 answered the questionnaire or a rate of 89%.

### 2.2. Measures

Their answers were collected by means of a pamphlet which included several questionnaires to be answered anonymously (the subject chose a code name and could benefit from feedback regarding his answers upon request). The pamphlet is composed of an introductory note which briefly states the object of the study, a personal identification form and the questionnaires.

The Maslach Burnout Inventory in 22 items (MBI by Maslach et al., 1996) was used to evaluate burnout. This classic questionnaire for measuring burnout was elaborated and validated with a population of health care professionals in its original version and was translated into French by Girault (1989). It is appropriate to recall here, that professional burnout is defined as an enduring response to chronic stressors of an emotional and an interpersonal nature. In keeping with its measure (the MBI), the operational definition of exhaustion is a three-dimensional model which includes emotional exhaustion, depersonalization of the relation and the reduction in self-efficacy at work. Emotional exhaustion refers to feelings of excessive demands and the exhaustion of emotional resources. Depersonalization refers to abrupt negative or excessively indifferent reactions towards the individuals to whom the service or treatment is aimed. The reduction in self-efficacy refers to a decline in the feelings of competence and success in one's work. It evaluates the feeling of professional exhaustion in three areas:

- nine items which correspond to disorders linked to exhaustion on the emotional level (i.e. "I feel emotionally drained from my work");
- five to depersonalization of the relation (i.e. "I don't really care what happens to some patients");
- eight to the feeling of self-efficacy in the relation (i.e. "I deal very effectively with the problems of my patients").

The frequency is evaluated for each item on a 7-point scale, going from "never" to "everyday", and the intensity on a scale going from "very little" to "a great deal". The MBI does not result in a global score but in subscores by dimensions. Concerning the first two dimensions, emotional exhaustion and depersonalization, a high score corresponds to high burnout. In the third dimension, professional self-efficacy, a high score corresponds to low burnout. This scale, which has been adapted and validated in several countries, makes it possible to show three or six scores of burnout if the disorders are distinguished or not, as a function of their frequency and their intensity – two dimensions which are usually well correlated.

Self-esteem has been evaluated by using the Self-Esteem Inventory (SEI by Coopersmith, 1986). This inventory serves to measure self-esteem in different areas of the subject's life: professional and general, as well as in extraprofessional areas such as social self-esteem and familial self-esteem. It includes 58 positive or negative statements. The subject must answer by choosing between two cases, "resembles me" or "does not resemble me". This questionnaire is composed of four subscales:

- general self-esteem which includes 26 items (i.e. "I have a lot of confidence in myself");
- social self-esteem which includes eight items (i.e. "I am a likeable person");
- professional self-esteem (i.e. "I am very happy when people look for me at work to ask me something"; item of the French validation);
- familial self-esteem (i.e. "My family takes my feelings into account").

The total self-esteem is the result of the sum of the scores obtained on the subscales<sup>3</sup>.

Professional stress was measured using the Nursing Stress Scale (NSS by Gray-Toft and Anderson, 1981) which was conceived for measuring the stress of health care professionals and makes it possible to calculate a total stress score<sup>4</sup>. The subjects must answer 34 questions which correspond to stressful situations of professional life by indicating their frequency (conflicts with the hierarchy, material work conditions, relations with the patients etc.). They have the choice between four possibilities: never, occasionally, often or very often.

<sup>3</sup> Some items of so-called lies, intended to measure the tendency to overestimate one's own worth (effect of social desirability), have been added to these four dimensions.

<sup>4</sup> No significant difference has been observed between the different categories of health care professionals, (psychiatric nurses, registered nurses or nurse's aids).

The LOC was determined by using five items from *Lumpkin's questionnaire* (1985), which has the advantage of being short while taking into account the feeling of overall control in a reliable manner. For each statement, the subject must choose between five possible answers going from “strongly disagree” to “strongly agree”. A score for the LOC was calculated on the basis of the subject's answers to the five statements.

Each subject was asked to list three sources of stress and professional exhaustion in order to complete the questionnaire (see annex for the qualitative answers). He then had to evaluate these stressors on four attributive dimensions (internality/externality, controllability/uncontrollability, stability/unstability, globality/specificity, translated by *Islam and Hewstone, 1993*). These dimensions are usually investigated in studies on the attribution of negative or traumatic events. In order to evaluate each dimension, the subject had to take a position on two antagonistic statements and, regarding what stressed and exhausted him, to indicate if he usually thought that it was:

- linked to situational factors that had nothing to do with himself (external attribution);
- linked to himself, to his personality, to the way he was (internal attribution);
- was stable and unlikely to evolve with time (stable attribution);
- unstable and likely to evolve with time (unstable attribution);
- controllable, can be handled by himself (controllable attribution);
- was not controllable, uncontrollable by himself (uncontrollable attribution);
- was only likely to affect his behavior in a few situations (specific attribution);
- was likely to affect his behavior in other life settings (global attribution).

Each statement was followed by Likert's 7-point scale, from “not at all” to “a great deal”. The measure for each of the four dimensions corresponds to the difference in positioning between the two contradictory statements.

The subject's view of the different aspects of his social, familial, affective and somatic life (work, friends, sleep, sexuality etc.) and the perception of his global life were measured using a questionnaire composed of 15 dimensions known as the SQLP (*Dazard et al., 1994*). Not only does it make it possible to measure satisfaction in relation to an area, but it also measures the discrepancy in relation to an ideal “goals of life” and the importance of this area for the subject in an independent manner (for example, the subject could be dissatisfied in an area which is nevertheless important to him). It concerns different areas of the subject's life, particularly work, incomes as well as leisure, physical state, relations with friends or family etc. The subject must answer closed questions for each area. There are three different types of questions:

- the first type of question concerns the closeness of what is lived to an ideal with a choice of six possible answers, going from “very close to” to “very far from” what he would like;

- the second type of question deals strictly speaking with satisfaction and the subject must choose one of four possibilities going from “very satisfied” to “very dissatisfied”;
- the third type of question concerns the importance of an area in the subject's life with four possible choices, from “very important” to “without any importance”.

In the validated version of this questionnaire, seven areas are the subject of the three types of questions, six others are only the subject of the last two types and only one is the subject of the second type. The important aspect here is the subject's own view of his life, hence the use of the term “subjective” for this quality of life profile.

Some questions taken from the Diagnostic Interview Schedule Self-Administered (*Kovess et al., 1992*) complete this questionnaire. The first question deals with the evaluation of the subject's health in comparison to individuals of the same age. Here, the subject has the choice between four answers going from “excellent” to “poor”. In the second series of questions, the subject must indicate by “yes” or by “no” if he considers himself to be “depressive/depressed” and, using the same format, if he feels “professionally exhausted” and “satisfied with his job”.

### 3. Results

The results will be presented in two stages as a function of the two research objectives (disorders associated with exhaustion and causal perception).

First of all, on a descriptive level, the means for burnout on the MBI (cf. *Table 1*), which are interpreted in function of the American values of reference for this questionnaire, indicate at least a moderate presence of professional exhaustion in this population of health care professionals in a psychiatric hospital, and more particularly, a low level of professional self-efficacy (usually considered as the final consequence of burnout). This classification by levels is nevertheless to be considered with caution insofar as the means observed in France are sometimes slightly higher than the initial values of the MBI and in the absence of French values of reference (*Girault, 1989; Daloz, 2004*).

No significant difference was observed as a function of the various data collected on the population. Only age and the number of years spent working at the hospital are linked to the reported intensity of emotional troubles ( $r=0.30$   $p < 0.05$  and  $r=0.26$   $p < 0.10$  respectively in bilateral).

Table 1  
Mean values and assessment of the level of exhaustion for the entire sample.

Burnout dimensions	MBI values	Assessment drawn from MBI
Emotional exhaustion Freq	18.84	Moderate (> 17)
Emotional exhaustion Int	26.94	Moderate (> 25)
Depersonalization Freq	6.92	Moderate (> 5)
Depersonalization Int	11.12	Moderate (> 6)
Self-efficacy Freq	31.76	Very low (high burnout, < 33)
Self-efficacy Int	33.92	Very low (high burnout, < 36)

Int: intensity; Freq: frequency.

### 3.1. *Links between professional burnout and other psychological variables*

First of all, in order to remain clear and concise, we only present here the psychological variables with a significant correlation regarding both the frequency and the intensity of each burnout dimension. This analysis will allow us to show the areas of the psychological life in relation to professional burnout by its three components: emotional exhaustion, depersonalization and self-efficacy. The aim is to see how these components, particularly the emotional component, are actually predictive of tensions in other areas of the subject's life. Secondly, by means of stepwise regression, we will examine the answers associated with each dimension in order to see how each one explains tensions in all of the areas, and more specifically which ones.

### 3.2. *Links concerning emotional troubles (exhaustion)*

Emotional troubles seem to be associated in a significant manner to all of the evaluations of health and job satisfaction. They are thus linked to the fact that the subject claims to be professionally exhausted ( $r=0.79$  for frequency and  $r=0.74$  for intensity), to be depressed or depressive ( $r=0.51$  and  $r=0.57$ ) and to be dissatisfied with his job ( $r=-0.55$  and  $r=(0.43)$ ). They are then associated with the subjective assessment that the subject makes of his health in general, in comparison to individuals of the same age ( $r=0.33$  and  $r=0.45$ ).

The presence of emotional troubles is also linked to the frequency of stress reported on the NSS ( $r=0.54$ , for their frequency as well as their intensity).

Moreover, the emotional troubles reported are linked to diverse dimensions of the quality of life (SQLP) and affect satisfaction in several areas. They are thus in relation to the poor quality felt of the physical state ( $r=(0.51$  and  $r=(0.55)$ ) and the subject's dissatisfaction in this respect ( $r=(0.44$  and  $r=(0.55)$ ), to a discrepancy between what the subject would desire from his job ( $r=(0.42$  and  $r=(0.33)$ ), to dissatisfaction in relation to his job ( $r=(0.38$  and  $r=(0.37)$ ) but also to sleep ( $r=(0.37$  and  $r=(0.41)$ ), his income ( $r=(0.35$  and  $r=(0.42)$ ) and his relations with his friends ( $r=(0.26$  and  $r=(0.31)$ ). Finally, the greater the emotional troubles, the more the subjects claim that what they live is far from what they would like concerning their self-esteem ( $r=(0.25$  and  $r=(0.28)$ ) or their intellectual possibilities ( $r=(0.25$  and  $r=(0.25)$ ). More generally, the more the subjects mention emotional troubles in relation to their job, the more they say they give importance to their sex life ( $r=0.41$  and  $r=0.48$ ) and to their mental life ( $r=0.36$  and  $r=0.34$ ).

Concerning self-esteem (on the SEI), emotional troubles seem to be linked to low total self-esteem ( $r=(0.44$  and  $r=(0.56)$ ) and its components: low professional self-esteem ( $r=(0.30$  and  $r=(0.26)$ ) but also general ( $r=(0.37$  and  $r=(0.50)$ ), familial ( $r=(0.44$  and  $r=(.48)$ ) and social ( $r=(0.25$  and  $r=(0.44)$ ).

Finally, as far as the measures regarding attributive dimensions are concerned, the presence of emotional troubles is even greater if the subjects consider their stressors less specific. In

other words, the more they claim that the origin of their stress and their exhaustion affects their behavior in only a few situations, the less they report emotional troubles ( $r=(0.47$  and  $r=(0.53)$ ). A correlation is also observed for the unstableness of the stressors: the more subjects believe that their stressors are aleatory and likely to evolve with time, the more they are emotionally troubled ( $r=0.34$  and  $r=0.23$ <sup>1</sup>).

### 3.3. *Links concerning depersonalization*

Depersonalization is only linked to the fact that the subject claims to be professionally exhausted ( $r=0.52$  for the frequency and the intensity) and dissatisfied with his job ( $r=(0.36$  and  $r=(0.28$ ; but there is no relationship with health nor depressive sentiment:  $-0.10 < r < -0.05$  ns).

Depersonalization, in at least as its intensity is concerned, is linked to the stress score of the NSS ( $r=0.21$ <sup>1</sup> for the frequency and  $r=0.36$  for the intensity).

Regarding the SQLP, depersonalization is uniquely associated with dissatisfaction concerning leisure time and vacations ( $r=0.28$  and  $r=0.28$ ). Moreover, independently of satisfaction in this respect, the more the depersonalization is important, the more the subject claims that he attaches importance to his mental life ( $r=0.24$  and  $r=0.30$ ). Finally, the higher the level of depersonalization, the less the subject attaches importance to his self-esteem ( $r=(0.37$  and  $r=(0.33)$ ).

Regarding self-esteem, depersonalization is linked to a low total self-esteem ( $r=(0.36$  and  $r=(0.39)$ ) and its components: a low general self-esteem ( $r=(0.39$  and  $r=(0.34)$ ) but also to a low familial self-esteem ( $r=(.24$  and  $r=(0.36)$ ) and social ( $r=(0.24$  and  $r=(0.35)$ ) but not as much to a low professional self-esteem ( $r=(0.08$  and  $r=(0.07$  ns).

### 3.4. *Links concerning job self-efficacy*

Concerning self-efficacy at work which is low, it hardly appears to be linked to the other measures. SQLP, it is associated with the closeness between what the subject lives and what the subject would like concerning his mental life ( $r=0.29$  and  $r=0.26$ ) and his self-esteem ( $r=0.26$  et  $r=0.26$ ).

Regarding the measure of self-esteem, the best correlation of self-efficacy is observed with professional self-esteem ( $r=0.31$  et  $r=0.29$ )<sup>5</sup>.

It is noteworthy that no significant correlation was observed neither with the fact that the subject claims to be professionally exhausted ( $r=(0.01$  and  $r=0.08$  ns), dissatisfied or not with his job ( $r=(0.06$  and  $r=(0.03$  ns), nor in function of the state of his health ( $r=.15$  and  $r=(0.13$  ns), nor by the fact that he claims to be or not to be depressed or depressive ( $r=(0.10$  and  $r=(0.10$  ns). Self-efficacy seemed equally independent of the

<sup>5</sup> In spite of the good correlation between frequency and intensity of efficacy ( $r=0.79$ ), certain factors seem to favor more directly the frequency of self-efficacy (as the closeness of friendly relations with those that one would like,  $r=0.29$ , the importance of intellectual possibilities in life,  $r=0.32$ , one's general and total self-esteem,  $r=0.29$ ). The intensity of efficacy is also linked to satisfaction towards intellectual possibilities ( $r=0.32$ ).

Table 2  
Stepwise regression of burnout disorders with the items from the other scales.

Dependent variables (MBI)	Predictive variables <sup>a</sup> (SQLP, SEI ...)	Step	R	R <sup>2</sup> Adjusted	F
Emotional disorders: frequency	Physical 1	1	0.508	0.243	16.709***
	Unstable attribution	2	0.626	0.366	15.130***
	Total self-esteem	3	0.678	0.425	13.080***
	Job 1	4	0.725	0.484	12.478***
	Sexuality 3	5	0.758	0.526	11.854***
Emotional disorders: intensity	Physical 1	1	0.549	0.287	20.747***
	Total self-esteem	2	0.694	0.460	21.877***
	Sexuality 3	3	0.768	0.563	22.034***
	Job 2	4	0.805	0.616	20.676***
	Friend 3	5	0.829	0.652	19.393***
	Mental life 3	6	0.853	0.690	19.209***
	Age	7	0.879	0.724	19.341***
	Years in the ward	8	0.890	0.751	19.482***
Depersonalization: frequency	General self-esteem	1	0.336	0.094	6.098*
	Esteem 3	2	0.519	0.239	8.682**
	Intellectual possibilities 2	3	0.583	0.297	7.904***
Depersonalization: intensity	Total self-esteem	1	0.344	0.100	6.455*
	Esteem 3	2	0.475	0.192	6.830**
	Intellectual possibilities 1	3	0.566	0.276	7.236***
	Physical 1	4	0.634	0.349	7.580***
Self-efficacy: frequency	Intellectual possibilities 3	1	0.307	0.075	4.984*
	Stable attribution	2	0.417	0.139	4.953*
	Externality	3	0.503	0.205	5.207**
Self-efficacy: intensity	Intellectual possibilities 2	1	0.305	0.074	4.911*
	Sleep 2	2	0.495	0.213	7.634**

\*\*\*:  $p < 0.001$ ; \*\*:  $p < 0.01$ ; \*:  $p < 0.05$ .

<sup>a</sup> 1: closeness/aspirations; 2: satisfaction; 3: importance of the area

N.S.S. stress score with even a positive value ( $r = 0.01$  ns for the frequency and  $r = 0.17$  for the intensity).

### 3.5. Strength of existing links for emotional exhaustion, depersonalization and reduced professional self-efficacy

An analysis of stepwise regression was carried out for each dimension of the MBI<sup>6</sup>, in order to show the proportion of variance of each dimension associated with other measures (Table 2). The objective here is to verify if burnout on the emotional level effectively explains all of the other disorders in the subject's life better than depersonalization or efficacy. Stepwise regression also enables us to know which of the disorders better explains in itself the professional burnout under consideration (the disorders can be initially linked to one and another by simple calculation of correlations).

Effectively, emotional exhaustion seems associated the most with the other measures in frequency ( $R^2 = 0.53$ ) and in intensity ( $R^2 = 0.75$ ). It can be predicted in the two cases by a discrepancy between what the subject would like to live concerning his physical state and his job. Moreover, it is predicted by a

low total self-esteem and an importance attached to the sex life. Their frequency is also specifically linked to a perceived unstableness of the stressors. The intensity is then linked to a particular importance attached to social relations and mental life. Finally, one finds age and the length of time worked in the current ward, which appear to make these disorders more intense.

Depersonalization is linked less well to the other measures in frequency ( $R^2 = 0.30$ ) and in intensity ( $R^2 = 0.35$ ). It is predicted by lower general or total self-esteem, less importance in the area of self-esteem and finally dissatisfaction concerning one's intellectual possibilities or an importance attributed to them. Finally, dissatisfaction in relation to one's physical state is observed, but only in the intensity of this depersonalization.

Lastly, job efficacy is barely linked to the other variables ( $R^2 = 0.21$ , as much for the frequency as the intensity). Only the intellectual possibilities seem to be a common point between the two subscales. The less the health care professionals claim to be frequently efficacious in their work, the more they attach importance to their intellectual possibilities, the more they believe that the stressors are unstable and are the result of their environment. The intensity of the weakness of self-efficacy can be predicted here across dissatisfaction concerning one's intellectual possibilities and dissatisfaction concerning sleep.

In order to better understand the low values of self-efficacy in this population, and taking into account that this weakness of self-efficacy is viewed as the ultimate step of burnout, we

<sup>6</sup> By considering exhaustion as a multidimensional construct (Brenninkmeyer and Van Yperen, 2003), we have attempted to predict each of the dimensions separately rather than to reduce it to a single object. In these regression analyses, the binary variables concerning the feelings of exhaustion, depression and dissatisfaction were not taken into account.

Table 3  
Stepwise regression based on the intensity of reduced self-efficacy.

Dependent variables	Predictive variables <sup>a</sup> (SQLP, SEI, MBI...)	Step	R	R <sup>2</sup> Adjusted	F
Self-efficacy: intensity	Frequent depersonalization	1	0.312	0.079	5.19*
	Professional self-esteem	2	0.435	0.155	5.48**
	Mental life 1	3	0.514	0.217	5.517**
	Sleep 2	4	0.576	0.273	5.593***
	Lumpkin	5	0.627	0.325	5.711***

\*\*\*:  $p < 0.001$ ; \*\*:  $p < 0.01$ ; \*:  $p < 0.05$ .

<sup>a</sup> 1: closeness/aspirations; 2: satisfaction; 3: importance of the area

carried out two new stepwise regressions for its frequency and its intensity by entering the other dimensions of burnout as potential contributors (Table 3). Different results appear for the intensity of the feeling of reduced self-efficacy.

Effectively, it seems that the intensity of reduced self-efficacy refers firstly to the frequency of depersonalization (a result which is congruent with Maslach's theory, making this feeling the late consequence of an escape from the relation), then to low professional self-esteem, to a discrepancy regarding what the subject would like to live concerning his mental life, to dissatisfaction concerning his sleep and, finally, to a lower LOC.

### 3.6. Intermediary discussion concerning the links observed between the dimensions of burnout and the other psychological measures

The data encourages us to understand professional burnout, particularly emotional troubles, both through the characteristics of the job (frequency of stress, dissatisfaction) and through the subject's perceptions and beliefs in relation to his life on the whole. The psychological effect observed in relation to burnout is more extensive here than that which is classically reported (low self-esteem in all of its components and not only professional, general or physical state of health, negative feeling about one's state of mental health, dissatisfaction regarding several areas of the private life). We can consider that emotional exhaustion is effectively associated with extraprofessional dimensions, particularly concerning emotional troubles. Exhaustion can then be understood as an increasing dissatisfaction and a discrepancy between what the subject desires in several areas of life, although they do not lose importance. These dissatisfactions, particularly job dissatisfaction, effectively seem to contribute to the presence of emotional troubles, which are linked to disorders in a much larger framework than the simple relation to one's job. Relations are thus observed between exhaustion and less satisfaction or a particular importance given to other extraprofessional areas (physical health, self-esteem, sexuality, sleep, intellectual possibilities, leisure, finances, friends etc.).

We can then conclude that the more important exhaustion is, particularly in terms of emotional troubles, the more numerous are the disorders in the different areas of the subject's life. One can then attempt to know the extent to which the causal interpretation of the determinants of stress and exhaustion explains these disorders in the overall psychological life of the subject (particularly concerning unstableness and the perceived globality of these stressors).

### 3.7. Relations between the attributive dimensions of stressors, burnout and the other disorders

In order to show the relation of the causal interpretation of stressors with exhaustion and its repercussions, in a simple and synthetic manner, we correlated the dimensional characteristics of these stressors with the different dimensions of burnout (these correlations are shown in Table 4). The elements of the subjective quality of life were not shown here due to the fact that they were too numerous<sup>7</sup>.

The subject's LOC, measured by Lumpkin's scale, is associated with the frequency of self-efficacy ( $r = 0.27$ ) as well as with the subject's general health ( $r = 0.33$ ), which are nevertheless independent of each other. Effectively, it is linked to the subject's controllability of the stressors ( $r = 0.25$ ).

Controllability of the stressors is also linked to the good health of the subject ( $r = 0.25$ ) and tends to take into account the fact that he claims to be neither depressed nor depressive ( $r = 0.22$ ). It is also associated with general self-esteem ( $r = 0.28$ ). Nevertheless, this controllability of stressors is not significantly linked to the different dimensions of burnout measured by the MBI.

The internal or external locus of the stressors is also unassociated with the different dimensions of burnout. However, it explains the subject's feeling of depression. More precisely, the fact that the stressors are perceived as linked to exterior factors rather than to oneself, is associated with the fact that the subject claims to be depressive or depressed ( $r = 0.33$ ).

The stability of the stressors tends to be linked to the frequency of emotional troubles ( $r = 0.23$ ) and to reduced self-efficacy ( $r = 0.23$ ): the more the stressors would be perceived as aleatory, the more often the subject would be emotionally perturbed and the less he would have the feeling of self-efficacy in his job. The stability of the stressors explains more particularly the professional stress reported by the health care professionals on the NSS ( $r = 0.41$ ): the more the sources of stress are described as aleatory, the more the subject claims to be frequently stressed in his professional activity. The unstableness of the professional stressors also tends to be linked to a poor familial self-esteem ( $r = 0.24$ ).

<sup>7</sup> Out of the 34 items on the SQLP, globality is nevertheless associated in a significant way to 15 of them, stability to eight, internality and controllability to 6 items, and the LOC to only 4 items. These disorders, like the others, are then better taken into account by globality.

Table 4  
Matrix of the correlations between the different troubles and the different dimensions of causal attributions.

	ET Freq.	ET Intens.	DEP Freq.	DEP Intens.	EFF Freq.	EFF Intens.	LOC	Internal/Ext.	Stable/Inst.	Controllable/Unc.	Global/Spe.
Emot Trb Frequency		0.85	0.61	0.61	0.10	0.15	0.00	0.09	−0.23	−0.19	0.42
Emot Trb Intensity			0.51	0.59	0.05	0.24	−0.01	0.01	−0.10	−0.16	0.50
Depers Frequency				0.87	0.16	0.31	−0.12	0.14	−0.04	−0.03	−0.02
Depers Intensity					0.13	0.30	−0.07	0.15	−0.15	−0.02	0.03
Efficacy Frequency						0.79	0.27	−0.08	−0.14	0.05	0.04
Efficacy Intensity							0.11	−0.12	−0.23	0.01	0.09
LOC Lumpkin								−0.17	0.03	0.26	−0.13
Internality/Externality									−0.21	0.30	−0.01
Stability/Unstablensness										−0.10	−0.04
Controllability/Uncontr											−0.30
Globality/Specificity											
D.I.S. general health	−0.33	−0.45	−0.05	−0.09	0.15	−0.13	0.32	−0.06	−0.02	0.25	−0.41
Depressive/depressed	0.51	0.57	0.05	0.08	0.1	0.1	0.07	−0.33	0.15	−0.22	0.35
Prof. exhausted	0.78	0.74	0.52	0.52	−0.01	0.08	−0.03	−0.06	−0.07	−0.13	0.37
Satisfied with work	−0.55	−0.43	−0.36	−0.28	−0.06	−0.03	−0.11	0.21	−0.01	0.11	0.06
Nurse Stress Scale	0.54	0.54	0.21	0.36	0.01	0.17	−0.09	0.05	−0.41	−0.05	0.39
Total SEI	−0.44	−0.56	−0.36	−0.39	0.31	0.13	0.08	−0.15	−0.05	0.19	−0.42
General SEI	−0.37	−0.50	−0.39	−0.34	0.29	0.12	0.18	−0.15	−0.13	0.28	−0.42
Social SEI	−0.25	−0.44	−0.24	−0.35	0.25	0.07	0.10	0.01	−0.10	0.02	−0.31
Familial SEI	−0.44	−0.47	−0.24	−0.36	0.14	−0.02	−0.07	−0.14	0.24	0.00	−0.34
Professional SEI	−0.30	−0.26	−0.08	−0.07	0.31	0.29	−0.13	−0.17	−0.12	0.19	−0.07

Note:  $p < 0.05$  for  $r > 0.24$ . Emot: emotional; Depers: Depersonalization.

The global or specific impact of the stressors seems to better explain exhaustion on an emotional level and also the associated disorders. Effectively, the more the subject claims that the stressors have an impact on his behavior in other life situations, the more the subject reports emotional troubles in a frequent ( $r=0.42$ ) and intense ( $r=0.50$ ) manner. Thus when he describes his stressors as having a global rather than a specific impact, he also reports a poorer health ( $r=-0.41$  with DIS), claims to be more easily depressed/depressive ( $r=0.35$ ), professionally exhausted ( $r=0.39$ ) and has lower self-esteem concerning the scores of total self-esteem ( $r=(.42)$ , general ( $r=(0.42)$  and social ( $r=(0.31)$ ) as well as familial ( $r=(0.31)$ ). Only job satisfaction and professional self-esteem are not linked.

In light of the importance of this last variable and of the link it maintains with emotional troubles and the general state of health we wondered if the link between the frequency of emotional troubles and the measure of the DIS could have been explained statistically by the globality/specificity of the stressors (the Diagnostic Interview Schedule is recognized in the medical field as a good indicator of the state of health). Effectively, a recurring premise in the literature is that high levels of burnout provoke numerous health problems. Globality, in other words the subject's perception of the global impact of his stressors, could then explain this link. The mediation below (Fig. 1) effectively indicates that the impact of the frequency of emotional troubles on general health can be understood with the attributive variable. The mediation test is shown to be significant (Goodman's test done in bilateral,  $Z=-1,89$ ,  $p=0.06$ ,<sup>8</sup>).

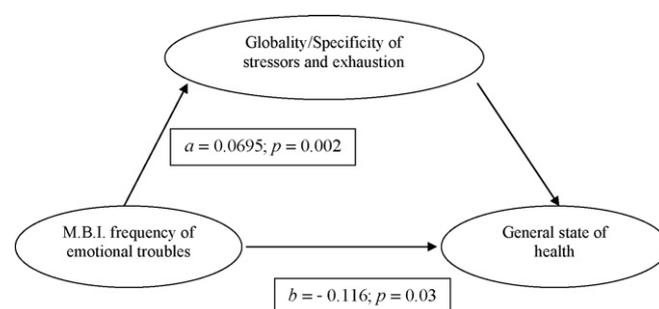


Fig. 1. Mediation of the link between emotional exhaustion and the state of health by the perceived impact of stressors and exhaustion.

#### 4. Discussion

The aim of this study was to verify firstly the repercussions of burnout on the relation of the subject to other areas of his life. If the dimensions of professional burnout are taken as a whole, it appears firstly that burnout is frequently associated with self-esteem and its diverse components. On that subject, the low level of self-esteem associated with burnout does not specifically concern the professional self-esteem of the subjects and goes even further: low levels of general, social and even familial self-esteem. Concerning the subjective quality of life, relations have been observed with dissatisfaction linked to work, although this does not become less important for the subject. Likewise, the physical state of health is perceived as less satisfactory without losing importance. At the same time, it would seem that other factors take on importance for the subject, such as his friends, his mental life and even his sexuality without his manifesting satisfaction on these subjects. It is important to note that the emotional component of burnout seems the most differentiating since it best predicts these disorders and, moreover, it is linked the most to measures of general health or to the fact of claiming to be depressive or depressed<sup>9</sup>. In any event, taken together, these elements attest to the links which exist between burnout and self-esteem, and more specifically the links which exist between emotional exhaustion on the one hand, and the repercussions on SQLP in areas other than professional. These observations and their recurrence necessarily lead to asking the question concerning the origin and the factors which contribute to emotional troubles in their relation to different areas of life. In this respect, it would be useful to make a correspondence in a longitudinal method between burnout and other measures concerning the interferences between work and the other areas of life, in order to have better knowledge of the possible spillover between these different areas, their direction and also their eventual consequences on the quality of the subject's psychological life (De Zanet and Tjeka, 2003; Lourel et al., 2005; Le Floc'h et al., 2005; Peeters et al., 2005; Kinnunen et al., 2006).

<sup>8</sup> Step 1: regression analysis by taking the frequency as the predictor and the "mediator" variable globality as the "dependent" variable. The coefficient associated with the mediator variable is designated by A. Step 2: regression analysis by taking the frequency variable and the "mediator" globality as predictors and the Health variable as the "dependent" variable. The coefficient associated with the mediator variable is designated by B.

A	SD of B	t <sub>(47)</sub>	Level p
Emotional troubles: frequency	0.069	0.022	3.201 0.002
B	SD of B	t <sub>(47)</sub>	Level p
Orig Order	3.048	0.180	16.916 0.000
Emotional troubles: frequency	-0.011	0.009	-1.311 0.196
Globality/Specificity	-0.116	0.052	-2.225 0.031

Tests of the significance of the mediator were then carried out. Three possible tests: that of Sobel, of Aorian or of Goodman. These three tests generally lead to the same results of significance, the Goodman being the most precise (the standard deviations in parenthesis).

Coefficients	Test	Value z	p-value
A = 0.0695 (0.0217)	Sobel	-1.828	0.067
B = -0.116 (0.0121)	Aorian	-1.77	0.076
	Goodman	-1.89	0.06

Note: we would like to thank A. Jebranne, MCF-HC in mathematics and statistics for his helpful contribution to this analysis.

<sup>9</sup> Depersonalization, one of the few elements which explains non-efficacy, shares with it the dissatisfactions concerning intellectual possibilities: what is lived by the subject is more often perceived as far from what he would like although it is nevertheless given importance. It can then be supposed that, in this psychiatric framework, there is a discrepancy between the ideal of a relation of psychological help and the real possibilities of giving care and of treatment.

The second aim of this paper was to verify if these repercussions are associated with the unstableness and the globality of the perceived causes. On this level, the study of the attributive dimensions allowed us to show the relation between the disorders associated with exhaustion and the causal interpretation that the subjects make of their stress and their exhaustion. Not surprisingly, some conclusions conform to the literature: thus, the subject's LOC (Lumpkin's scale) is linked to the appreciation of his DIS as well as the controllability/uncontrollability of the stressors. More surprisingly, the feeling of general control appears to be a mediocre predictor of emotional exhaustion and only explains the frequency of reduced professional self-efficacy of these health care professionals in psychiatric wards<sup>10</sup>. The dimensional evaluations dealing specifically with stressors and exhaustion seem to better explain exhaustion and the associated disorders globally. Thus, the perceived unstableness of stressors and exhaustion is associated with the frequency of stress reported on the NSS and, at least partially, with familial self-esteem and the frequency of emotional troubles. The dimension, which appears so far to be the most pertinent in predicting the repercussions of exhaustion, seems to be the globality/specificity of stressors which is associated with numerous elements: frequent and intense emotional exhaustion; poorer general health; a reported frequency of stressors: lower self-esteem in almost all of its aspects (general, social and familial). Such a question on the interpretation of stressors is relevant because it makes it possible to explain emotional exhaustion at work as well as the disorders concomitant with extraprofessional components.

The mediation analysis carried out made it possible to observe that this measure can entirely explain the link which can exist between emotional troubles and the general state of health (DIS). In other words, this short measure of the impact of stressors on the health care professional's behavior can allow one to rapidly detect the presence of emotional troubles as well as their impact on the DIS in a clinical practice. This is relevant since it makes it possible to predict a varied set of troubles, even if the subject would not be able to explain the exact nature of his troubles or before the inventory could have been done by using validated measures. It also allows one to predict the frequency of professional stress, the decline in self-esteem or even a deteri-

oration in SQLP. Hence, a practical implication is the detection and prevention of disorders simultaneously in the professional life and in the extraprofessional life; disorders which could be maintained or even mutually reinforced. In other words, the aim of the treatment could be to limit the suffering or the impact of stress stemming from work on the professional area alone. During long-term treatment, it would then be appropriate to work on the relative place of work in the subject's life and in regard to other areas of life which remain important to him, to make him find the interferences which occur between the different areas, to work on the way in which they affect his behavior and, case by case, how to avoid them or even to control their impact. Regarding the discrepancy which exists between what the subject lives and what he would like, it would also be appropriate to lead the subject to redefine realistic goals of self-realization at work from the point of view of the real institutional and material possibilities of work. It seems even more important to support the subject in this undertaking in order to avoid a deep-seated depersonalization and a personal loss of commitment in his healthcare practice<sup>11</sup>.

The knowledge of a certain amount of factors can be useful for the prevention of emotional exhaustion and depersonalization within a work organization (work demands, management and social climate, organizational resources etc., see for example: Bakker et al., 2005; Lourel, 2006, p. 48). Nevertheless, faced with cases of global disorder in an individual's life, it is in all likelihood too late to intervene regarding satisfaction towards the professional life alone or to have recourse to a tedious prevention of stressors or the psychosocial risk factors often done a priori. One of the targets of action which has priority in the treatment of cases of global disorder would then be an action involving the subject in the identification of the impact of these stressors on his behavior in his life in general. From this point of view, concrete work on the interferences between the professional and the private life (awareness of efforts, judgments, motivations and personal limits; Arcand and Brissette, 1994; Fromage and Goutany, 2007) might be promising in light of the results and recent literature on the interfaces between professional and private life.

The treatment of emotional exhaustion and the depersonalization of relations with the users can be a useful goal, not only for the individual, but also for the organization insofar as these two dimensions of burnout appear to be more and more linked to maintaining or not one's commitment to work (Gonzalez-Roma et al., 2006).

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<sup>10</sup> It should be noted that the feeling of control was measured with an extremely short version which is potentially barely noticeable and does not bear directly on the work situation. It is also likely that the work in a psychiatric ward, which is essentially work centered on the human being and in which the stressors are essentially human, does not allow one to speak strictly about control over the activity and clearly identifiable sets of tasks as in other jobs. Moreover, in order to simplify the comprehension and the interpretation, the measure of controllability of the stressors dealt with controllability by the subject himself. Nevertheless, concerning the share which human conflicts have as the stressors evoked by the subjects, it could also be pertinent to measure the controllability of stressors by others in future research. In this regard, Penney and Spector (2005) observe that the perception of conflicts with others is correlated to all the other measures of organizational climate: incivility, organizational constraint, dissatisfaction and behaviors which are counter-productive to work. Furthermore, Dorman and Zapf (1999) have observed that the conflicts and animosity perceived by the co-workers were predictive of depressive symptoms in the year which followed the first phase of the study.

<sup>11</sup> According to Maslach, depersonalization or cynicism would be a defensive escape from the relation in order to protect oneself. In our observations, it should be noted that the more the subjects showed this depersonalization, the less they gave importance to self-esteem.

## Annexe. Stressors cited by the subjects

(///: Answers of the following subject).

Co-workers, hierarchy /// lack of sleep, relation between night and day /// fatigue, isolation /// night shift, difficult physical recuperation /// team, superiors, Minister of health /// Professional dissension due to planning problems, gossip, temperamental incompatibility /// unstableness of the nursing position, insecurity (insufficient staff and workspace), not being listened to by management /// fatigue and difficulty in recuperating, due to the work pace /// lack of sleep, fatigue /// schedule, violence, relation between night and day /// conflict with hierarchy, fatigue, using a computer without prior training /// death of a patient, lack of personnel, professional dissension, familial problem /// work conditions, hierarchy /// work conditions, hierarchy, fatigue /// moral harassment, health problem, difficulty of the work /// hierarchy, fraud, incompetence /// new assignment, hierarchy, lack of information, lack of means, loss of concentration, lowering of attention /// night shift, difficulties in planning one's vacations, difficult physical recuperation /// schedule, new duties, professional training /// irregular hours, too heavy workload, non-recognition from one's superiors (doctors, administration) /// poor climate, insecurity, work pace /// noise, planning, patient /// schedule, co-worker, hierarchy /// incompetence, disorganization, idleness /// doctors, co-worker, patient /// noise, co-worker, schedule /// routine, tensions between co-worker, responsibility /// day shift, hierarchy, paperwork to do /// noise, routine, lack of activity, lack of goal, teamwork /// routine, negative co-workers, noise /// routine, noise, lack of personnel, co-worker, intolerance, supervision of interns /// violence, lack of medical presence, paperwork /// fatigue, noise, co-worker /// lack of personnel, of medical presence, co-worker /// noise, schedule, co-worker /// lack of personnel, hierarchy (disagreement), schedule /// schedule, noise, fatigue, patients' requests /// schedule, noise, tensions between teams, co-workers /// co-workers, lack of personnel, work overload /// noise, schedule, tensions within the team /// schedule (day), responsibility, patients' requests /// violence, noise, lack of personnel, insufficient medical and administrative presence, co-worker (poorly trained, poorly motivated, immature, incompetent, malicious) /// violence, co-worker (conflict), absence of a project /// lack of personnel, violence, co-worker (conflict), schedule /// schedule, co-worker, hierarchy /// noise, co-worker, schedule /// violence, noise, fatigue /// hierarchy, work conditions, Minister of health /// work conditions, co-worker, lack of coordination in teamwork.

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