

Physician Coping Styles and Emotional Exhaustion

Modes d'adaptation des médecins et épuisement émotif

Estilos de afrontamiento de los médicos y agotamiento emocional

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Volume 68, numéro 2, printemps 2013

URI : <https://id.erudit.org/iderudit/1016316ar>

DOI : <https://doi.org/10.7202/1016316ar>

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Éditeur(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (imprimé)

1703-8138 (numérique)

[Découvrir la revue](#)

Citer cet article

Wallace, J. E. & Lemaire, J. (2013). Physician Coping Styles and Emotional Exhaustion. *Relations industrielles / Industrial Relations*, 68(2), 187–209.
<https://doi.org/10.7202/1016316ar>

Résumé de l'article

Cet article examine comment différents modes d'adaptation utilisés par les médecins sont reliés à l'épuisement émotif, la dimension-clé de l'épuisement professionnel. Plus particulièrement, nous examinons dans quelle mesure ils ou elles font appel à une forme active de résolution de problème, cherchent à obtenir du support, se dissocient de la situation ou utilisent le déni comme stratégies d'adaptation. De plus nous explorons également dans quelle mesure les modes d'adaptation sont plus ou moins efficaces selon certains facteurs situationnels ou liés aux prédispositions des personnes. Deux prédispositions personnelles sont examinées dans cette étude en termes d'affectivité positive ou négative, étant donné que l'optimisme et le pessimisme sont des traits de personnalité stables qui ont des implications sur la manière dont les personnes perçoivent les situations et y répondent. Quatre sources différentes de stress chez les médecins sont examinées afin de refléter les facteurs situationnels : des situations de surcharge de travail, les interactions avec les patients, le nombre hebdomadaire moyen d'heures passées au travail et le nombre hebdomadaire moyen d'heures passées à la maison. Nous analysons les données d'une enquête menée auprès de 1 110 médecins pratiquant dans une même région de l'Ouest canadien.

Une vue d'ensemble des résultats suggèrent que les prédispositions personnelles des médecins sont pertinentes dans la compréhension des modes d'adaptation auxquels ils recourent. Les médecins semblent recourir au déni comme stratégie lorsqu'ils sont en situation de surcharge de travail et lors d'interactions difficiles avec des patients, particulièrement chez ceux et celles qui affichent une affectivité négative. Toutefois, le fait d'afficher une affectivité positive semble neutraliser les relations pernicieuses entre le déni et l'épuisement émotif. Cela vient en appui à la littérature suggérant que les effets des divers modes d'adaptation dépendent des traits de personnalité de ceux qui y ont recourt. De plus les expériences douloureuses liées aux interactions stressantes avec des patients sont moins présentes chez les médecins qui s'en dissocient ou qui prennent un temps d'arrêt face à la situation. Cela vient aussi en appui à la littérature suggérant que certaines stratégies d'adaptation peuvent s'avérer plus efficaces selon la situation ou le type des facteurs de stress ou leur source. Nos résultats suggèrent donc que certaines stratégies d'adaptation sont plus efficaces selon le type de personnalité et selon le type de facteurs de stress rencontrés ou leur source.

Physician Coping Styles and Emotional Exhaustion

Jean E. Wallace and Jane Lemaire

This paper explores how coping styles relate to physicians' feelings of emotional exhaustion, a key dimension of burnout. We also explore whether four coping styles are more or less effective depending on certain dispositional and/or situational factors. We analyze survey data from 1,110 physicians in Western Canada. Denial is significantly related to physicians' emotional exhaustion, but it increases rather than decreases it. Physicians use denial when they experience work overload and difficult patient interactions. Furthermore, it is used by those with high negative affectivity. A highly positive outlook, however, appears to neutralize the harmful relationship between denial and emotional exhaustion. The harmful experiences related to stressful patient interactions are weakened for doctors who disengage or take a time out from the situation. We conclude that certain coping strategies are more effective depending on personality type and the type of stress encountered.

KEYWORDS: burnout, job stress, denial, personality, professionals

Introduction

While “people work” can be extremely rewarding and gratifying most of the time for many workers, it can also be a stressful line of work for countless health care professionals. Health care professionals in general, and physicians more specifically, are particularly prone to emotional exhaustion and burnout. Many encounter intense physical and emotional suffering in their work, often on a daily basis, which can contribute to chronic, interpersonal work stress (Avgar, Givan and Liu, 2011; Dallender *et al.*, 1999; Maslach, Schaufeli and Leiter, 2001). Studies consistently report that high levels of stress and burnout are experienced by many physicians (Fahrenkopf *et al.*, 2008; Shanafelt *et al.*, 2005).

The consequences of excessive work stress, such as feeling overwhelmed and emotionally exhausted, may have serious consequences for individual physicians, the organizations that employ them and the patients they care for (Wallace, Lemaire and Ghali, 2009). For example, physicians experiencing high levels of work stress are at greater risk of substance abuse, relationship troubles, depression, or even

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loss of life through suicide (Firth-Cozens, 1998; Frank and Dingle, 1999; Graham *et al.*, 2001). Furthermore, excessive job stress, burnout and dissatisfaction are highly correlated with both job and career turnover (Avgar, Givan and Liu, 2011; Grunfeld *et al.*, 2000). Evidence also shows that physician stress and burnout may have adverse effects on quality and safety of patient care, particularly in terms of increasing the likelihood of medical errors (Avgar, Givan and Liu, 2011; Firth-Cozens, 2001; Shanafelt *et al.*, 2002; Fahrenkopf *et al.*, 2008).

Given the potentially serious consequences of physicians being burned out, it is important to examine the factors that may lessen feelings of emotional exhaustion. The coping strategies that physicians use in response to the stressful and demanding aspects of their work may offer effective ways of dealing with the emotional demands of their work, thereby potentially reducing the likelihood of burnout. However, much of the literature on physicians' coping strategies focuses on their maladaptive responses, such as substance abuse, denial, avoidance, and failing to seek help from others (Edwards, Kornacki and Silversin, 2002). Moreover, as the general literature on coping shows, identifying and assessing effective coping strategies is not a simple and straightforward undertaking.

This paper examines how different coping styles that physicians use relate to emotional exhaustion. Emotional exhaustion is the core defining dimension of burnout (Deery, Iverson and Walsh, 2010; Leiter, 1991; Rohland, Kruse and Rohrer, 2004) and refers to feeling emotionally overextended and drained as a result of one's work (Leiter and Maslach, 1988). The key research question addressed in this paper is: Are the coping styles that physicians use effective in reducing feelings of emotional exhaustion? In addition, we also explore whether the coping styles are more or less effective depending on certain dispositional and/or situational factors. As discussed below, a growing body of research suggests that coping strategies may be more or less beneficial depending on certain dispositional traits or the specific stressors involved. In addressing these questions, we rely on survey data collected from physicians in a large health region in Western Canada.

Research on Physician Stress and Coping

One of the most common sources of stress for many workers, including physicians, relates to workload in terms of excessive work demands or feelings of overload (Campolieti, Hyatt and Kralj, 2007; Deery, Iverson and Walsh, 2010; Firth-Cozens, 2001; Wallace, Lemaire and Ghali, 2009). Feeling overworked is a psychological state that may affect attitudes, behaviours, social relationships, and health both inside and outside of work. For doctors, work overload often results from the fast, hectic pace associated with practising medicine, in combination with conflicting demands, having to make critical decisions based

on ambiguous information, high levels of work intensity, long work hours and insufficient resources or support (Barnett, Brennan and Gareis, 1999; Firth-Cozens, 2001; Shirom, Nirel and Vinokur, 2006). In addition to an overwhelming workload, physicians often identify the doctor-patient relationship as one of the most stressful aspects of their work (Campolieti, Hyatt and Kralj, 2007). The aging population that frequently presents with multiple co-morbidities, as well as the growing availability of new treatment options, increases the complexity of patient care encounters. Stressors linked to patient care and interactions also include emotionally intense issues that may involve suffering, fear, failures and death, which are particularly relevant precursors to burnout. These different aspects of physicians' interactions with their patients have been identified as partly responsible for the high rates of stress and burnout reported in the medical profession (Arnetz, 2001; Barnett, Brennan and Gareis, 1999; Dallender *et al.*, 1999; Firth-Cozens and Morrison, 1989; Ullrich and FitzGerald, 1990). In this study we take into account four different sources of physician work stress that have been identified in the literature: work overload, patient interactions, average weekly work hours at work, and average weekly work hours at home.

In examining how physicians cope with high levels of stress and burnout, the literature generally suggests that doctors often rely on denial and avoidance as coping strategies, which are not usually very effective (Firth-Cozens, 1998). And, as Edwards, Kornacki and Silversin note: "The poor record of the profession in giving mutual support or giving and receiving feedback aggravates this" (2002: 836). The "conspiracy of silence" deters doctors from talking to others about their colleagues' distress or their own personal concerns (Arnetz, 2001). Less attention has been devoted to how physicians may cope in effective and healthy ways.

We followed a similar strategy that Firth-Cozens and Morrison (1989) used in their study of physician stress and coping. As in their approach, in an earlier stage of this project, we interviewed physicians and asked them to describe how they cope with a difficult day at work while they are at work (Lemaire and Wallace, 2010). Their responses yielded several themes that reflect the following coping responses: active problem solving (e.g., making a plan and working through it), seeking support (e.g., talking it over with colleagues), disengagement (e.g., taking time out) and denial (e.g., keeping it to themselves, going on as if nothing had happened). The use and effectiveness of these four coping responses are the focus of this paper. We build on the initial results of the qualitative stage of our study by using the survey data to empirically examine the relationships between these coping responses and emotional exhaustion and whether they are more or less effective depending on certain dispositional and/or situational factors.

Review of the Coping Literature

Coping is a complex, multifaceted concept that can refer to a wide range of cognitive and behavioural strategies that individuals may use in avoiding, evaluating or altering stressful situations or easing their undesirable effects (Parkes, 1994). In this paper, coping is defined as active or passive attempts to respond to a situation or threat with the goal of removing the threat or reducing emotional discomfort (Dewe, Cox and Ferguson, 1993; Ro *et al.*, 2010). It is important to note that this conceptualization captures what people do in response to stress without reference to whether it works or not.

Many studies focus on what responses are assumed to reflect successful coping in terms of either dealing with the source of stress directly (problem focused), reducing feelings of strain (emotion focused), or seeking support (Ro *et al.*, 2010). Some researchers, however, recognize that certain coping responses may be potentially maladaptive and not necessarily effective in coping with the problems or emotions associated with the stressful situation (Carver, Scheier and Weintraub, 1989; Tattersall, Bennett and Pugh, 1999). These responses may reflect different ways that individuals deny their feelings of stress, deny or avoid the problematic nature of the situation, keep busy on other tasks or distract themselves in some way, or disengage from the situation (Carver, Scheier and Weintraub, 1989; Leiter, 1991; Sardiwalla, VandenBerg and Esterhuyse, 2007). It is also important to examine potentially maladaptive coping responses in order to better understand which ones are more or less effective, which is discussed in greater detail below.

Individual Dispositions and Coping

Individual differences, particularly in terms of personality traits or dispositions, have been found to be associated with certain coping styles, and can potentially moderate the association between work stress and negative outcomes. The dispositional approach posits that individuals have enduring traits that influence how they view different situations or environments in a consistent way (Riulli and Savicki, 2003). Two individual predispositions are examined in this study in terms of positive and negative affectivity, as optimism and pessimism are stable personality traits that have implications for how individuals view situations and respond to them (Scheier and Carver, 1985; Riulli and Savicki, 2003). Positive and negative affectivity have long been studied in the stress literature where researchers have examined the potential influence of these personality dispositions on how individuals respond attitudinally and behaviourally to their work (Parkes, 1990). Dispositional affectivity predisposes individuals to be naturally positive or negative at work in the absence of any external trigger or event (Watson, Clark and Tellegen, 1988).

Positive affectivity reflects individuals' predispositions to experience positive emotional states such as high energy, joy and pleasure. Those with high positive affect tend to exhibit pleasure seeking behaviours and report higher levels of satisfaction with different aspects of their lives compared to those with low positive affect. Those with high positive affect generally view their situation in a more favourable light and if challenges or difficulties arise, they are more likely to actively seek ways to effectively resolve the situation, as well as seek support (Folkman and Lazarus, 1980; Scheier and Carver, 1985). Negative affectivity reflects an individual's predisposition to experience aversive emotional states, such as anger, anxiety, guilt, nervousness and distress (Mak and Mueller, 2000; Parkes, 1990; Watson, Clark and Tellegen, 1988). Those with high negative affect tend to have a low self-concept and possess an inhibition system of apprehensiveness that deters them away from threats and stressors. As a result, they tend to perceive their work situation less favourably and as more stressful than those with positive affectivity, but are less likely to take positive steps to effectively cope with feelings of stress or the stressors themselves. It is expected that physicians who have high positive affect are more likely to use active and effective coping styles, such as making a plan of action and seeking support, which in turn should lower feelings of emotional exhaustion. In contrast, those who have high negative affect are expected to use more passive strategies that reflect disengagement or denial, which may not be as effective, and as a result will not necessarily reduce emotional exhaustion to the same extent as the other coping styles.

Effectiveness of Coping

In the study of coping, one of the central goals is to learn which coping strategies are most effective in reducing emotional discomfort and/or sources of stress. In this stream of research, the complexity of determining what works has been increasingly documented. For example, some studies focus on the personality dispositions discussed above, not only in terms of understanding which coping styles individuals adopt, but also which ones are more or less effective depending on different personality types (e.g., Parkes, 1994; Riolli and Savicki, 2003; Scheier and Carver, 1985). Some have examined how different types of strategies may be best suited for responding to different types of stressors (e.g., Parkes, 1990; Sardiwalla, VandenBerg and Esterhuyse, 2007; Koeske, Kirk and Koeske, 1993; Riolli and Savicki, 2010). Furthermore, the effectiveness of certain strategies may depend on the outcomes being examined, whereby some strategies may be more beneficial in protecting or enhancing physical health whilst others may benefit emotional or mental health (e.g., Chen and Cunradi, 2008). Others have focused on the coping-situation match in terms of the extent to which the coping response (i.e., problem focused vs. emotion focused) fits the type of stressful situational context (i.e., controllable vs. uncontrollable, respectively) (e.g., Parkes, 1994). Recently,

others have explored the interplay of coping combinations (i.e., using both active and non-active coping strategies) (e.g., Shimazu and Kosugi, 2003).

In this study, we also explore whether the four coping styles are more or less effective depending on certain dispositional and/or situational factors. We do so by examining both the direct and moderating effects of the four coping styles identified by physicians. First, we explore who uses the different coping styles and under what conditions. Next, we examine the direct relationships between physicians' coping styles and emotional exhaustion. Following this, we conduct interaction tests to see whether the effectiveness of the coping style is conditional upon physicians' individual dispositions. That is, are some coping responses more beneficial to those with high positive affect and others for those with high negative affect? Lastly, we conduct a second set of interaction tests to see whether particular coping styles are more effective in reducing the harmful effects of certain types of work stressors than others.

Data and Methods

Sample

In March 2008, we sent all 2957 physicians registered in a single health region in Western Canada our questionnaire. We received 1178 responses, yielding a 40% response rate. We computed a Chi-Squared test to determine whether the representation of medical specialties in our sample (e.g., anesthesiology, emergency, family) differs significantly from those in the health region. The Chi-Squared value equals 3.984 (11 *df*, $p = .970$) indicating that our sample distribution of medical specialties does not differ significantly from the health region.

Our sample includes 463 (42.6%) women and 624 (57.4%) men, most of whom are married (86%). On average, our respondents are 48 years of age ($M = 48.3$ years) and have practised medicine for about 17½ years ($M = 17.4$ years). Some physicians have just begun their careers in the past year and others have been practising medicine for more than 50 years. One third of the sample (34.1%) practise family medicine, one half (46.9%) practise in a clinical medical specialty, such as pediatrics, internal medicine or neurology, and 12.3% practise in a surgical specialty. On average, when they are not on call, participants work over 40 hours per week on site at a clinic or hospital, where their work consists of mainly patient care activities ($M = 42.6$ hours), and almost another 8 hours per week at home ($M = 7.9$ hours).

Measures

Emotional exhaustion was measured by five items from Barnett, Brennan and Gareis' (1999) revised version of the Emotional Exhaustion subscale from the

Maslach Burnout Inventory's (MBI) General Survey. We limited our operationalization of burnout to emotional exhaustion due to space limitations in the survey. Physicians are known to be particularly prone to low response rates (Cummings, Savitz and Konrad, 2001) and the survey needed to be brief in order to maximize the response rate. Respondents indicated how often they feel: emotionally drained, strained, burned out from their work, used up at the end of the workday, and tired when they get up to face another work day. The response categories ranged from never (coded 1) to most of the time (coded 5). A mean score of emotional exhaustion was computed and a higher score indicates more frequently experiencing feelings of emotional exhaustion ($M = 2.87$, $SD = .79$). We conducted confirmatory factor analysis of the 5 items by means of maximum likelihood estimation and all 5 items have acceptable factor loadings (all greater than .8) on a single factor and the inter-item reliability ($\alpha = .90$) is comparable to those reported for the revised and original emotional exhaustion subscales (Barnett, Brennan and Gareis, 1999).

Coping styles reflect four different coping styles based on the results of interview data in an earlier stage of the study (Lemaire and Wallace, 2010) and selected items from established scales from Dallender *et al.* (1999), Rout, Cooper and Rout (1996) and Shanafelt *et al.* (2005). Respondents were asked how often they use each of the following in dealing with the stresses of their work. *Problem solving* was measured by a single item observing how often respondents cope by making a plan and working through it ($M = 3.46$, $SD = .95$). *Seeking support* was measured by a single item reflecting how often they talk a problem over with colleagues ($M = 3.01$, $SD = .93$). *Disengagement* was measured by a single item capturing how often they cope by taking a time out ($M = 2.29$, $SD = .92$). Lastly, *denial* was measured by the mean score of two items that indicate how often respondents cope by keeping a problem to themselves and going on as if nothing had happened ($\alpha = .67$, $M = 3.12$, $SD = .83$). The response categories for all the coping styles ranged from never (coded 1) to most of the time (coded 5).

Positive affectivity was measured by the mean score of three Likert items from Watson, Clark and Tellegen (1988) that examine how often respondents become enthusiastic about what they are doing, feel happy for no particular reason and have something pleasant to look forward to ($\alpha = .65$, $M = 3.66$, $SD = .60$). *Negative affectivity* was measured by three Likert items from Watson, Clark and Tellegen (1988) that reflect how often respondents are irritated by little annoyances, expect the worst to happen and see the future as rather bleak and unpromising ($\alpha = .64$, $M = 2.45$, $SD = .67$). The higher mean scores indicate higher positive or negative affectivity, respectively.

Work overload was measured by five Likert items adapted from Caplan *et al.* (1975) and Marks and MacDermid (1996). Respondents were asked about their day-to-day work experiences and the extent to which they feel they: do not have enough time to get everything done, are rushed, have too many demands placed on them, need more time to do all of the things that are expected of them and are overextended in order to finish everything ($\alpha = .87$). A mean score for work overload was computed and a higher score indicates greater work overload ($M = 3.80$, $SD = .76$).

Patient interactions was measured by six Likert items based on the interview results from the earlier stage of this study and adapted from established scales from Richardsen and Burke (1991) and Linzer and colleagues (2000). Respondents were asked to indicate the extent to which they agree with the following items: Patient non-compliance is a major source of frustration for me; Many of my patients have unreasonable demands and expectations; Counseling patients about psycho-social concerns is stressful; I often feel what I do for my patients is inconsequential; Time constraints keep me from developing good patient relationships; I'm often overwhelmed by the needs of my patients ($\alpha = .72$). A mean score was computed and a higher score indicates more stressful patient interactions ($M = 2.82$, $SD = .61$).

Work hours (work) was measured by a single item asking respondents to report how many hours on average they work on site (e.g., hospital, clinic) during a week engaged in mainly patient care duties, excluding extra on-call hours ($M = 42.58$, $SD = 16.15$). *Work hours (home)* was measured by a single follow-up question that asked how many hours they work at home during a week engaged in mainly patient care activities. Given the skewed distribution of this variable, it was recoded into three categories: no hours per week (coded 0); 1-9 hours per week (coded 1) and more than 10 hours per week (coded 2) ($M = 1.27$, $SD = .66$).

A number of control variables were also included in the analysis. *Gender (male)* was coded 1 for men and 0 for women. *Marital status (married)* was coded 1 for married or common law and 0 for single (never married), separated, divorced, and widowed. *Years practising medicine* is the number of years respondents have been practising medicine after their postgraduate training. Area of medical practice was coded into three categories: family, clinical medical and surgical. *Family practice* includes family medicine, community medicine and general practice. *Clinical medical specialties* include anesthesia, diagnostic imaging, emergency, internal medicine, neurology, pathology/laboratory medicine, pediatrics and psychiatry. *Surgical specialties* comprise the surgical specialties including obstetrics and gynecology.

Analysis

First, the frequency distributions of using the four different coping styles are presented in Table 1 for physicians scoring high on the positive and negative affectivity scales. Second, the main effects of physicians' personality dispositions on the four coping styles were estimated and presented in Table 2, after taking into account the work stressor and control variables. The relationships between the four coping styles and emotional exhaustion were estimated and presented in Table 3.

In order to explore whether the effectiveness of the coping styles depends on physicians' individual dispositions or the specific work stressors, cross-product interaction terms between coping styles and positive and negative affectivity and coping styles and the four work stressors were estimated. A series of intermediate models (available from authors) were estimated to derive the final models for emotional exhaustion that are presented in Model 3 of Table 3. First, four models (one for each coping style), which included two interaction terms for the coping style and positive and negative affectivity, were estimated. Next, one model for each coping style that included four interaction terms for the four work stressors were estimated.

Examination of the zero-order correlations (available from authors) shows that none suggests collinearity problems. In addition, variance-inflation factors (VIFs) were estimated for all of the variables and these results (available from authors) also suggest that multicollinearity among the predictors is not evident.

Results

Factors Related to Coping Styles

Table 1 shows the percentage of physicians who regularly use the different coping styles for those with high positive affectivity and those with high negative affectivity scores. Consistent with the general literature, more of our respondents report high positive affect than high negative affect (Watson, Clark and Tellegen, 1988). Problem solving is regularly used by those with high affectivity scores of either type, but particularly by those with high positive affect. Seeking support is also a popular coping style for those with high positive affectivity, consistent with the literature. While disengagement from the situation by taking a time out is not used as often, about twice as many of those scoring high on positive affect regularly use this strategy compared to those with high negative affect scores. In contrast, both denial coping styles, going on as if nothing happened and keeping it to themselves, appear more regularly used by those with high negative affectivity, consistent with the literature.

TABLE 1

Regular Use of Coping Styles for Physicians with High Positive Affect ($N = 493$) and Those with High Negative Affect ($N = 281$)

Coping Style	Frequency of Regular Use ^a by those with High Positive Affect ^b	Frequency of Regular Use ^a by those with High Negative Affect ^b
Problem Solving	64.1%	47.9%
Seeking Support	39.6%	26.0%
Disengagement	15.6%	7.8%
Denial		
Go on as if nothing happened	25.1%	34.5%
Keep it to myself	36.5%	50.9%

^a Regular use refers to using this style "often" or "most of the time."

^b High positive affect and high negative affect refers to those in the 75th percentile.

Table 2 presents the regression results for the four coping styles. Starting first with the individual dispositions, as suggested by the literature, physicians with higher positive affect are significantly more likely to use active problem solving ($\beta = .225, p < .001$) and seek support from their colleagues ($\beta = .200, p < .001$). Negative affectivity appears unrelated to both of these coping styles. Those with higher positive affect are also significantly more likely to use disengagement ($\beta = .115, p < .001$), in terms of taking a time out, whereas physicians with higher negative affect are less likely to use this coping style ($\beta = -.066, p < .05$). Those with more negative outlooks are more likely to use denial by keeping it to themselves and going on as if nothing had happened ($\beta = .073, p < .05$), which is consistent with the literature. In contrast physicians with more positive outlooks are less likely to adopt this coping style ($\beta = -.069, p < .05$).

Turning next to the work stressors, it appears that the specific stressors have different relationships with the coping styles. Physicians who work longer hours on site cope more by active problem solving ($\beta = .078, p < .01$) and this is the only stressor significantly related to this coping style. In contrast, when doctors feel overwhelmed by their workload, they are less likely to seek support from their colleagues ($\beta = -.088, p < .01$), contrary to what was expected, and this is the only stressor relevant to seeking support. In contrast, three of the four stressors are significantly related to disengagement or physicians taking a time out. The more overwhelmed physicians are by their workload ($\beta = -.152, p < .001$) and the longer hours they work on site ($\beta = -.067, p < .05$), the less likely they are to take a time out from their work. The more time they spend on work activities at home, however, the more likely they are to disengage from work or take a time out ($\beta = .063, p < .05$). Lastly, doctors who are more overloaded by their work ($\beta = .144, p < .001$) or who experience more negative and stressful interactions with their patients ($\beta = .063, p < .05$) are more likely to deny the

TABLE 2
Regression Results for Physician Coping Styles ($N = 1,110$)

Variable	Problem Solving b (β)	Seeking Support b (β)	Disengagement b (β)	Denial b (β)
Individual Dispositions				
Positive Affectivity	.358 (.225)***	.310 (.200)***	.177 (.115)***	-.097 (-.069)*
Negative Affectivity	-.042 (-.030)	-.051 (-.037)	-.091 (-.066)*	.091 (.073)*
Work Stressors				
Work Overload	.005 (.004)	-.107 (-.088)**	-.183 (-.152)***	.158 (.144)***
Patient Interactions	-.091 (-.059)	-.011 (-.007)	.037 (.025)	.093 (.063)*
Work Hours (work)	.005 (.078)**	-.002 (-.027)	-.004 (-.067)*	.002 (.042)
Work Hours (home)	.003 (.002)	.027 (.019)	.088 (.063)*	-.059 (-.047)
Control Variables				
Gender (male = 1)	-.183 (-.096)**	-.273 (-.146)***	-.047 (-.025)	.266 (.158)***
Marital Status (married = 1)	-.028 (-.010)	-.026 (-.010)	.151 (.056)*	-.107 (-.044)
Years in Medicine	-.005 (-.065)*	-.012 (-.147)***	.001 (.017)	.004 (.055)*
Clinical Medical Specialty ^a	-.013 (-.007)	-.022 (-.012)	-.081 (-.044)	-.003 (-.002)
Surgical Specialty ^a	.202 (.070)*	.101 (.036)	-.085 (-.030)	-.053 (-.021)
Constant	2.499***	2.847***	2.427***	2.252***
R ²	.092	.109	.066	.090

* $p < .05$; ** $p < .01$; *** $p < .001$. ^a Reference category is Family Practice.

stressfulness of their work by going on as if nothing has happened or keeping it to themselves.

In terms of the control variables, several interesting patterns are evident. First, men and doctors who have practised medicine longer are less likely to use the problem solving and support seeking styles, but more likely to use denial, compared to women and doctors with less experience practising medicine. The only significant difference across the various areas of medical practice appears to be that doctors in a surgical specialty are more likely to rely on problem solving as a coping strategy than family doctors. And lastly, marital status is only significantly related to disengagement, where doctors who are married are more likely to take a time out compared to those who are not married.

Effective Coping Styles

From the zero-order correlations (results not shown), three of the four coping styles are significantly and negatively related to emotional exhaustion: problem solving ($r = -.100$, $p < .001$); seeking support ($r = -.107$, $p < .001$); and disengagement ($r = -.177$, $p < .001$). In contrast, denial is positively related ($r = .216$, $p < .001$), which suggests that the more physicians use this coping style, the more frequently they feel emotionally exhausted from their work.

TABLE 3
Regression Results for Physician Emotional Exhaustion ($N = 1,110$)

Variable	Model 1 b (β)	Model 2 b (β)	Model 3 b (β)
Coping Styles			
Problem Solving	-.015 (-.018)	.014 (.016)	.015 (.018)
Seeking Support	.009 (.010)	.024 (.028)	.021 (.025)
Disengagement	-.092 (-.106)***	-.010 (-.011)	.307 (.357)***
Denial	.175 (.184)***	.096 (.101)**	.361 (.379)**
Individual Dispositions			
Positive Affectivity		-.226 (-.170)***	.005 (.003)
Negative Affectivity		.165 (.139)***	.169 (.143)***
Work Stressors			
Work Overload		.359 (.346)***	.359 (.345)***
Patient Interactions		.312 (.241)***	.565 (.436)***
Work Hours (work)		.001 (.026)	.001 (.023)
Work Hours (home)		.013 (.011)	.010 (.009)
Control Variables			
Gender (male = 1)		-.176 (-.109)***	-.181 (-.113)***
Marital Status (married = 1)		-.003 (-.001)	-.013 (-.006)
Years in Medicine		-.005 (-.068)**	-.005 (-.070)**
Clinical Medical Specialty ^a		-.016 (-.010)	-.017 (-.011)
Surgical Specialty ^a		-.065 (-.027)	-.054 (-.022)
Significant Interactions			
Denial*Positive Affectivity			-.071 (-.311)*
Disengagement*Patient Interactions			-.113 (-.411)***
Constant	2.563***	.789*	-.772
R ²	.057	.477	.487

* $p < .05$; ** $p < .01$; *** $p < .001$. ^a Reference category is Family Practice.

Turning to Table 3, Model 1, we see that when all four styles are taken into consideration, only disengagement ($\beta = -.106$, $p < .001$) and denial ($\beta = .184$, $p < .001$) remain significantly related to emotional exhaustion. When we take into account individual dispositions, work stressors and the control variables, however, none of the coping styles appears effective in reducing physicians' emotional exhaustion. Denying the stress of the situation, however, appears to significantly increase burnout for physicians ($\beta = .101$, $p < .01$). It is interesting that denial is one of the more popular coping strategies that physicians tend to use and is the only strategy that is significantly related to emotional exhaustion, but not in an effective or healthy way.

In addition to the main effects reported in Table 3, two interaction terms were statistically significant at the .05 level, namely the cross-product terms for denial-by-positive affectivity and disengagement-by-patient interactions (Table 3, Model 3). To aid in the substantive interpretation of these significant interactions, emotional exhaustion at different levels of denial and positive affectivity (Figure 1) and emotional exhaustion at different levels of disengagement and patient interactions (Figure 2) were calculated. This was done by computing the value of emotional exhaustion under different levels of the interaction variables, controlling for all other variables in the equation.

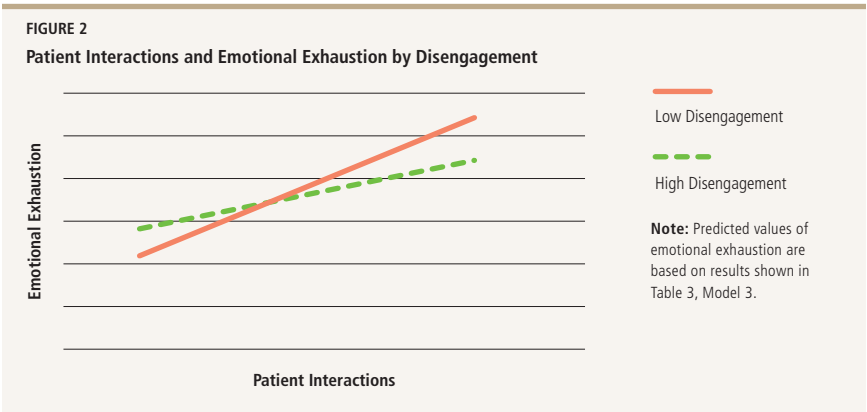
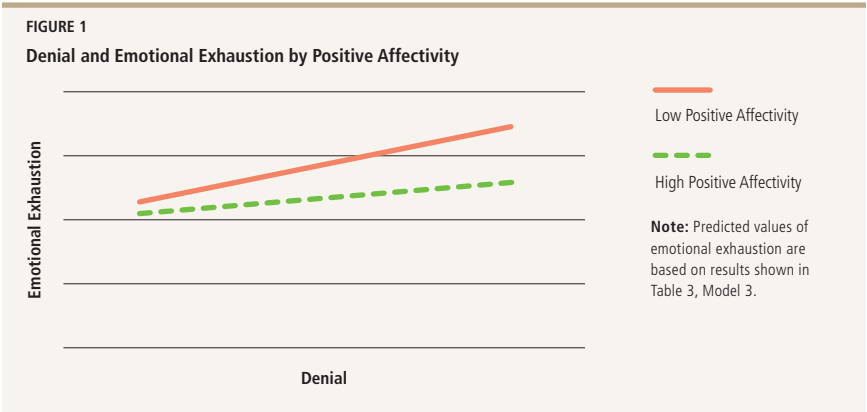


Figure 1 shows that possessing high positive affectivity reduces the harmful effects of denial as a coping style. That is, if physicians have high positive affectivity, then denying the situation contributes to emotional exhaustion to a lesser degree than if they have low positive affectivity. Their positive attitudes appear to protect them from the damaging effects that denial may have on them in terms of feeling burned out from their work.

Figure 2 shows that disengagement effectively buffers the harmful effects of negative patient interactions on physicians' emotional exhaustion. For physicians who more frequently disengage from difficult work situations or take a time out, the harmful effect of stressful patient interactions on their feelings of burnout is weaker compared to physicians who are less frequently disengaging from difficult patient interactions.

Discussion and Conclusions

The purpose of this paper was to examine the different copings styles that physicians use in response to work-related stress and the conditions under which they are effective in reducing emotional exhaustion. The results showed that physicians with higher positive affectivity were more likely to use two coping strategies that are generally considered to be more effective, namely active problem solving and seeking support. In addition, they were more likely to use disengagement, which is less clearly established in terms of its effectiveness as a coping response. Denial was more popular among doctors with high negative affectivity, although a significant proportion of physicians with high positive affectivity also regularly use this strategy. More negatively-oriented doctors were also less likely to disengage from difficult situations at work. The overall pattern of results suggests that individual disposition is relevant to understanding the coping styles that physicians adopt. Moreover, the initial findings suggest that the coping styles used by physicians with positive outlooks are potentially more effective than the ones typically adopted by those with more negative perspectives.

Following this, we explored whether certain coping styles are more effective in reducing emotional exhaustion for physicians and whether they do so differently depending on individual and/or situational factors. While problem solving, seeking support and disengagement are potentially effective (as indicated by the preliminary analysis of the negative zero-order correlations), the more stringent multivariate regression results suggest they are not very helpful in significantly reducing physicians' emotional exhaustion. Instead, denial was the only coping style significantly related to emotional exhaustion, but it increases rather than reduces it. The results showed that this is a popular strategy used by many physicians, particularly among those with high negative affectivity. Furthermore, both work overload and patient interactions were significantly related to the use of denial, where the more stressful these aspects of work become, the more likely physicians rely on denial as a coping response. Chen and Cunradi (2008) suggest that denial responses (as well as disengagement) are popular because they are versatile and can be activated anywhere and anytime. These strategies may be helpful in easing one's immediate negative emotional response to difficult situations, but the fact that they contribute to feelings of exhaustion is of concern. An interesting twist

was revealed by the interaction results whereby having a highly positive outlook appears to neutralize the harmful effects of denial on physicians' emotional exhaustion. This supports the literature that argues that the effects of different coping styles may depend on the personality traits of those who use them.

The other significant interaction found in this study suggests that the harmful effects of stressful patient interactions are weakened for doctors who disengage or take a time out from the situation. This supports the literature that suggests that certain coping strategies may be more effective depending on the situation or type/source of stressor (Parkes, 1990; Sardiwalla, VandenBerg and Esterhuyse, 2007; Koeske, Kirk and Koeske, 1993). While the results suggest that taking a time out is not particularly useful in dealing with an overwhelming workload, it appears that it may be beneficial when doctors encounter difficult interpersonal patient interactions. Difficult patient interactions may reflect a situation that is not easily controllable or resolved by the physician and therefore not necessarily suited for active problem solving (Anshel, 2000). Rather, the break or reprieve may not only reduce burnout for the physician, it may also benefit the patients they encounter after their break and recovery from the previous stressful encounter. Health care managers might encourage physicians, as well as other health-care workers, to adopt this coping strategy when they encounter difficult patient interactions.

An important direction for future study is the specific features of effective disengagement when coping with stressful interpersonal situations. For example, Carver, Scheier and Weintraub (1989) distinguish between behavioural disengagement (e.g., giving up, admitting defeat) and mental disengagement (e.g., doing other things to take the mind off things, daydreaming about other things). In contrast, the interviews with physicians from the earlier stage of this study suggest that a "time out" may refer to taking break from the emotional intensity of one-on-one patient care by performing an administrative task or a more technical medical procedure (Lemaire and Wallace, 2010). Alternatively, some physicians referred to a time out as stepping outside for a breath of fresh air, taking a coffee break or closing the office door for a bit of quiet time. Distancing oneself from a stressful situation may give the physician the opportunity to rest and refocus on how to cope more effectively given the situation involved (Shimazu and Kosugi, 2003). This type of response may be used when the physician's physical and emotional resources are limited, when the situation is uncontrollable or when there is little chance of resolving the stressful issue (Anshel, 2000). As a result, disengagement may be more compatible for those with positive affect since they are more likely to use more adaptive coping strategies. Future research is needed to explore this type of coping response and under what conditions it is effective in more detail. As well, Chen and Cunradi (2008) suggest that disengagement may

be effective as a short term or temporary response until it can be replaced with a more effective response, and that disengagement is likely counterproductive if used over the long run. Future research might explore the extent to which certain strategies are more effective as immediate and short term responses, while others may be more effective over extended periods of long-term chronic stressors.

An unexpected finding of this study was that active problem solving and seeking support were not beneficial strategies for physicians in terms of reducing emotional exhaustion. While a large body of research has suggested that active problem solving is generally the most effective coping response, other studies have also found that problem solving is significantly correlated with higher levels of burnout (e.g., Carver, Scheier and Weintraub, 1989; Sardiwalla, VandenBerg and Esterhuyse, 2007). It has been suggested that this approach may be less effective and even harmful in situations when the stressors reflect unalterable circumstances, such as patients' illness or death (Cohen *et al.*, 1986; Sardiwalla, VandenBerg and Esterhuyse, 2007). Under such conditions, more emotion focused coping, in terms of sharing or releasing one's emotions in a supportive environment, may be beneficial. Or, avoidance coping strategies may be beneficial in the short run in removing oneself from an emotionally tense situation. As well, active problem solving may be ineffective or even harmful if it requires prolonged and substantial effort, where it may have negative consequences for the individual in terms of fatigue or ill health. This has been termed a "cumulative fatigue effect" where prolonged coping may deplete an individual's energy supply as their adaptive reserves are drained, resistance breaks down and exhaustion sets in (Cohen *et al.*, 1986: 8). These findings underscore the complexity of tackling the question of which coping responses are effective.

With regards to the unexpected findings for seeking support, about one third (30%) of the physicians in this study regularly use this as a coping strategy whereas almost half (42%) regularly keep their stress to themselves. The literature on physician coping suggests that this is a common response that reflects the "conspiracy of silence" among members of the medical profession. However, several respondents' comments on the survey may offer an alternate interpretation that explains why some physicians are reluctant to turn to their colleagues for support. For example, one wrote: "My colleagues are more stressed than I am. Never depend on them for support." And another wrote "Even though I don't get much support from my colleagues I do not mean to denigrate them as they are too busy themselves with patient care to get involved with care of colleagues."

These comments raise an interesting point that perhaps doctors do not turn to colleagues for support because their colleagues also appear overwhelmed, stressed and burned out. As Karasek and colleagues note: "In times of overall

group crisis, little 'solace' will be found from others who are exposed to the same problem" (1982: 195). The regression results for coping styles may indirectly support this interpretation as the more overwhelmed physicians feel as a result of their workloads, the less likely they are to seek help from their colleagues. When one doctor is feeling overwhelmed by their workload, it is likely that his or her colleagues are also overwhelmed.

This interpretation has also been posed in other studies that have noted how turning to others for emotional support may do more harm than good under certain conditions. For example, talking to others who share similar concerns and difficulties may reaffirm the aversive nature of the situation and heighten rather than reduce one's negative perceptions of the situation (Kaufmann and Beehr, 1986). Talking about the problems faced at work, dwelling on them, re-visiting negative events or failures may reinforce that the conditions are as bad, or even worse, than the individual initially thought (Carlson and Perrewé, 1999; Ross and Mirowsky, 1989). As well, the colleagues who offer empathy may be depleting their own resources by sympathizing with others, leaving them more vulnerable to personal distress. Future research may explore whether members of an individual's potential support system are also exposed to high levels of stress and whether this deters colleagues from seeking support from one another or depletes the sources of support available to an individual.

In closing, several limitations of this study must be noted. First, the results are based on cross-sectional data, which means drawing conclusions about causality or temporal ordering must be exercised with caution. For example, it is plausible that physicians who experience greater work stress are more likely to develop feelings of emotional exhaustion, but it is also possible that those experiencing greater exhaustion may have poor coping strategies, and may also report higher levels of work stress. Similarly, the positive relationship found between denial and emotional exhaustion implies that using this coping response may eventually lead to burnout. It is also possible that physicians who are more emotionally exhausted are more likely to use denial coping strategies. Second, this study relied primarily on single item measures to examine physicians' coping responses in order to keep the survey short and maximize the response rate for this particular occupation. Future studies of physicians' coping responses should include more comprehensive measures to assess the coping styles used by physicians. Third, the results of this study may be subject to the "healthy worker effect" (Chen and Cunradi, 2008). That is, in studying physicians who are currently practising medicine, we may be focusing on those who successfully cope with the stresses of their work and excluding those who have left the profession as a result of excessive work stress and burnout or its subsequent effects.

In conclusion, we found that denial was the only coping style of the four examined in this study that was significantly related to emotional exhaustion. Denial is adopted as a coping strategy by many physicians in response to work overload and difficult patient interactions, and by those with high negative affectivity. However, denial increases rather than reduces physicians' feelings of emotional exhaustion. Our results showed that having a highly positive outlook, however, neutralizes the harmful effects of denial for physicians. We also found that the harmful effects of stressful patient interactions on emotional exhaustion are weakened for doctors who disengage or take a time out from the situation. Our findings suggest that certain coping strategies may be more effective depending on the personality type of those who use them and the type or source of stress encountered.

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SUMMARY

Physician Coping Styles and Emotional Exhaustion

This paper examines how different coping styles that physicians use relate to emotional exhaustion, the key defining dimension of burnout. Specifically, we examine the extent to which they use active problem solving techniques, seek support, disengage from the situation or use denial as a coping strategy. In addition, we also explore whether the coping styles are more or less effective depending on certain dispositional and/or situational factors. Two individual predispositions are examined in this study in terms of positive and negative affectivity, as optimism and pessimism are stable personality traits that have implications for how individuals view situations and respond to them. Four different sources of physician work stress are examined to reflect the situational factors: work overload, patient interactions, average weekly work hours at work, and average weekly work hours at home. We analyze survey data from 1,110 practising physicians in a single health region in Western Canada.

The overall pattern of results suggests that physicians' individual dispositions are relevant to understanding the coping styles that they adopt. Physicians appear to use denial as a coping strategy when they experience work overload and difficult patient interactions. Furthermore, it is used by those with high negative affectivity. However, having a highly positive outlook appears to neutralize the harmful relationship between denial and emotional exhaustion. This supports the literature that argues that the effects of different coping styles may depend on the personality traits of who uses them. In addition, the harmful experiences related to stressful patient interactions are weakened for doctors who disengage or take a time out from the situation. This supports the literature that suggests that certain coping strategies may be more effective depending on the situation or type/source of stressor. Our findings suggest that certain coping strategies may be more effective depending on personality type and the type or source of stress encountered.

KEYWORDS: burnout, job stress, denial, personality, professionals

RÉSUMÉ

Modes d'adaptation des médecins et épuisement émotif

Cet article examine comment différents modes d'adaptation utilisés par les médecins sont reliés à l'épuisement émotif, la dimension-clé de l'épuisement professionnel. Plus particulièrement, nous examinons dans quelle mesure ils ou elles font appel à une forme active de résolution de problème, cherchent à obtenir du support, se dissocient de la situation ou utilisent le déni comme stratégies d'adaptation. De plus nous explorons également dans quelle mesure les modes d'adaptation sont plus ou moins efficaces selon certains facteurs situationnels ou liés aux prédispositions des personnes. Deux prédispositions personnelles sont examinées dans cette étude en termes d'affectivité positive ou négative, étant donné que l'optimisme et le pessimisme sont des traits de personnalité stables qui ont des implications sur la manière dont les personnes perçoivent les situations et y répondent. Quatre sources différentes de stress chez les médecins sont examinées afin de refléter les facteurs situationnels : des situations de surcharge de travail, les interactions avec les patients, le nombre hebdomadaire moyen d'heures passées au travail et le nombre hebdomadaire moyen d'heures passées à la maison. Nous analysons les données d'une enquête menée auprès de 1 110 médecins pratiquant dans une même région de l'Ouest canadien.

Une vue d'ensemble des résultats suggèrent que les prédispositions personnelles des médecins sont pertinentes dans la compréhension des modes d'adaptation auxquels ils recourent. Les médecins semblent recourir au déni comme stratégie lorsqu'ils sont en situation de surcharge de travail et lors d'interactions difficiles avec des patients, particulièrement chez ceux et celles qui affichent une affectivité négative. Toutefois, le fait d'afficher une affectivité positive semble neutraliser les relations pernicieuses entre le déni et l'épuisement émotif. Cela vient en appui à la littérature suggérant que les effets des divers modes d'adaptation dépendent des traits de personnalité de ceux qui y ont recourt. De plus les expériences douloureuses liées aux interactions stressantes avec des patients sont moins présentes chez les médecins qui s'en dissocient ou qui prennent un temps d'arrêt face à la situation. Cela vient aussi en appui à la littérature suggérant que certaines stratégies d'adaptation peuvent s'avérer plus efficaces selon la situation ou le type des facteurs de stress ou leur source. Nos résultats suggèrent donc que certaines stratégies d'adaptation sont plus efficaces selon le type de personnalité et selon le type de facteurs de stress rencontrés ou leur source.

MOTS-CLÉS : épuisement professionnel, stress lié à l'emploi, personnalité, professionnels

RESUMEN

Estilos de afrontamiento de los médicos y agotamiento emocional

Este artículo examina cómo los diferentes estilos de afrontar el estrés que usan los médicos son asociados al agotamiento emocional, dimensión clave de la definición del surmenaje. En concreto, se analiza en qué medida los médicos utilizan de manera activa ciertas técnicas de resolución de problemas, buscan a obtener apoyo, se retiran de la situación o usan la negación como estrategia de afrontamiento. Exploramos también si los estilos de afrontamiento son más o menos eficaces en función de ciertos factores situacionales o vinculados a predisposiciones personales. En este estudio se examinan dos predisposiciones individuales en términos de afectividad positiva o negativa, dado que el optimismo y el pesimismo son rasgos estables de la personalidad que tienen implicaciones en la manera cómo las personas perciben las situaciones y cómo las enfrentan. A fin de reflejar los factores situacionales, se examinan cuatro diferentes fuentes de estrés en el trabajo médico: sobrecarga de trabajo, interacciones con los pacientes, promedio semanal de horas de trabajo, y promedio semanal de horas de trabajo en casa. Los datos analizados provienen de una encuesta con 1110 médicos que ejercen en una región sanitaria del Oeste Canadiense.

El patrón general de los resultados sugiere que las características temperamentales individuales de los médicos son pertinentes para comprender los estilos de afrontamiento que ellos adoptan. Los médicos parecen utilizar la negación como estrategia de afrontamiento cuando experimentan sobrecarga de trabajo e interacciones difíciles con el paciente. Más aún, esto es utilizado sobre todo por las personas con alta afectividad negativa. Sin embargo, tener una actitud muy positiva parece neutralizar la relación perjudicial entre la negación y el agotamiento emocional. Esto apoya la literatura que sostiene que los efectos de los diferentes estilos de afrontamiento pueden depender de las características de personalidad de quienes los usan. Además, las experiencias perjudiciales asociadas a las interacciones estresantes con el paciente son menos presentes en los médicos que se desvinculan o se alejan temporalmente de la situación. Esto apoya la literatura que sugiere que ciertas estrategias de afrontamiento pueden ser más eficaces en función de la situación o el tipo/fuente de estrés. Nuestros resultados sugieren que ciertas estrategias pueden ser más eficaces en función del tipo de personalidad y del tipo o fuente de estrés encontrado.

PALABRAS CLAVES: surmenaje; estrés ocupacional; negación; personalidad; profesionales